

CANVAS

CANVAS 6 USER'S GUIDE

Mac OS and Windows



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INTRODUCTION

Welcome to Canvas, a completely integrated environment for illustration, page layout, imaging, presentations, and web publishing.

Canvas lets you work with vector objects, images, type, and imported graphics without having to switch to other applications. Whether you are a beginner or an experienced designer, the tools and features in Canvas can make you more productive.

Canvas provides a complete solution for home, small business, school, and corporate users:

- An array of tools for illustration, layout, editing, proofing, and final output, so you can take projects from start to finish in Canvas.
- A flexible interface, including a Toolbar you can configure with commands, tools, and styles; a Docking bar to store palettes; and customizable keyboard shortcuts.
- A cross-platform solution that lets you share Canvas documents across Mac OS and Windows platforms, and supports all standard file formats.

About the documentation

Please take a few minutes to read the following information about the Canvas documentation.

This book, the Canvas *User's Guide*, describes the commands, tools, and features of Canvas for Mac OS and Windows operating systems.

Certain terms and abbreviations are used in this manual to describe procedures. In most cases, Canvas works exactly the same under Mac OS and Windows. The documentation points out functional differences when necessary.

Mac OS refers to System 7.5 and Mac OS 8 and later versions. When a procedure applies to Mac OS only, the instructions say (*Mac*).

Windows refers to 32-bit Windows versions, including Windows 98 and Windows NT. When a procedure applies to Windows only, the instructions say (*Windows*).

✓ Tip

Throughout this book you'll find tips for working efficiently and exploring creative possibilities. Items labeled "Important" provide information to help you avoid problems.

Keyboard keys

This manual uses standard names and abbreviations for keyboard keys; your keyboard might use different labels.

Key name	Description
Alt	The Alternate key, usually labeled "Alt" on Windows keyboards
Command	The key labeled "Command" or marked with a propeller symbol on Mac keyboards
Ctrl	The key labeled "Control" or "Ctrl" on Mac and Windows keyboards
Option	The key labeled "Option" on Mac keyboards
Shift	The key used to type uppercase characters
Enter	The key labeled "Enter" on Mac keyboards. This key has a different function than the "Return" key
Return	On Mac keyboards, the key labeled "Return." On Windows keyboards, the key labeled "Return" or "Enter."

Choosing commands

When a procedure tells you to choose a command, the instruction is written:

Choose Edit > Paste

This tells you to open the Edit menu and choose the Paste command. You can use a keyboard shortcut if the command has one.

Some menu items open a submenu of related commands. When the documentation tells you to choose a submenu command, the instruction is written:

Choose Object > Arrange > Bring To Front

This tells you to open the Object menu, choose Arrange to open the submenu, and then choose the Bring To Front command.

Using modifier keys

For some actions, you need to press a keyboard key while you click or drag the mouse. For example, to select several objects, press the Shift key while you click each object. This can be written as *Shift-*

click. If you press the Command key, for example, while you drag the mouse, the action can be written as *Command-drag*.

When referring to Canvas for Windows, some instructions say to “right-button click” an object. This means to click the object using the secondary button, usually the right button, on the mouse.

Using on-line Help

Canvas includes a comprehensive on-line Help system that lets you refer to the documentation while you work.

To view Help in Canvas (Mac OS) Press the Help key on an extended keyboard, or choose Help > Contents. In System 7.5, the Help menu is under the question mark (🔍) in the menu bar.

When you press the Help key and a dialog box is open, the Help system displays help for the dialog box. Otherwise, the Contents topic appears. You can also search for topics in the Help window.

To view Help in Canvas (Windows) Press the F1 key to display Help, or choose Help > Contents.

When you press F1 and a dialog box is open, the Help system displays help for the dialog box. Otherwise, the Contents topic appears. You can also search for topics in the Help window.

Viewing Deneba’s web site

The Deneba Home Page command in the Help menu will display the Deneba Software home page in your web browser.

If you have a web browser open, Canvas switches to the browser and loads the Deneba home page. Otherwise, Canvas looks for an installed browser, launches it, and loads the Deneba home page.

It’s a good idea to visit the Deneba web site often. You can find tips to help you get the most out of Canvas, plus program updates, technical notes, profiles of users, and contact information. The library area lets you download free plug-ins, palette files, and other extras.

✓ Tip

For the latest information on Canvas, be sure to view the Read Me file included with the program.



DOCUMENTS & SETUP

RUNNING CANVAS

This chapter explains how to start and end a Canvas work session. It also provides an overview of the Canvas interface and describes the following basic procedures:

- Selecting tools from the Canvas toolbox
- Using and arranging palettes
- Using information displayed in the Status bar
- Undoing, redoing, and repeating actions

Starting and exiting Canvas

To start Canvas, do one of the following:

- Double-click the Canvas program icon.
- Double-click a Canvas document to start Canvas and open the document.
- Double-click a Canvas template file to start Canvas and create a new document based on the template.
- Choose the Canvas shortcut in the Start menu (Windows).

When you start Canvas, it displays a start-up screen and a status indicator as it loads. Then Canvas opens a blank document, or the document you used to start the program.

◆ **To view start-up screen information:** When Canvas is running, Choose About Canvas in the Apple menu (Mac) or the Help menu (Windows). Do this when you want to check your serial number, version number, and other program information.

To stop running Canvas

Choose File > Quit (Mac) or File > Exit (Windows). If you try to quit without saving a document that has changed, Canvas asks if you want to save it first.

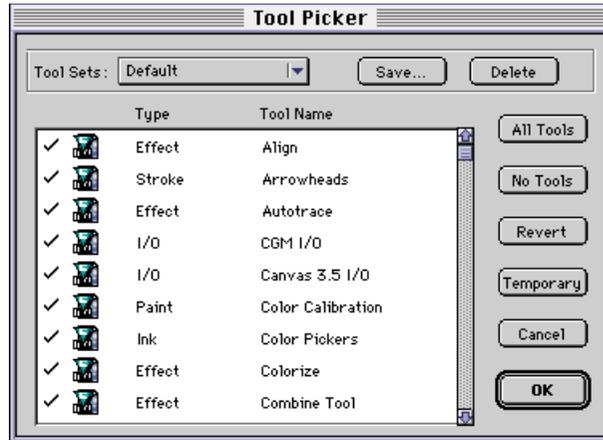
Loading external tools at start up

When you start Canvas, you can use the Tool Picker dialog box to select which external tools you want to load. You can use the Tool

Picker to specify a temporary set of tools for one work session, or a permanent set for each time you start Canvas. You can also create groups of external tools for different projects.

◆ **To use the Tool Picker:** Press the Spacebar as soon as the Canvas start-up sequence begins. Continue holding down the Spacebar until the Tool Picker dialog box appears.

The Tool Picker dialog box lets you specify which tools Canvas should load during its start-up sequence.



For more information on the Tool Picker, see “Loading external tools” on page 183.

Checking optional software at start up

Canvas displays a message if it encounters a problem, such as missing system software components, as it starts. If a message appears, click OK to continue loading Canvas.

Canvas depends on some system software components for importing and exporting certain types of files, managing colors, and working with some graphics formats, such as QuickDraw 3D. The Canvas installer places some software called “extensions” (Mac) or “Dynamic Link Libraries” (Windows) on your system if needed. If Canvas can’t find the required component later, it’s possible the file was moved or disabled.

If you encounter a problem when starting Canvas, refer to the “Read Me” file and to the on-line Help system; these include the most up-to-date information on required software.

Overview of the Canvas interface

Canvas appears nearly identical on screen whether you use the Mac OS or Windows operating systems. Some operations differ slightly across platforms, but these operations are very familiar to most users.

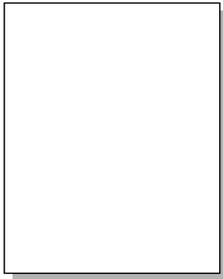
For example, on Mac OS, users select a command by pressing the menu name, dragging into the menu and releasing the mouse button on the command. On Windows, users click the menu name, then click the command name without dragging the mouse into the menu.

A similar procedure carries over to the Canvas toolbox. On Mac OS systems, you press an icon in the toolbox to open a toolbar or palette and drag to the tool you want to select. On Windows systems, you click or press an icon to open a toolbar or pop-out palette, and then click again on the icon for the tool you want to select.

Canvas has three types of documents: Illustrations, Presentations, and Publications. These documents share some common elements, while some specialized controls apply to particular documents types.

Layout area

The rectangle centered in the Canvas document window is the Layout area. This rectangle is the main working area for creating illustrations, laying out pages, and composing slides.



Layout area

The white space around the Layout area is additional working space where you can place objects before using them in an illustration. Objects in this outside area are saved with the document, but objects that are completely outside the Layout area are not printed.

The Layout area represents one page (called a “sheet”) in an Illustration document. It represents one page or two facing pages in a Publication document. In a presentation document, the Layout area represents one slide in the presentation.

Document navigation controls

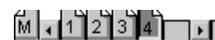
Buttons that represent pages, slides, or sheets appear at the bottom of the document window. You can click these buttons to move through a document.



Sheet buttons



Slide buttons



Page buttons

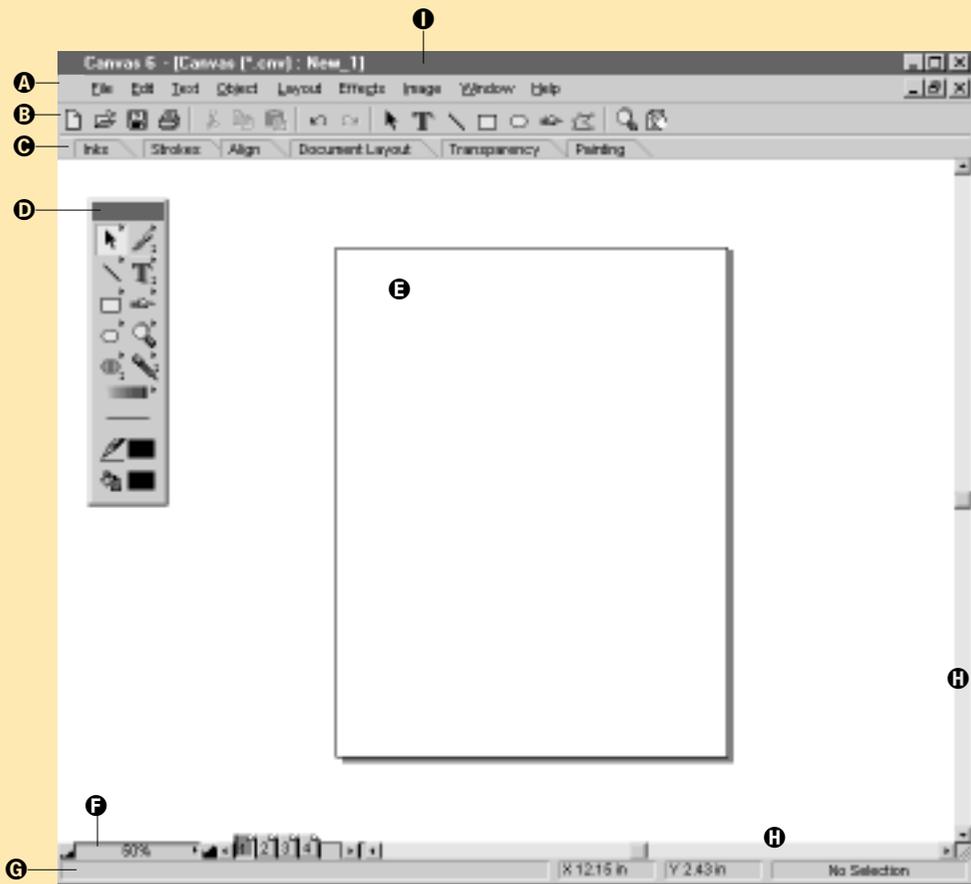
Canvas window

Major parts of the Canvas interface are shown here. Some of these items might not be displayed in your Canvas configuration. For example, you can hide the Toolbar and the Docking bar. You can dock the toolbox and other palettes. And you can add your own shortcuts to the Toolbar.

Each Canvas document has its own floating window. Each document window has a Zoom bar and scroll bars. All documents share the toolbox and Status bar.

- A** Menu bar
- B** Toolbar
- C** Docking bar

- D** Toolbox
- E** Layout area
- F** Zoom bar
- G** Status bar
- H** Scroll bars
- I** Title bar



You can also use the navigation buttons to select layers. When you press a page button, for example, a pop-up palette lists the layers on that page. You can select a layer in the pop-up palette. If you drag away from the button, the Document Layout palette appears.

Press a navigation button to select layers



Drag the pop-up list to open the Document Layout palette

Using the toolbox

The toolbox contains tools for drawing, painting, creating objects, editing, and viewing. The toolbox is a floating palette. You can place it anywhere on screen by dragging its title bar.

◆ **To display the toolbox:** If the toolbox is hidden or closed, Choose Window > Palettes > Show Toolbox to display it.

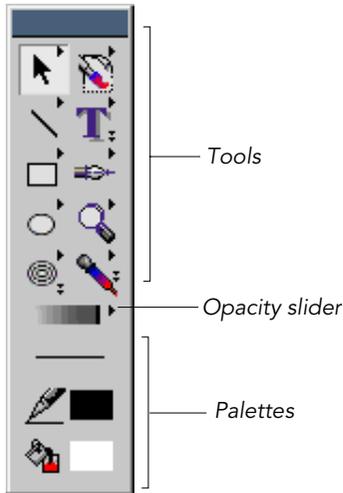
Selecting tools

In the Canvas toolbox, tools are represented by icons. The toolbox displays 10 tools arranged in two columns at the top of the toolbox. The tools that aren't displayed are available on toolbars, which are like drawers that slide out from the toolbox.

A toolbar opens from each icon displayed in the toolbox. The displayed icons are called the home icons for the toolbars. Home icons have small arrows at their upper-right corners. The last tool selected on each toolbar appears as a home icon.

◆ **To select a tool displayed in the toolbox:** Click the tool. The selected tool is shaded, like a recessed button.

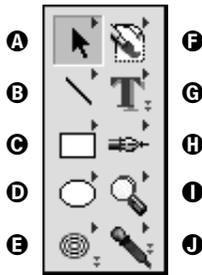
◆ **To select a tool from a toolbar:** Press the home icon to open the toolbar. On Mac, drag to the tool you want to select; on Windows, click the tool icon.



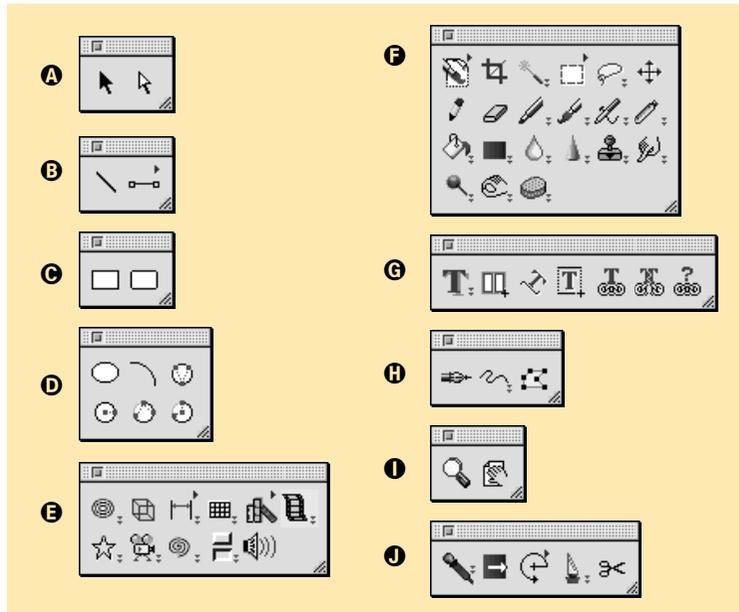
Tool palettes

This diagram identifies the tool palettes in the toolbox. Press the home icon of a palette to open the palette.

- A** Selection tools
- B** Line tools
- C** Rectangle tools
- D** Oval tools
- E** Object tools
- F** Paint tools
- G** Text tools
- H** Path tools
- I** View tools
- J** Effects tools



The toolbox



Using the Toolbar

The Toolbar contains buttons you can click to choose commands, tools, inks, strokes, and styles. The Toolbar appears above the document, under the menu bar.



- ◆ **To display the Toolbar:** Choose Window > Palettes > Show Toolbar. To hide the Toolbar, choose Window > Palettes > Hide Toolbar.

- ◆ **To select an item on the Toolbar:** Click its button.

A standard set of commands appears on the Toolbar when you first run Canvas. You can use the Customize command to change the buttons on the Toolbar. You can add buttons to the Toolbar for commands, tools, and custom colors and styles. See “Customizing the keyboard and Toolbar” on page 176.



You can identify Toolbar items by displaying tool tips. Point to an icon and a tool tip appears with the name of the command or tool.

Note: If tool tips don't appear, choose File > Preferences, and select Command Information Tool Tips on the General tab.

Using palettes

Canvas organizes tools, special effects, and other functions in palettes. Palettes are like dialog boxes that can remain open as you work.

In a dialog box, you must enter values or select settings and click OK to close the dialog box. Each time you want to perform an action, you must open the dialog box and close it to complete the action.

A palette can offer the same functions as a dialog box, but it does not have to be closed. Instead of an OK button, a palette has an Apply button. You click Apply to implement the current settings. A palette stays open until you click its close box or use a command to close it.

Palette commands

You can open most palettes by choosing a menu command. These commands include Align, Blend, Combine, Comments, Document Layout, Envelope, Extrude, Find, Show Gallery, Object Specs, Show Transparency, Show Channels, Slide Show, Smart Mouse, Transform, Show Strokes, Show Inks, Show Toolbox, and Type.

Palette icons in the toolbox

Three icons at the bottom of the toolbox provide access to the Inks, Strokes, and Brushes palettes. You can use these icons to select preset colors and other attributes. During image editing, the Brushes palette icon replaces the Strokes palette icon.

You can “pop” open these palettes from the toolbox, and then drag them away to keep them open. Do this when you want to use a configuration manager to create custom attributes.

Procedures for selecting inks and strokes are covered in the chapters “Inks: colors and patterns” on page 239, and “Strokes: outline



effects” on page 265. Information on selecting and using brushes is in the chapter “Painting and image-editing” on page 485.

Organizing palettes on screen

To move a palette, drag its title bar. To roll up a palette so only its title bar is visible, double-click the title bar (Mac) or click the box at the right end of the title bar (Windows).

Note: On Mac OS systems, the Window Shade control panel must be active or you cannot roll up palettes or other windows, unless you are running Mac OS 8.

◆ **To arrange palettes:** Choose Window > Palettes > Clean Up Palettes. Canvas moves all open palettes except the toolbox and floating toolbars to the upper-right corner of the document. On Windows systems, Canvas also rolls the palettes up to their title bars. With Mac OS 8, Canvas can roll up palettes if the option labeled “System-wide Platinum appearance” is selected in the Appearance control panel. Otherwise, Canvas moves the palettes to the upper-right corner of the screen, but doesn’t roll them up.

◆ **To close all palettes:** Choose Window > Palettes > Put Away Palettes. Canvas closes all open palettes, including the toolbox and floating toolbars.

Using the Docking bar

You can use the Docking bar to customize the Canvas interface. The Docking bar can be displayed near the top of the screen under the Menu bar. If the Toolbar is displayed, the Docking bar appears under it.

◆ **To display the Docking bar:** Choose Window > Palettes > Show Docking Bar. When you display the Docking bar, the palettes that were docked the last time it was displayed will remain docked. To hide the Docking bar, choose Window > Palettes > Hide Docking Bar.



Docking palettes

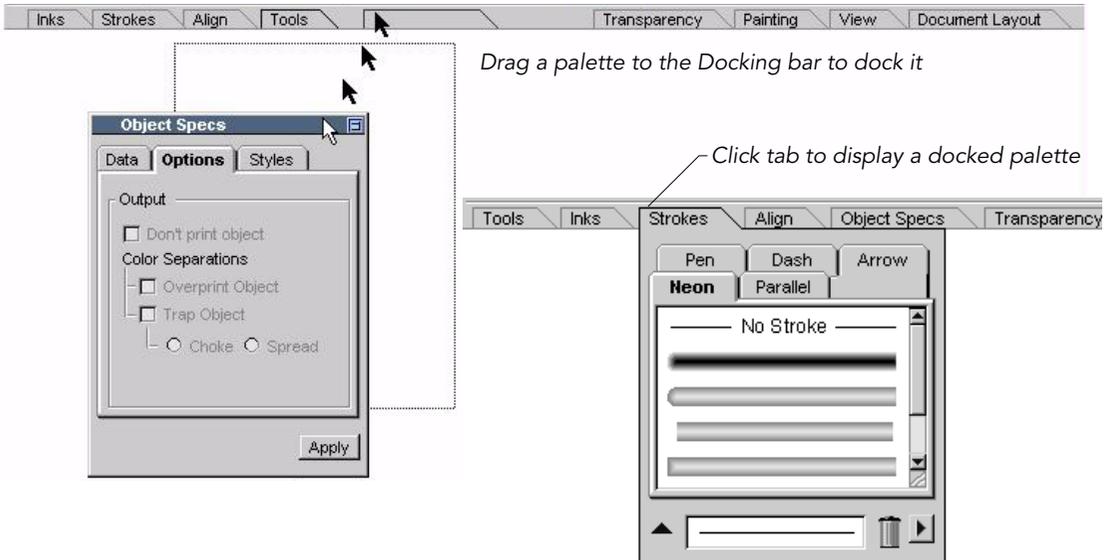
You can “dock” Canvas palettes on the Docking bar. When you dock a palette, a tab with the palette’s name appears on the Docking bar.

The tabs of docked palettes give you quick access to features that you use often. Docked palettes also leave more space available on screen.

You can dock most Canvas palettes, including tool palettes that you drag away from the toolbox, such as the Painting, Rectangles, and Text palettes. You can dock other palettes from the toolbox, including the Inks, Strokes, Transparency, and Brushes palettes. You can also dock command palettes such as Align, Blend, Envelope, Object Specs, and Type. Dialog boxes that require you to click OK or Cancel before continuing can't be docked.

You can dock as many palettes as you want on the Docking bar, depending on the size of your screen. If you dock all available palettes, their tabs will probably overlap.

- ◆ **To dock a palette:** Drag its title bar onto the Docking bar and drop the palette when a tab outline appears. To dock a palette of tools from the toolbox, first drag the palette away from the toolbox and drop it onto the desktop so its title bar appears, and then drag the palette onto the Docking bar to dock it.
- ◆ **To change the position of a docked palette:** Drag the palette's tab to another position on the Docking bar.
- ◆ **To remove a docked palette:** Drag its tab away from the Docking bar.



Using docked palettes

To make a selection from a docked palette, click the palette's tab on the Docking bar. The palette pops open and you can click a tool or other item in the palette to select it. When you click in the document or the toolbox, the palette closes again. To close the palette without selecting anything, click anywhere outside the palette.

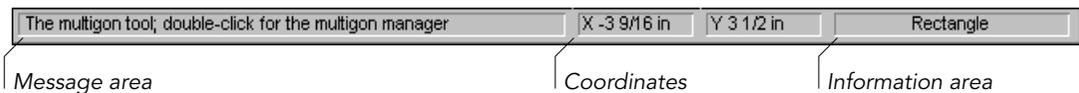
Palettes that are docked when you quit Canvas will be docked the next time you launch Canvas. The settings for the Docking Bar are stored in the Canvas 6 Settings file in Mac OS and the Canvas6.set file in Windows.

You can use docked palettes as if they are floating, with one exception: You cannot drag objects into docked palettes.

Using the Status bar

The Status bar is at the bottom of the screen (Mac) or the bottom of the Canvas window (Windows). The Status bar provides information about commands, tools, objects, and program operations.

Status bar



Message area

The Message area displays tool names, tips, and status messages. When you move the pointer over a tool icon or other item, the Message area shows the tool's name and function. You can use this feature to take a tour of the Canvas tools and interface.

During certain actions, such as saving a document, Canvas displays a progress bar in the Message area.

You can hide the Status bar (Mac OS only) by choosing Window > Palettes > Hide Status Bar. You can display the Status Bar by choosing Window > Palettes > Show Status Bar.

Coordinates data

When you move the pointer, draw, resize, or rotate objects, Canvas displays measurement and position information in the Coordinates area. The type of data displayed depends on whether you are drawing, resizing objects, or moving the pointer or objects.

To change the unit of measurement for this data, use the Rulers command in the Layout menu.

If you set a drawing scale in the Rulers dialog box, the Coordinates data conform to the drawing scale. For example, if you set a drawing scale of 1 centimeter = 1 meter, and you draw an object 5 centimeters square on screen, the Coordinates area displays the scaled dimension:



Dimensions As you drag the pointer to draw or resize objects, the Status bar displays the width (W) and height (H) of the object's bounding box. When you draw or resize some types of objects, including lines and rounded rectangles, Canvas displays specialized data, as shown in the following table.

Pointer position When you move the pointer, the Status bar shows the position of the pointer using X and Y coordinates. The horizontal (X) coordinate is the distance measured horizontally from the ruler's zero point; the vertical (Y) coordinate is the distance measured vertically from the ruler's zero point. When you move objects, Canvas shows the change in position from the original X and Y coordinates.

The following table summarizes the data displayed in the Status bar.

When you do this	The Status bar displays this
Move the pointer in the document	The pointer's horizontal and vertical distance from the ruler's zero point
Drag an object in the document	The horizontal and vertical distance from the starting point
Rotate an object	The angle of the top of the object's bounding box
Draw or resize a line	The length and angle of the line
Create paint images and most draw objects	The height and width of the object's bounding box
Resize an object (except a line) or group	The height and width of the object's bounding box
Drag an arc's circular handle	The position of the arc's endpoint relative to the current coordinate system and the degrees traveled by the arc relative to its starting point
Drag a rounded rectangle's circular handle	The corner's radius
Draw with the Curve or Polygon tool	The pointer's horizontal and vertical distance from the ruler's zero point

When you do this

Drag an anchor point of an object in edit mode

The Status bar displays this

The pointer's horizontal and vertical distance from the ruler's zero point

Information area

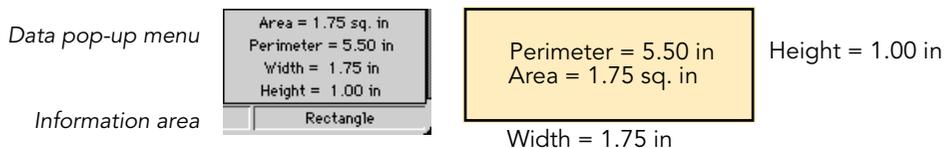
Canvas displays information about selections in the Information area of the Status bar.

- When an object is selected, the Information area displays a description of the type of object selected.
- When multiple objects are selected, this area shows the number of objects selected.
- When you select an object group, the Information area displays “Group of n objects,” with n as the number of objects.

Data pop-up menu

When a single object is selected, you can press the pointer on the Information area to open a pop-up menu showing the height, width, area, and perimeter of the selected object.

◆ **To paste a measurement from the data pop-up menu:** With a single object selected, choose an item in the Data pop-up menu. Canvas pastes the measurement you select as text next to the object.



Use the Data pop-up menu to paste data next to a selected object

Undoing, redoing, and repeating actions

You can easily correct mistakes, restore your work to an earlier state, and repeat commands using the Undo, Redo, and Again commands.

◆ **To cancel an action:** Choose Edit > Undo. Or, press Command+Z (Mac) or Ctrl+Z (Windows).

The minimum and maximum number of times you can undo changes can be changed on the General tab in the Preferences dialog box. See “General preferences” on page 159.

Not all actions can be canceled with the Undo command. Actions that cannot be canceled include scrolling; closing or reverting to an earlier version of a document; selecting and deselecting objects; deleting settings in palettes; and saving documents.

◆ **To restore actions you canceled using Undo:** Choose Redo in the Edit menu. You can choose Redo multiple times to reinstate canceled actions in reverse order.

◆ **To repeat a command or other action:** Choose Again in the Edit menu. When an action can be repeated, the Again command includes the name of the action. For example, after you rotate an object, the Again command appears as “Rotate Again.”

Not all actions can be repeated. The Again command isn’t available if the previous action can’t be repeated.

Using expressions for numeric values

You can type basic mathematical expressions to specify numeric values in Canvas dialog boxes and palettes. You can use addition, subtraction, division, and multiplication operators in simple expressions.

For example, you can type a fractional value, such as $2/3$, in place of a decimal value.

To type an expression

To enter operators in expressions, type a plus sign (+) for addition; a minus sign (-) for subtraction; a slash (/) for division; and an asterisk (*) for multiplication.

You can type parentheses to nest values and operators in expressions. You do not type an equal sign in an expression.

Canvas calculates the result of a mathematical expression when you press Tab or Enter, or click an Apply button, or move to another value in a dialog box.

To modify a value

To use an existing value in an expression, click after the number to place an insertion point. Then, type the remainder of the expression. For example, to make the width of an object 3 times larger, click after the existing value and type * 3, and then press Enter. To make the value one-third as large, type / 3.

By entering expressions after existing values in the Transform palette, you can move objects incrementally. For example, to move an object 3/4 inch to the right, type + 3/4 after the X value.

Specifying measurement units

In the Object Specs palette and the Offset Path dialog box, you can type abbreviations to specify measurement units. You can use this feature to override a document's measurement units or the specific measurement units used in these dialog boxes.

For example, when inches is a document's unit of measurement, you can type *1 cm* to specify 1 centimeter. Canvas converts 1 cm and displays it as .3937 inches.

The following are the abbreviations you can type to specify a unit of measurement.

Abbreviation	Unit of measure
in	inches
ft f	feet
y	yards
mi	miles
p	picas
pt	points
mm	millimeters
m	meters
km	kilometers
cm c	centimeters

To use an abbreviation for a measurement unit

In a text box that accepts numerical values, type a value followed by the abbreviation for the measurement unit. Canvas converts the numerical value to the measurement units you are using in the document when you press Tab or Enter, or click an Apply button, or click in another edit box.

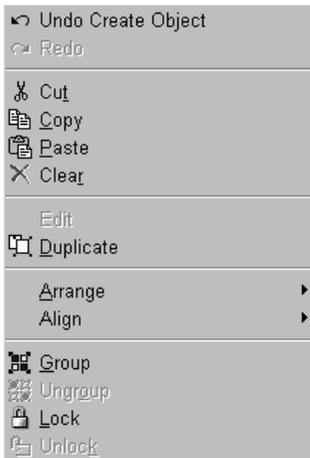
Note: You cannot type a mathematical expression using more than one measurement unit. For example, you cannot type *1 in * 1 cm*.

Using context-sensitive menus

Canvas has *context* menus that you can pop up in the drawing area, giving you quick access to common commands. The menus are context-sensitive; the available commands depend on the current operation.

You can choose common editing commands, such as Cut, Copy and Paste, when an object is selected. Other commands are available when an object is in edit mode. For example, image-editing commands appear in the context menu when you edit a paint object. Path-editing commands appear when a vector object is in edit mode.

When no objects are selected, you can choose view commands such as Zoom In, Zoom Out, Show Rulers, and Show Guides. If the Clipboard contains objects or text, you can choose Paste. You can choose Undo after performing an action that can be undone.



A context menu

To use context menus

To apply a command to an object, select the object first. To use other commands, you do not need to select an object before displaying the context menu.

Windows: Click the right mouse button. A context menu appears. Click a command in the menu to choose it.

Mac OS: Press Control and the mouse button. A context menu appears. Highlight a command in the menu and release the mouse button to choose the command.

When you are editing an object, you can point to a specific item to display commands for editing that item. For example, if you point to an anchor point on a path, you can choose commands to modify the anchor point in the context menu.

For information on specific commands that appear in the context menu, refer to the command name in the Index.

DOCUMENT BASICS

Canvas documents are the containers for your work. A Canvas document can accommodate vector drawings, text, and raster images for all types of illustrations, publications, and presentations.

This chapter describes the basics of working with Canvas documents, including how to open, save, view, and print them.

Opening Canvas documents

You use the Open command to open Canvas documents stored on disk. For information on opening files created by other programs and earlier versions of Canvas, see the chapter “File and data exchange” on page 81.

To open a Canvas document

1 Choose File > Open. Canvas displays a standard dialog box for you to select a document file. By default, the dialog box lists the names of Canvas 6 documents in the current directory.

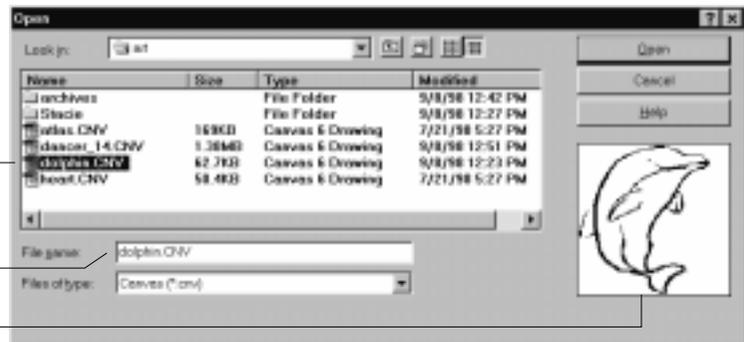
2 In the file list, select the document you want to open and click Open. Canvas displays a preview if the selected document contains a preview. For Mac OS, Canvas previews require that QuickTime extensions be installed; see “QuickTime previews (Mac only)” on page 82.

Open dialog box
(Windows)

Select a file

Or, type a file name

Preview image (if available)

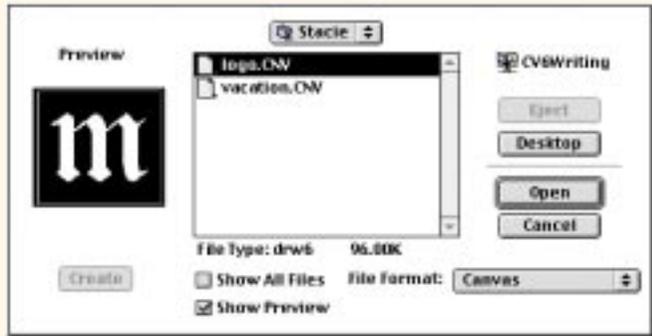


Open dialog box (Mac)

You can select files in the scroll list and see a preview of the selected file (previews are displayed only if QuickTime is installed).

You can also use the Show All Files option to see all files in a folder in the scroll list, even if Canvas can't open the file. This is different from the "All" setting in the File Format pop-up menu, which lets you see all files that Canvas can open.

If you highlight a QuickTime movie or Sound file in the scroll list, the preview area lets you play a movie or sound preview.



In addition, the button below the preview area lets you manage preview images.

- When the button says Create, you can make a preview for a file that doesn't have one.

- When the button says Update, this means the file and its preview are not consistent. You can click the Update button to refresh the preview so it matches the file.

- 1 C:\Documents\Floor1.CNV
- 2 C:\March\Orgchart.CNV
- 3 D:\Bob\Plotplan.CNV
- 4 C:\Canvas\Map.CNV

Documents opened recently are listed in the file menu.

◆ **To open a document you worked with recently:** Choose the document name from the list of recently opened documents in the File menu.

If you need additional help working with files, folders, and directories, refer to your Mac OS or Windows documentation.

You can open more than one document at a time in Canvas. When you open a document, Canvas loads the document into your system's memory. You need to have enough memory available to hold the document's contents. Documents that contain many complex objects or large high-resolution images require more memory than simple documents.

When you work with a document, changes you make to the document are not saved until you use the Save or Save As commands.

◆ **To start Canvas and open a document simultaneously:** Double-click a Canvas document icon in a folder or directory on your system. The program starts and the document opens.

Opening non-Canvas files

Canvas includes filters that let you open many types of graphics and text files. In the Open dialog box, the File Format (Mac) or “Files of type” (Windows) pop-up menu lists the supported file types. You can use the Open and Place commands to import these files. For more information, see “Using other file formats” on page 82.

Substituting fonts when opening documents

If a document you open uses fonts that aren’t available on your system, Canvas displays a dialog box before opening the document. You can use the dialog box to review which fonts are required by the document and to select substitute fonts, or you can let Canvas select substitutes.

- 1 Select a font listed under Original Font, or Shift-click to select multiple fonts. This column lists fonts that are specified in the document but are not available.
- 2 Choose a substitute font in the “With” pop-up menu. The name of the font appears in the list under Substitute Font. Canvas displays the font name in its corresponding typeface so you can preview the font substitution.
- 3 Select the checkbox to permanently replace the missing fonts with the fonts you choose in this dialog box.
- 4 After you select substitutes for the missing fonts, click OK to open the document. To cancel the changes, click Clear Changes to let Canvas choose a substitute and open the document.

Select a font for which you want to specify a substitute



Substitute fonts are listed here

Select to permanently replace the missing font

Choose substitute fonts here

Opening documents that require specific tools

When you open a Canvas document that depends on one or more external tools to display and print correctly, Canvas alerts you if the necessary external tools aren't available. To load the required tools, quit Canvas, restart Canvas, and press the Spacebar to open the Tool Picker dialog box. Select the tools you want, or click All Tools.

Placing documents

You can use the Place command to incorporate a document stored on disk into an open Canvas document. You can insert a Canvas document or a non-Canvas document with this command. For example, you can place a document containing your company logo within a document in which you are preparing a sales brochure.

The Place command lets you visually set the location and dimensions of the incorporated document.

When placing Canvas documents, you can control which layers, pages, or slides to place, and whether to place them on the current layer, page, or slide, or on new ones, depending on the document type (Illustration, Publication, or Presentation).

The Place command is available when a Canvas document is open.

To place a file in an open Canvas document

- 1 Choose File > Place. A directory dialog box appears.
- 2 In the directory dialog box, select the file that you want to place, and then click Place. If the file has more than one page or layer, the Place Options dialog box appears. Configure the options in the dialog box, and then click OK. See “Options for placing files,” next.
- 3 If you selected “Show Place Cursor” in the dialog box, the Place cursor appears. Position the Place cursor in the open document where you want the top-left corner of the placed file to be. If you did not select “Show Place Cursor,” Canvas inserts the file after you click OK.
- 4 Click to place the file at its original size; Canvas inserts the upper-left corner of the file at the point you click. To define the dimensions of the file you're placing, drag to create a bounding box. Canvas inserts the file and scales it to fit the bounding box.

Place pointer



Options for placing files

When you place a file, the Place Options dialog box lets you specify how the placed file should be added to the current document.

When you place one Canvas document type (Illustration, Publication, or Presentation) into another document type, Canvas converts the placed pages, sheets, or slides to the format of the current document.

Document pages (and sheets or slides) can be added to the current document, along with their layers.

In the Place Options dialog box, you can select the following options, and then click OK to place the document.

Place on Current Layer Places the file's objects on the current layer of the current page. No pages or layers are created in the current document.

Show Place Cursor Select this option if you want to set the position or size of placed items on the current page. After you click OK in the Place Options dialog box, a place pointer appears. Click to set the position of the upper-left corner of the placed items, or drag to enclose an area in which you want the placed items to fit.

Add Layers to Current Page Places the document's layers as new layers on the current page in the current document.

Add New Pages Places the document's pages and layers as new pages and layers in the current document.

Select Click to choose specific pages or layers to place. A dialog box lists the available items. Shift-click two items to select a range. Command-click (Mac) or Ctrl-click (Windows) to select multiple items and toggle selected items. Click OK to close the dialog box.

Using Canvas clip art

The Canvas clip art collection is stored in Canvas documents on CD-ROM. You can use the Open command to open a clip art document for editing, or use the Place command or Gallery tool to insert a clip art graphic into an open document. For details, see "Adding clip art to Canvas documents" on page 232, "Opening Canvas documents" on page 23, and "Placing documents" on page 26.

Because it is a locked storage medium, you can't save documents on a CD-ROM. If you open a document from the CD-ROM and want to save an edited version, you can store it elsewhere using the Save As

command. You can also copy files from a CD-ROM to a hard disk so you can work with them without having the CD-ROM loaded.

Saving Canvas documents

The Save and Save As commands store a document on disk.

- The Save command updates a document file on disk and overwrites the previously saved version.
- The Save As command lets you create a new file on disk from an open document, save documents as templates, and use other graphics and text file formats.

When you use these commands, the default format for storing documents is the native Canvas format.

To save a new Canvas document

- 1 Choose File > Save As. A directory dialog box opens.
 - 2 Select a location to store the document and type a file name.
 - 3 Click Save to store the document on disk.
- ◆ **To save changes to a document as you work:** Choose Save in the File menu to update the document file on disk.
 - ◆ **To save a document with a different name or in a new location:** Choose Save As in the File menu, type a new name or select a new location in the directory dialog box, and then click Save.

✓ Important

To avoid losing your work in the event of a power failure or system failure, use the Save command frequently as you work to store changes on disk.

Saving selections and layers

If you want to save particular objects or layers as a new document, you can use the Save As command and options in the Save directory dialog box, shown next.

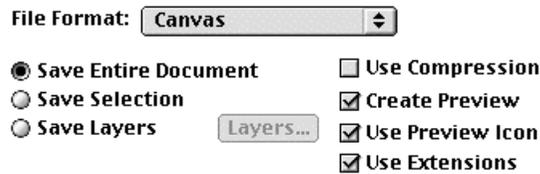
Options for saving Canvas documents

In the Save dialog box, you can tell Canvas to save an entire document or only some objects or layers.

Save Entire Document. The default setting tells Canvas to save a complete document.

Save Selection. Choose this option after you select the objects in the document that you want to save as a new document. If you don't select anything, this option is not available.

Save Layers. Select this option to save one or more layers in a new document. Then, click



Layers to specify which layers to save. This option isn't available if the document has only one layer.

Use Compression. Check this box to reduce the size of files saved on disk.

Create Preview (Mac) or Save Preview (Windows). Turn on this option to save a low-resolution preview of the document. In applications that sup-

port previews, you can see a thumbnail image of the document before opening the file.

Use Preview Icon. Canvas creates a finder icon (Mac OS only) with a preview of the document if you select this option.

Use Extensions (Mac). Adds a three-character filename extension. Use this if you use Mac files on Windows systems.

Reverting to the saved version of a document

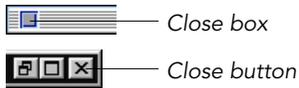
The Revert command lets you discard changes made to a document since it was last saved. This is the same as closing the document without saving changes, and then opening the original from disk.

Be certain that you want to discard all changes to a document before choosing the Revert command, because you cannot use the Undo command to restore your work after using the Revert command.

Keep in mind that you can use the Save As command to save a document with a new name. If you are not certain that you want to discard changes to a document, use Save As to store a new version on disk, then open the original document and compare the two.

◆ **To revert to a document's saved version:** Choose File > Revert. Before performing the command, Canvas asks you to confirm that you want to discard all changes.

Closing documents



When you close a document, Canvas removes the document window from the screen. When you close a document, Canvas doesn't save the document, although Canvas will warn you if you try to close a document that has changed.

◆ **To close a Canvas document:** Choose File > Close. You can also click the Close box (Mac), or the Close button (Windows) in the document's title bar to close the document.

Working with document windows

Each document you open appears in its own window. You can work with Canvas document windows the same as other windows. You can resize a window, expand it to fill the screen, and minimize or roll it up. Canvas provides commands to organize and select document windows when more than one is open.

Selecting among open documents

When you open several documents at once, only one is active. The Window menu displays the names of open Canvas documents. The name of the active document has a check mark.

◆ **To make a document the active window:** Choose the document's name in the list at the bottom of the Window menu. You can also click a document's window to make the document active.

When you open more than one document, information in the Status bar, such as the pointer's location, applies to the active document. The same is true of floating palettes; palette settings apply to the active document and they change when you switch documents.

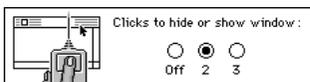
Minimizing and maximizing windows

Window controls differ under Mac OS and Windows, and both operating systems offer more than one way to resize windows. For more information, refer to your system documentation.

To minimize and restore a window

Mac To minimize a window, double-click the window's title bar; the window rolls up so only its title bar is visible. To restore the window, double-click the title bar again.

Note: This method depends on the setting in the Window Shade control panel in System 7.5. If the setting in the control panel is different



WindowShade control panel set to two clicks (Mac only)



A minimized window icon (Windows) has Restore, Maximize, and Close buttons



Zoom box



Maximize button

than two clicks, the procedure differs. If the control panel isn't installed, you might not be able to roll up windows.

Windows Click the Minimize button  in the window's title bar. The window shrinks to an icon at the bottom of the Canvas program window. To restore the window, click the Restore button.

To maximize a window

Mac Click the Zoom box in the title bar at the upper-right corner of the window.

Windows Click the Maximize button in the window's title bar.

Arranging windows

When you open more than one document window, you can stack or distribute them on screen so they are easier to work with.



Tile Across



Tile



Tile Down

When Canvas arranges document windows, it resizes them if necessary so they fit within the main program window or screen area.

- ◆ **To arrange windows in rows:** Choose Window > Tile Down.
- ◆ **To arrange windows in columns:** Choose Window > Tile Across.
- ◆ **To arrange windows in a grid (Mac only):** Choose Window > Tile.
- ◆ **To stack all windows:** Choose Window > Stack.
- ◆ **To arrange icons of minimized windows (Windows only):** Choose Window > Arrange Icons.

Viewing documents

This section describes how you can adjust your view of a document. Viewing options in Canvas let you

- control when Canvas redraws objects
- scroll to any area with the Hand tool or scroll bars
- increase or decrease the view magnification
- restore any view magnification and location
- display wireframe and process-color views

Controlling when Canvas refreshes the display

Canvas refreshes the display, which redraws all visible objects, when you scroll or change magnification. When you work with complex images, you can interrupt the redraw to save time, then refresh the display when you're ready.

- ◆ **To interrupt display redraw:** Press Command+Period (Mac) or Esc (Windows) during normal redraw.
- ◆ **To refresh the display:** Choose Layout > Display > Refresh. You can refresh the display after interrupting screen redraw, or when you want to refresh the display.

Scrolling documents

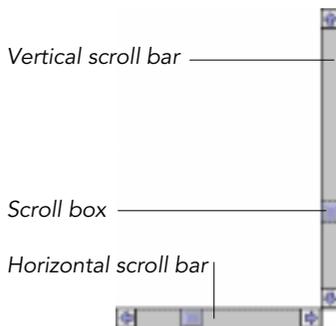
You can use scroll bars or the Hand tool to move to areas of a document that aren't displayed in the document window.

Using scroll bars

Document scroll bars represent the full document area. The position of the scroll box within a scroll bar indicates the current view area.

To scroll using scroll bars, do one of the following:

- Click one of the arrows to move in the arrow direction.
- Drag the scroll box toward the part of the document you want to see. For example, drag up to see more of the top.
- Click the scroll bar to scroll one screen length toward the side of the scroll box that you clicked. For example, click to the right of the scroll box to move one screen to the right.





Using the Hand tool

Using the Hand tool to scroll a document is like sliding a piece of paper on a desktop.

To scroll with the Hand tool

- 1 Select the Hand tool from the toolbox. The pointer becomes a hand.
- 2 Drag to make the document follow the pointer. For example, to move a document up so you can see the bottom, drag toward the top of the screen.

✓ Tip

To temporarily switch to the Hand tool while using another tool, press the Spacebar and drag with the Hand pointer.

Changing the view magnification

You can change your view of a document by changing the view magnification. This is called “zooming,” and you can zoom in to make objects appear larger or zoom out to see a larger area. Zooming changes the view on screen, but doesn’t change the actual size of anything in the document.

You can zoom with the Magnifying Glass tool, the Zoom bar, the Zoom palette, and Zoom commands. You can use magnification levels from 3.12 to 3,200 percent. Normal magnification is 100 percent.

- ◆ **To use a command to zoom:** Choose Layout > Views > Zoom In or Zoom Out. Zoom In increases magnification to the next higher preset level; Zoom Out decreases magnification to the next lower preset level.
- ◆ **To enter a zoom percentage:** Choose Layout > Views > Zoom, or press Command (Mac) or Ctrl (Windows) and the slash key (/). Enter a zoom percentage from 3.12 to 3,200 in the dialog box and press Enter or click OK.

Using zoom shortcuts

You can use keyboard shortcuts to access the Magnifying Glass tool and to zoom directly.

Mac To zoom in with the Magnifying Glass tool, press Option+Tab or Option+Spacebar or Command+Spacebar and click or drag a box around an area; to zoom out, press Option+Tab+Shift or Option+Shift+Spacebar or Command+Shift+Spacebar and click or drag a box around an area.

To zoom in directly, press Command+Option+Plus (+). To zoom out directly, press Command+Option+Minus (-).

Windows To zoom in with the Magnifying Glass tool, press Ctrl+Spacebar and click or drag a box around an area; to zoom out, press Ctrl+Shift+Spacebar and click or drag a box around an area.

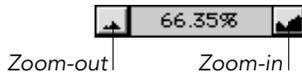
To zoom in directly, press Ctrl+Alt+Plus (+). To zoom out, press Ctrl+Alt+Minus (-).

Using the Zoom bar and Zoom palette

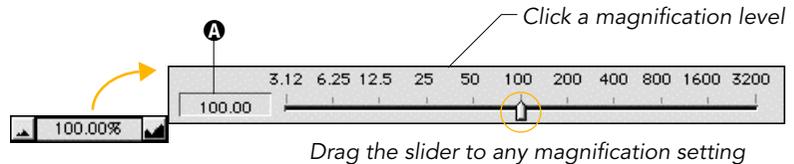
You can use the Zoom bar at the bottom left of the document window to adjust the view magnification. The Zoom bar displays the current magnification and lets you change magnification in preset increments. You can also use the Zoom bar to open the Zoom palette.

◆ **To zoom to the next preset magnification level:** Click the Zoom-in or Zoom-out button on the Zoom bar. The Zoom-in button increases magnification and narrows the view. The Zoom-out button decreases magnification and widens the view.

◆ **To select any magnification percentage:** Press the center of the Zoom bar and drag the slider in the Zoom palette. The box at the lower left shows the magnification level percentage.



To keep the Zoom palette open while you work, drag it away from the Zoom bar. You can type a zoom percentage in the text box (A) when the palette is floating



Tip
To quickly magnify an object, select the object and click the Zoom-in button.

If you drag the Zoom palette away from the Zoom bar, it stays open and you can click the preset magnification levels or click anywhere on the slider bar. For example, click the slider bar between 50 and 100 to set the magnification level to approximately 75 percent.

Magnifying specific areas

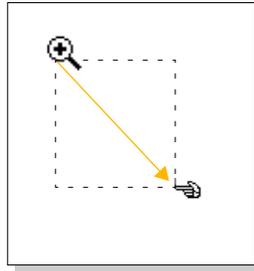
You can use the Magnifying Glass tool to zoom in and out from an area that you select in the document.

1 Select the Magnifying Glass tool in the toolbox. The pointer becomes a magnifying glass with a plus sign.

2 Click the center of the area you want to magnify. Canvas zooms to the next higher preset magnification level and centers the view at the point you clicked.

3 To reduce rather than magnify, Shift-click the area you want to center on screen at reduced magnification.

◆ **To magnify an area to fill the screen:** With the Magnifying Glass tool, drag a box around the area you want to magnify.



A custom view appears after Home View in the Views submenu

Using preset and custom views

A view in Canvas stores a magnification level and location within a document so you can return to it later. You can use preset views and create your own custom views. Preset and custom views appear in the Views submenu in the Layout menu. Canvas puts a check mark next to the name of the current view.

◆ **To select a view:** Choose Layout > Views > *View Name*, where *View Name* is a view listed in the Views submenu.

Preset views

You can select two preset views: Home View and Fit to Window.

Home view Displays the upper-left corner of the document at normal (100 percent) magnification.

Fit to Window Reduces or increases magnification to the maximum magnification level at which the document fills the window.

Custom views

You create custom views based on the current magnification level and position of the document in the Canvas window. After you create a custom view, you can select it the same as a preset view.

◆ **To create a custom view:** With the document's magnification and position set, choose Layout > Views > New View in the Layout menu. Type a name for the view in the dialog box and click OK.

To remove a custom view

1 Choose Layout > Views > Delete View. If only one custom view exists, Canvas deletes it.

2 If more than one custom view appears in the Views submenu, the Delete Views dialog box opens. Select a view and click OK. Canvas removes the selected view from the Views submenu.

Display modes



Display modes

The normal Canvas display mode shows all objects with their inks, strokes, and other attributes as they are in the document.

Canvas provides several special-purpose display modes: CMYK Preview, Gamut Warning, Overprint Preview, Choke Preview, Spread Preview, and Wireframe.

When a special display mode is active, a check mark appears next to the command in the Layout > Display submenu. To turn the display mode on or off, choose the command.

CMYK Preview

This mode simulates the appearance of printing a document using CMYK process colors. For example, bright RGB colors can appear muted when converted to the CMYK color space. CMYK Preview mode is useful for previewing the effect of printing RGB graphics using process colors.

◆ **To select CMYK Preview mode:** Choose Layout > Display > CMYK Preview.

Gamut Warning

This mode highlights colors that are outside the CMYK color gamut. It replaces out-of-gamut colors with a special indicator color. By default, the indicator color is bright green.

◆ **To select Gamut Warning mode:** Choose Layout > Display > Gamut Warning.

To change the Gamut Warning color, choose Edit > Calibration > Gamut Warning.

Overprint Preview

This mode overlays a pattern of O's on objects that have been set to overprint.

◆ **To select Overprint Preview mode:** Choose Layout > Display > Overprint Preview.

Choke Preview

This mode overlays a pattern of C's on objects that have a choke setting applied to them.

◆ **To select Choke Preview mode:** Choose Layout > Display > Choke Preview.

Spread Preview

This mode overlays a pattern of S's on objects that have a spread setting applied to them.

◆ **To select Spread Preview mode:** Choose Layout > Display > Spread Preview.

Wireframe

Wireframe mode shows vector objects in position without their assigned ink or stroke attributes. When Wireframe is selected, vector objects are hollow and have 1-point black pen strokes. Text characters appear solid black. Paint objects appear as usual.

Wireframe mode speeds up the screen display and lets you see through vector objects.

◆ **To select Wireframe mode:** Choose Layout > Display > Wireframe.

Viewing and editing document properties

With the Properties command, you can view the properties of documents. You can view standard data and add your own meta data to a document.

To view or edit properties

1 Choose File > Properties. The Properties dialog box contains the following tabs: General, Statistics, Summary, and Custom.

2 Click a tab to display its options. Use the procedures later in this section to edit the options, where applicable, then click OK to implement the settings.

Note: The document must be saved for some of its properties to be displayed.



Choosing a property

To view or customize a property, select a tab from the Properties dialog box.

General Describes general information about a saved document, such as type, location, size, attributes, when it was created, and when it was last modified.

For Mac only, the Finder Comments box lets you view the comments that appear in the Finder's Get Info comment window for the document.

Statistics Displays when the document was created and when it was last modified. It also shows the last time the document was printed, the name of the person it was last saved by, the number of revisions, and the total editing time.

The Statistics box contains information about the document and the objects contained in it.

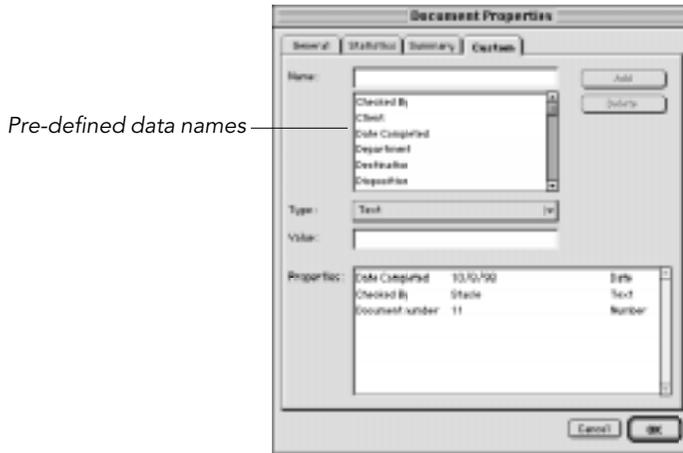
Note: The creation time can be different on the General and Statistics tabs. The Statistics tabs displays the date and time the document was created as a new document. The General tab displays the time it was first saved.

Summary Lets you customize information about the document. You can enter a title, subject, author, manager, and company.

In the Category and Keyword boxes, you can type data to categorize the document.

The Comments box lets you type comments about the document.

Custom Lets you add custom data to the document. You can choose names and data types for these entries, as described next.



Pre-defined data names

To enter custom data

- 1 Choose a name from the list for the data entry, or to create a new data name, type a name in the Name text box.
- 2 Choose a data type from the Type menu. You can choose Text, Date, Number, or Yes or No. Then, depending on the type, enter a value in the Value box.
 - For Text, type any text value.
 - For Date, type a date from 1/1/1601 through 12/31/9999.
 - For Number, type a numeric value.
 - For Yes or No, click Yes or No.
- 3 Click Add to add the data entry to the Properties box.

To modify a data entry

Click the entry in the Properties box, then change the type or value. You cannot change the name of the entry. Click Modify to apply the change.

To delete a data entry

Click the entry in the Properties box, then click Delete.

Desktop printing

Canvas works with all standard desktop printing devices, including PostScript and non-PostScript printers. You can print Canvas documents using black-and-white or color devices.

This section focuses on the basics of printing to desktop printers. It describes how to select a printer and set printing options.

Color Printing Guide For information on additional printing options and special printing situations, refer to the Canvas on-line Help system and the Canvas *Color Printing Guide*.

Selecting a printer and printer options

The first time you print from Canvas, you might need to select a printer and configure printing options. This section describes how to do this for Mac OS and Windows.

Page setup for Mac OS

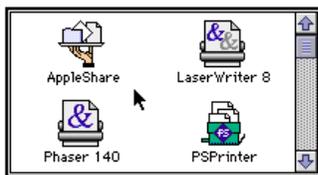
- 1 Select Chooser in the Apple menu. In the dialog box, select the printer driver that you want to use. PostScript drivers, such as LaserWriter 8 and PSPrinter, work only with PostScript printers.
- 2 Select an available printer. If you are connected to a network, you might need to select a zone first and then an available printer.

For information on setting up printing options and background printing, refer to your Mac OS and printer documentation.

- 3 In Canvas, choose File > Page Setup. A dialog box appears with page setup options (shown on next page). The specific options in the dialog box might be different, depending on your printer driver.

Printer setup for Windows

- 1 Choose File > Printer Setup. A dialog box appears (shown on next page); the specific options depend on your printer and printer driver.
- 2 Choose a printer and port in the pop-up menu, which lists printers installed for your system. If the printer you need is not on the list, use the Printers Control Panel to add it to the list.



Printer drivers in the Chooser

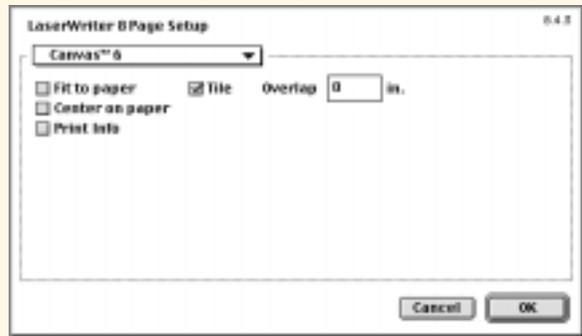
- 3 If necessary, select an appropriate PPD (PostScript Printer Description) file. A PPD file contains setup information and options for PostScript printers.
- 4 For more options, click Setup. The available options depend on the printer driver you are using. Refer to your printer's documentation or click the Help button in the dialog box for more information.
- 5 Check the other settings and click OK.

Page Setup (Mac OS) and Printer Setup (Windows)

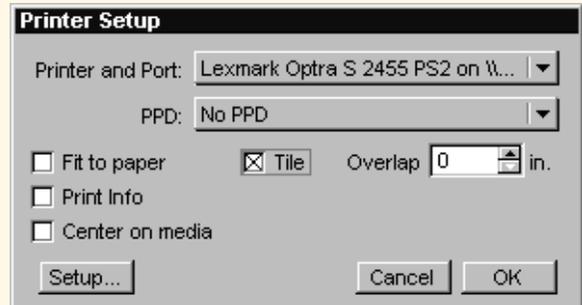
Before you print a document, check the settings in these dialog boxes. The available options at the tops of the dialog boxes differ for PostScript and non-PostScript printers and for specific printer drivers.

The **Fit to paper**, **Print info**, **Center on paper (Mac OS)**, **Center on media (Windows)**, and **Tile** check boxes are Canvas printing features that also appear in the Print dialog box; the settings in both locations always match each other. You can configure these settings here to see the impact on page breaks on-screen without having to print the document first.

For more printer and page setup options, you can select another tab (Mac) or click Setup (Windows). The available options depend on the active printer and printer driver.



LaserWriter 8 Page Setup



PostScript Printer Setup

PostScript (LaserWriter) setup options

The following are options that you can set for PostScript printers in the Page Setup dialog box. Some of these options differ, depending on the printer driver you have selected. Using these options affects the printed output only; the original document doesn't change.

Flip Horizontal Produces a mirror image of the on-screen document, so the document appears reversed from left to right on the printed page.

Flip Vertical Produces a mirror image of the on-screen document, so the document appears reversed from top to bottom on the printed page.

Invert Image Prints the opposites of colors in the document, so the output looks like a photo negative. For example, black objects will print as white, and colors will print as their complements.

Substitute Fonts Uses fonts installed in the printer instead of the fonts installed on the computer, when the same fonts (or fonts with the same name) are available on both.

Precision Bitmap Alignment Improves bitmapped graphics by reducing the image to 96 percent of actual size.

Unlimited Downloadable Fonts Reserves more memory in the printer for downloading fonts during printing.

Larger Print Area This option lets some printers print closer to the edge of the paper. You might want to experiment to determine if this setting has any effect on your printer.

Previewing and printing documents

Print preview lets you see how a document will look when you print it. Use print preview to check print settings and the composition of a document before printing.

Print preview reflects the current print settings and the page setup (Mac) or printer setup (Windows). These settings include the type of output (composite or color separations), the pages to print, tiling, centering, printing blank pages, and printing in color.

In the preview, you can see which objects, layers, and pages will be printed. You can make sure the layout fits in the printable area of the paper. When you use the Tile option, the preview shows the tiles as separate pages.



Print preview options

To adjust the preview, you can select options in the preview window.

- A** Click to decrease the magnification of the preview.
- B** Click to increase the magnification of the preview. You can also drag a bounding rectangle around the area you want to magnify.
- C** Click the arrow buttons to cycle through the pages.

Out of gamut. Displays a warning color on an object whose actual color is outside

the CMYK gamut. The default warning color is bright green. This is the same warning shown in the document if you choose Layout > Display > Gamut Warning.

Overprint. Displays a pattern of "O's" on an object that will be overprinted in color separations. This is the same pattern shown in the document if you choose Layout > Display > Overprint Preview.

Choke. Displays a pattern of "C's" on an object that will be choke trapped in color separations. This is the same pattern

shown in the document if you choose Layout > Display > Choke Preview.

Spread. Displays a pattern of "S's" on an object that will be spread trapped in color separations. This is the same pattern shown in the document if you choose Layout > Display > Spread Preview.

Print. Click Print to display the Print dialog box.

Done. Click Done or press Esc to close the Print Preview.

◆ **To preview a document:** Choose File > Print Preview. Or, click Preview in the Print dialog box. The preview window displays the first page to be printed. When you finish previewing, click Done to close the preview window, or press Esc.

Previewing color separations

To preview color separations, select Separations in the Print As pop-up menu in the Print dialog box. Then, click the Preview button.

When you are outputting color separations, the preview shows a separate page for each plate to be printed. You can identify objects designated for overprinting or trapping in color separations. The preview can highlight colors that are outside the CMYK gamut.

Printing documents on desktop printers

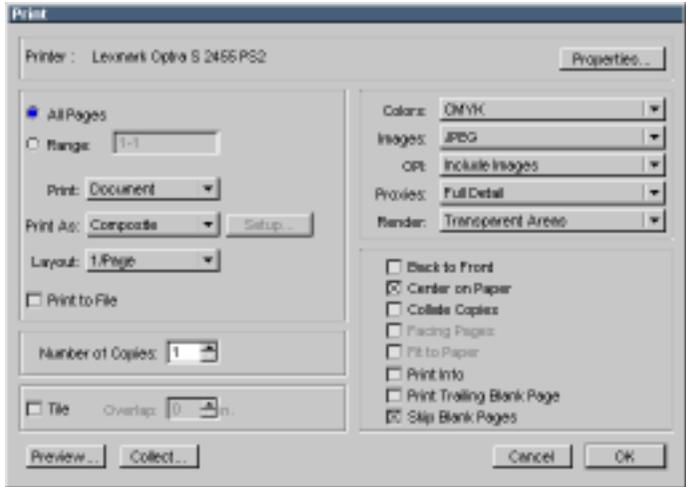
Before printing a document, you can set up various options that affect how the document prints.

You can set up the number of copies to print and which parts of the document to print, such as a range of pages or selected objects. You can tell Canvas how to position the document on the paper and to print color separations.

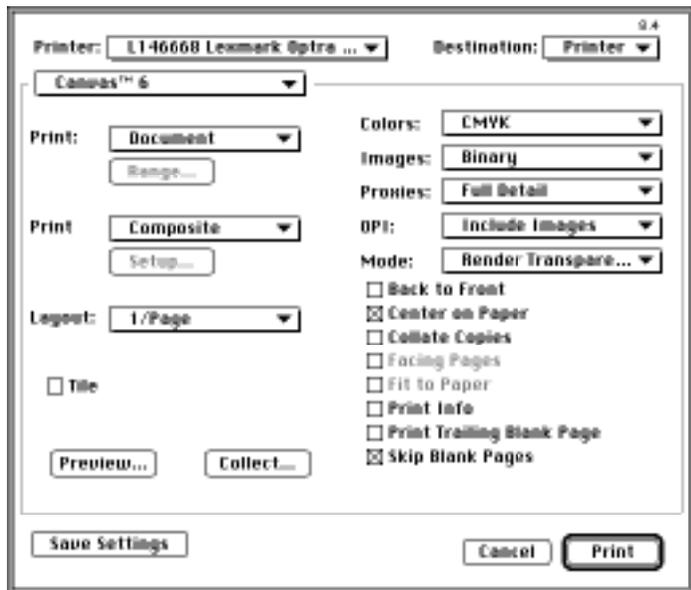
Two features can help you prepare a document for printing. You can preview the document's appearance when it's printed with the Print Preview command. You can use the Collect for Output command to prepare the document for remote output.

To print a document

- 1 Choose File > Print. The Print dialog box appears.
- 2 Enter the number of copies to print, and then select other options, described next. Click Print (Mac) or OK (Windows).



Print dialog box (Windows)



Laserwriter 8.4 Print dialog box (Mac)

Page range options

You can print all of a document, a page range, discrete pages only, or combinations of these options.

Mac To print an entire document, select Document in the Print pop-up menu. To print a range of pages select Page Range in the Print pop-up menu, and then click the Range button. A dialog box appears. Enter the page range you want to print. To print pages 1 to 4, page 7, and page 9, for example, type 1-4, 7, 9 in the text box.

Note: The Range button isn't available when you print documents that have only one page.

Windows To print an entire document, click the All button. To print a range of pages, select Range. Enter the page range you want to print. To print pages 1 to 4, page 7, and page 9, for example, type 1-4, 7, 9 in the text box.

Number of copies

In the Copies box (Mac), or the Number of Copies box (Windows), type the number of copies you want to print.

Note: On Mac, the Copies text box appears under General options when you use LaserWriter version 8.4 and higher.

Printing selected parts of documents

In the Print pop-up menu, you can designate which parts of the document to print.

Document Prints the entire document.

Page Range (Mac only) Lets you enter a range of pages to print. See Page Range options, above.

Current Page Prints the current page only.

Odd Pages Prints odd-numbered pages only.

Even Pages Prints even-numbered pages only.

Selection Prints selected items only.

Printing documents as composites or color separations

◆ **To print documents in color or black and white:** In the Print As pop-up menu, choose Composite.

- ◆ **To output color separations:** In the Print As pop-up menu, choose Separations.

When you choose Separations, the Setup button becomes available. Click Setup to use the Separations Setup dialog box. Refer to the *Color Printing Guide* for information on separation setup and options for outputting spot-color and process-color separations.

Printing multiple scaled pages

In the Layout pop-up menu, you can select an option to print multiple document pages on each printer page.

Choose 1/Page to print a document at actual size, with one document page on each printer page. If the document is larger than the printer paper, the document will not be scaled; you can select the Tile option to print the document on multiple sheets of paper.

To scale and print multiple document pages on each printer page, choose an option to set the number of document pages to print. The document pages will be scaled as necessary to fit the printer pages. The amount of scaling depends on the size of the document pages and the size of the printer pages.

For example, if you want to print six document pages as thumbnail images on a printer page, choose 6/Page.

Outputting PostScript files

You can use a PostScript printer driver to print a document to a PostScript “printer file.” You might want to do this so you can send the file to a service bureau to be output on a PostScript device.

In general, a PostScript file can be downloaded (using an appropriate utility or driver) to any PostScript device, without using Canvas.

To print to a PostScript file

- 1 In the Print dialog box, choose File in the Destination area (Mac), or select Print to File (Windows).
- 2 In the Images pop-up menu, you can choose a format for image output; these options are described next.
- 3 Click Save (Mac) or OK (Windows). In the directory dialog box that appears, select a location to save the file, type a file name, and then click Save (Mac) or OK (Windows).

Note: To print to a PostScript file, you must select a PostScript printer driver. If you're printing to a Windows (GDI) printer or a QuickDraw printer, you can't output PostScript files. You must have a PostScript printer driver to output PostScript files.

Placement and scaling options

Several options let you control the size and positioning of a printed document. An option is active if the box contains a check mark. Click the box to toggle the option. Some options apply to specific document types (Illustration, Publication, or Presentation), as noted.

Center On Paper Centers a document on the printed page. If you're printing selections only, Canvas shifts the selected items to the center of the printed media. This option can be useful when you have selected objects that you want to print in the center of the page, but they are not centered in the document itself.

Collate Copies Prints all pages of the document in order based on the number of copies requested, rather than printing all copies of page 1, all copies of page 2, and so on.

Fit To Paper Scales a document to fit within the page's printable area. Canvas scales the document so that objects are not within 0.4 inch of the edge, where most printers can't print.

Skip Blank Pages Does not output document pages that are completely blank.

Print Info Prints crop marks, registration marks, and other document details, such as date, time and page number. Canvas prints the marks and information beyond the area occupied by the document's elements. The printer page size must be large enough to contain the entire document and the printed information.

Back To Front Prints from the last page to the first, keeping pages in the correct order if the printer stacks pages face-up in the output tray.

Print Trailing Blank Page Prints a final blank page after every document.

Facing Pages If the document is formatted for spreads, Canvas prints facing pages on a single page. In Illustration and Presentation documents, this option isn't available.

Tile Prints a large document by dividing it among "tiles" of printer pages. Type an overlap amount in the text box so part of the docu-

✓ Tip

Some documents can be larger than the paper in your printer. To print the entire document, select the Tile option in the print dialog box. Canvas will "tile" (divide) the document into a series of pages matching the paper size of your printer.

ment repeats at the edge of adjoining tiles; the overlap makes it easier to assemble the complete document after printing.

Colors

Choose an option from the Colors pop-up menu to control color accuracy when using a color printer. In general, when you print to a color printer, it's best to choose a color specification that matches the colors in the document you're printing. For example, choose CMYK if your document contains CMYK colors only.

Normal (RGB) Outputs colors using RGB color specifications. On a non-color printer, colors print as shades of gray, the same as if you select Colors As Grays.

Black & White Prints all colors as black or white.

Colors As Grays Outputs colors as shades of gray on all printers, including color printers.

Calibrated (LAB) Uses color calibration to try to match printed colors to their appearance on screen. Keep in mind that many on-screen hues cannot be reproduced on paper with printing inks. For example, colors that look bright and saturated on screen, such as hot pink, cyan, and brilliant orange, will appear muted in printed materials.

CMYK Outputs colors using CMYK color specifications. On a non-color printer, colors print as shades of gray, the same as if you select Colors As Grays.

Images

In the Images menu, choose a format for output of image data to a PostScript device or file. The format you choose affects the amount of data transmitted and the size of a PostScript file. This setting can affect compatibility with networks and PostScript printers.

Note: Rendered transparency effects are also transmitted as image data when printing to PostScript printers.

ASCII Outputs image data as plain text. This is the most compatible format, but it transmits (or saves in files) the largest amount of data.

Binary Outputs images as binary data, which might not be compatible with all printers and networks. Binary data is half the size of ASCII data.

Level 2 ASCII Outputs images in an ASCII format that is compatible with PostScript Level 2 devices. This produces files that are approximately 20% smaller than regular ASCII PostScript files.

RLE Outputs images using Run Length Encoding compression. This format is compatible with PostScript Level 2 devices. This form of compression is most efficient when documents contain images that have large areas of flat color.

JPEG Outputs images using JPEG compression. This format is compatible with PostScript Level 2 devices. JPEG compression requires more system memory and more processing time at the printer than other compression methods. However, this format achieves the fastest printing results with continuous-tone (photographic) images and documents containing transparency effects.

Open Prepress Interface

Canvas supports Open Prepress Interface (OPI) systems. OPI systems let you control whether low-resolution “for position only” placeholder images are output, or whether OPI comments are sent through the print stream to be processed by an OPI server.

For more information on Open Prepress Interface systems, consult vendors that use this system.

You can select options for OPI output from the OPI menu.

Include Images If you do not use OPI for output, select this option. If you use an OPI system but want to output drafts with low-resolution images, select this option.

Omit TIFF If you use an OPI system, choose Omit TIFF to replace low-resolution placeholder images for TIFF files with OPI comments. OPI comments provide the path to high-resolution TIFFs stored on the OPI server. When the document prints, the OPI system inserts TIFF images at full resolution.

Omit TIFF & EPS If you use an OPI system, choose Omit TIFF & EPS to replace low-resolution placeholder images for TIFF and EPS files with OPI comments. When the document prints, the OPI system inserts TIFF and EPS images at full resolution.

Proxies

Choose an option in the Proxies menu to control output of images when you have placed proxies in a document.

Full Detail Prints the high-resolution images that are linked to the proxies in the document. Canvas outputs the images from the linked files on your computer.

Low Resolution Prints proxy images rather than the high-resolution images. This option is faster and could be adequate when you are proofing other parts of a document.

Rendering options

Choose an option in the Render menu to specify how transparency effects will be rendered (converted to pixels for printing). This setting can affect the accuracy of transparency effects in printed output.

Transparent Areas Renders the area inside the bounding box of all transparent objects. This generates the least amount of additional data to print transparency effects. Do not choose this option if you are printing in color on non-PostScript printers and the document has vector and transparent objects that share the same color, because these printers will not match the colors precisely. In some cases, non-standard PostScript printers might produce a slight pixel shift between a transparent and non-transparent area of a vector object. If this happens, select Transparent and Overlapped in the Render menu.

Transparent and Overlapped Renders the area within the bounding boxes of all transparent objects, as well as objects that are overlapped by transparent objects (or intervening objects). This is the best setting to use when you print to non-PostScript color printers to avoid color-matching problems.

All Objects Renders all objects in the document as one or more images that are sent to the printer. This is equivalent to processing the document in an internal RIP (raster image processor) in Canvas. This option produces the greatest amount of image data. However, this option can be useful if you experience problems producing accurate output of transparency or other effects when you use a particular printer or printer driver.

No Transparency Does not render any transparency effects in the document. If you select this option, transparency effects will not be printed; transparent objects will be printed as opaque objects.

The one exception to this rule involves vector objects that have a transparency Scope setting of Fill only when printing to a PostScript printer, because PostScript can print transparent fill inks in vector objects without rendering. For information on the Scope setting, see “To set an object’s transparency scope” on page 292.

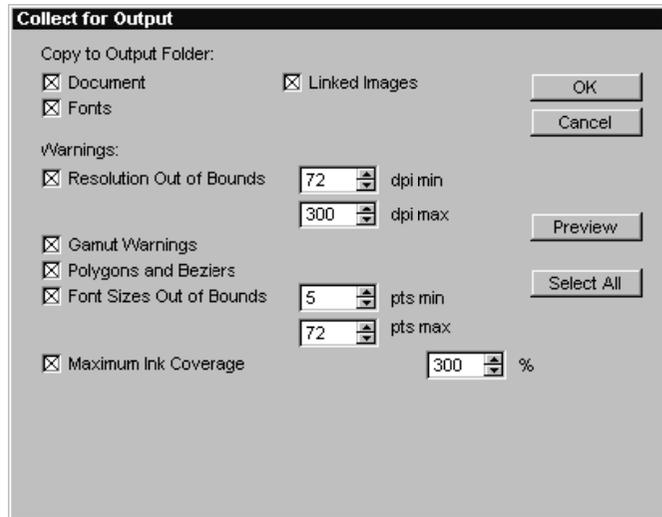
You might want to select No Transparency if you need to quickly print a proof of a complex document. This allows you to check the positioning of objects without seeing the final transparency effects.

Collecting items for remote output

The Collect for Output feature prepares a document for remote output. It places the document file, required fonts, and linked images in an output folder. Collect for Output also gathers document information and prepares an output report.

If you are printing to a local or network desktop printer, you probably don’t need to use Collect for Output. If you are taking a document to a service bureau for high-resolution output, it’s a good idea to use Collect for Output.

Please refer to the *Color Printing Guide* for additional information about Collect for Output and related concepts such as overprinting and out-of-gamut colors.



To use Collect for Output

- 1 Save a copy of the document in Canvas file format before collecting for output.
- 2 Choose File > Collect for Output. Or, in the Print dialog box, click Collect. The Collect for Output dialog box appears. The dialog box lets you select items to save and warnings to report.
- 3 In the Copy to Output Folder area, specify which items you want to collect. In the Warnings area, select the warnings that you want Canvas to provide in an output report.
- 4 After selecting the options you want, click OK.

Note: If no options are selected, the output report contains basic information about the document, printing plates for color separations, and fonts (if any).

- 5 A directory dialog box appears. Select the location in which you want to save the Collect for Output items, and then click Select. Another directory dialog box appears.

In the directory dialog box, choose a format in which to save the document file you're collecting, and then click Save.

Note: Due to the limitations of non-Canvas file formats, it's strongly recommended that you save a copy of the document in Canvas file format prior to collecting for output.

- 6 If you selected Fonts under "Copy to Output Folder" and the document contains fonts, a dialog box lets you select fonts to copy to the output folder. Select the fonts to copy and click OK to proceed.

Canvas copies the specified items to the output folder and generates an output report. The report is named the same as the document, with the extension ".TXT." You can view the report in Canvas or a text editor.

Previewing an output report

To preview an output report, click Preview in the Collect for Output dialog box. A tabbed dialog box displays information about the document.

DOCUMENT SETUP

When you create new Canvas documents, you select from three document types. You can then use document setup options to specify layout size, margins, orientation, and measurement units.

This chapter explains how to create new documents and how to set up document rulers, drawing scales, guides, and alignment grids.

Creating new documents

When you want to create a new document, you use the New command and tell Canvas to create an Illustration, Publication, or Presentation document.

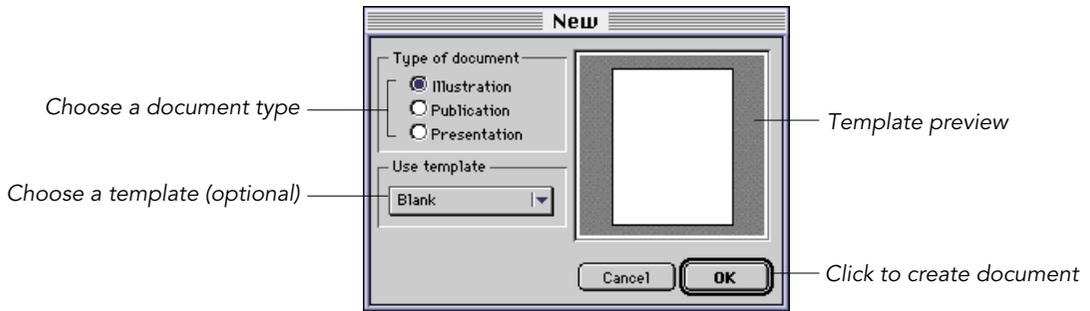
When you start Canvas, it creates a new document. The very first time, Canvas creates a blank Illustration document. From then on, Canvas starts with the document type you selected when you last used the New command. If you also selected a template, Canvas uses the same template for the new document it creates at startup.

If you start Canvas by double-clicking a document icon, Canvas opens the document without creating a new document.

You can create new documents any time, even with other documents open. The number of documents you can have open at the same time depends on the amount of memory available on your system.

To create a new document

- 1 Choose File > New.
- 2 In the New dialog box, select an option under “Type of Document.” For information, see “To change rulers,” next.
- 3 To use a template for the document, select the template in the Use Template pop-up menu. For information, see “Using document templates” on page 57.
- 4 Click OK. Canvas creates a new document with the name “Untitled” (Mac) or “New” (Windows) and a document number. If you selected a template, the document name is based on the name of the template.



Choosing a document type

When you create a new document, you can tell Canvas to make an Illustration, Publication, or Presentation document.

Illustration documents

Illustration documents are general-purpose documents for all types of illustrations and graphics. You can specify a custom document size, and the document can have multiple pages (called “sheets”), with multiple layers on each sheet.

When the active document is an Illustration, the icons at the bottom of the window represent the document’s sheets. You can click an icon to move to that sheet.

Publication documents

Publication documents are designed for publications printed with two-sided (facing) pages, although you can also create a Publication that has pages with single sides. You can use master pages to hold items that you want to appear throughout the publication. You can also use multiple layers on each page.

When the active document is a Publication, you can use page icons at the bottom of the window to move among the document’s pages.

Presentation documents

Presentation documents are designed for on-screen “slide show” presentations. You can use multiple layers and a master slide to hold background elements. You can use more than a dozen transition effects, including wipe and dissolve, during slide show playback.

When the active document is a Presentation, you can use slide icons at the bottom of the window to easily move among the slides.



Using document templates

Templates are special Canvas documents that you can use as the basis for new documents. When you select a template in the New dialog box, Canvas creates a new document containing the graphics and text in the template and uses the template's settings for layers, slides, pages, rulers, grids, guides, views, and default object attributes.

How is a template different than a regular Canvas document? When you choose a template in the New dialog box, Canvas creates a new document based on the template, but doesn't actually open the template file. When you make changes to the new document and save it to disk, the changes don't affect the template.

Canvas treats a template in a similar way when you open one by double-clicking its icon or using the Open command. In either case, rather than open the actual template document, Canvas makes a new document based on the template's document type and contents.

Templates, like regular Canvas documents, come in three types: Illustration, Presentation, and Publication. In the New dialog box, the templates listed in the "Use Template" pop-up menu match the document type selected in the "Type of Document" area.

Setting up documents

After you create a document, you can use the Document Setup dialog box to set up the document's measurement units, size, orientation, and other options.

The Document Setup dialog box presents specific options for Illustration, Publication, and Presentation documents. For example, in a Publication document, you can set facing pages and page margins. In a Presentation document, you can specify screen size.



To set up an Illustration

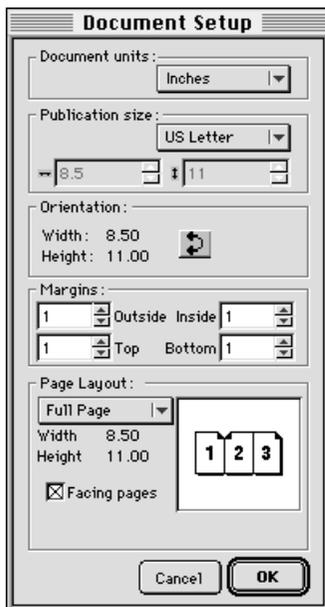
Choose Layout > Document Setup. The Document Setup dialog box appears. Select the options you want and click OK.

Document Units To specify measurement units, choose an option in the Document Units pop-up menu.

Select Inches, Points, Centimeters, or Picas to see the size of the document in these units in the boxes in the Illustration size area. Select Ruler Units to use the units specified in the Ruler dialog box. To change the units specified in the Ruler dialog box, choose Layout > Rulers.

✓ **Tip**

For illustrations larger than the current paper size, you can use the Display > Show/Hide Page Breaks command in the Layout menu to see or hide page divisions. A line around the layout area indicates page boundaries.



Select Printer Pages to specify the document size as a multiple of your printer's page size.

Illustration Size You can set the document size to match the paper in your printer, or set up a document based on a standard or custom size.

To base the dimensions of the layout area on your printer's page size, choose From Printer. The layout area will match the settings in the Page Setup (Mac) or Printer Setup (Windows) dialog box. This option is described fully later in this section.

To use a standard size, choose an option from the pop-up menu. You can choose US Letter (8.5 by 11 inches), US Legal (8.5 by 14 inches), Tabloid (11 by 14 inches), and other standard sizes.

To specify custom dimensions, choose Custom. Type the width in the first box and the height in the second box.

Orientation To change the orientation of the layout area, click the button in the Orientation area. This swaps the width and height values of the layout area.

To set up a Publication

Choose Layout > Document Setup. The Document Setup dialog box appears. Select the options you want and click OK.

Document units To specify the measurement units, choose an option in the Document Units pop-up menu.

Select Inches, Points, Centimeters or Picas to see the size of the document in these units in the boxes in the Publication size area. Select Ruler Units to use the units specified in the Ruler dialog box. To change the units specified in the Ruler dialog box, choose Layout > Rulers.

Publication size You can set up the document size to match the paper in your printer, or set up a document based on a standard or custom size.

To base the dimensions of the layout area on your printer's page size, choose From Printer. The layout area will match the settings in the Page Setup (Mac) or Printer Setup (Windows) dialog box. This option is described fully later in this section.

To use a standard size, choose an option from the pop-up menu. You can choose US Letter (8.5 by 11 inches), US Legal (8.5 by 14 inches), Tabloid (11 by 14 inches), and other standard sizes.

To specify custom dimensions, choose Custom. Type the width in the first box and the height in the second box.

Note: You can divide the specified page area into multiple sections if you choose a multi-page layout.

Orientation To change the orientation of the layout area, click the button in the Orientation area. This swaps the width and height values of the layout area.

Margins To set margin size for two-sided publications, enter the Inside, Outside, Top, and Bottom margins in the text boxes in the Margins area. For single-sided publications, enter Right, Left, Top, and Bottom margins. The margin is measured from the edge of the paper.



Tip

To see or hide the printable area, you can use the Display > Show/Hide Printable Area command in the Layout menu. Canvas indicates the printable area by a solid line around the border of the page.

On screen, the document's margins appear as a dashed line. The printable area appears as a solid line around the edge of the layout area. Make sure the margins are not outside the printable area.

Page Layout To specify multiple pages per sheet, choose Tent Card or Greeting Card in the Sheet Layout pop-up menu.

To create double-sided pages, select Facing Pages. When you select this option, a message appears. Click OK to proceed. Once you select Facing Pages for a publication, it cannot be deselected. In addition, when Facing Pages is on, the document has a left and a right master page that you can apply to its left-hand and right-hand pages.

To set up a Presentation

Choose Layout > Document Setup. The Document Setup dialog box appears. Select the options you want and click OK.

Document units To specify the measurement units, choose an option in the Document Units pop-up menu.

Select Inches, Points, Centimeters or Picas to see the size of the document in these units in the boxes in the Presentation size area. Select Ruler Units to use the units specified in the Ruler dialog box. To change the units specified in the Ruler dialog box, choose Layout > Rulers.

Presentation size You can set up the document size to match the screen size, the paper in your printer, or you can set up a custom size.

To base the size of the layout area on the monitor's resolution, choose From Screen.



To base the dimensions of the layout area on your printer's paper, choose From Printer. The layout area will match the settings in the Page Setup (Mac) or Printer Setup (Windows) dialog box. This option is described fully later in this section.

To use a standard size in pixels, choose an option from the pop-up menu. You can choose 640 by 480, 800 by 600, 832 by 624, 1024 by 768, 1280 by 1024, or 35mm Slide.

To specify custom dimensions, choose Custom. Type the width in the first box and the height in the second box.

Orientation To change the orientation of the layout area, click the button in the Orientation area. This swaps the width and height values of the layout area.

Matching documents to printer pages

Selecting "From Printer" in the Document Setup dialog box tells Canvas to check the page setup information in the Page Setup dialog box (Mac) or Printer Setup dialog box (Windows). Canvas sets the orientation and dimensions of the document to the page information in the dialog box.

If From Printer is selected and you change the page settings, Canvas changes the dimensions of the document to match. You don't have to choose Document Setup again.

For example, in a Publication, choose From Printer. Canvas copies the page size from the Page Setup or Printer Setup dialog box to the Width and Height values in the Orientation area of the Document Setup dialog box.

You can now use File > Page Setup to change the paper size, or its orientation; Canvas will update the dimensions of the document and you do not have to choose Layout > Document Setup.

Canvas matches a document's dimensions to the printer page size even if you specify a scaling factor in the Printer Setup or Page Setup dialog box.

When you save a document and From Printer is selected, Canvas checks the Page or Printer Setup information when you reopen the document. If necessary, it adjusts the document's dimensions to again match the printer page information.

Setting up rulers and the drawing scale

You can set up rulers for a document using various units of measure and display the rulers at the top and left of the document window. Rulers help you track the pointer's movement and let you create alignment guides in the layout area.

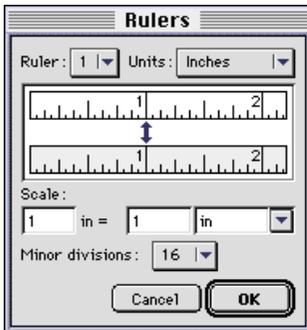
When you set up rulers, you also set the document's drawing scale. Canvas bases the rulers and all object measurements on the drawing scale.

For example, if you set the drawing scale to 1 inch = 1 foot, and draw a line 1 inch long on screen, Canvas displays the line's length as 1 foot. Canvas uses scale measurements in the Object Specs palette, the information area of the Status bar, and in dimension objects.

You can use inches, points, centimeters, and picas as a document's base unit of measurement. For the drawing scale, you can relate the base unit to inches, feet, miles, picas, pixels, metric units, and your own custom units.

To set up rulers and drawing scales

- 1 Choose Rulers in the Layout menu. In the Rulers dialog box, choose a ruler number in the Ruler pop-up menu. You can use the default rulers or customize them.
- 2 To change the measurement units, choose the units in the Units pop-up menu. Canvas sets up the ruler's major divisions based on the units you choose.
- 3 Set the drawing scale using the text boxes in the Scale area. In the first box, type the base unit measurement. In the second box, type the scaled equivalent. In the third box, enter the units for the scaled measurement. You can type a custom unit here; Canvas will use the first two letters in dialog boxes and dimensions. The table at left shows examples of settings for various drawing scales.
- 4 Choose a setting for the ruler's minor divisions in the pop-up menu under the Scale boxes.
- 5 To establish the ruler's major divisions, drag the double arrow between the two rulers. Drag to the unit of the top ruler that you want to be the major division. The major division also determines the major division of the alignment grid.
- 6 After you configure all ruler settings, click OK.



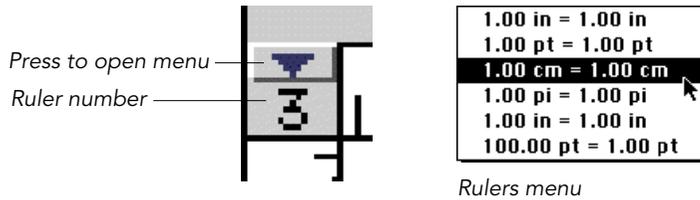
Scale	values
1 inch = 6 inches	1 6 inches
5 inches = 1 mile	5 1 miles
10 cm = 1 meter	10 1 meters

To display and hide rulers

When you want rulers to appear on screen, choose Layout > Display > Show Rulers. To hide the rulers, choose Layout > Display > Hide Rulers. The rulers must be displayed if you want to create alignment guides in the layout area.

To change rulers

When the document rulers are visible, you can change the current ruler by pressing the button in the upper-left corner of the document, and selecting a ruler from the pop-up menu that appears.



To change the rulers' zero points

The default zero point for each ruler is at the top-left corner of the illustration area. To change the zero point, drag from the intersection of the rulers. As you drag the zero point, intersecting lines follow the pointer. To return the rulers to the default zero point, click the box where the rulers intersect.

To use 'tear-off' rulers

When rulers are displayed, you can move a copy of a ruler into the layout area to measure specific areas of an illustration. When you tear off a ruler and move it, Canvas takes a snapshot of the ruler and pastes it into the document as a paint object. A tear-off ruler isn't active like the rulers displayed at the window edges.

- ◆ **To place a tear-off ruler in a document:** Point to the ruler you want to tear off, press Option (Mac) or Alt (Windows) and drag a copy of the ruler into the document.

Using the alignment grid

You can display a grid of vertical and horizontal lines to aid in positioning objects in a document. You can also turn on the snap-to-grid feature to make Canvas snap objects into alignment with the grid when you drag near a grid line.

When snap-to-grid is active, the pointer movements snap to the grid according to the settings in the Grids dialog box.

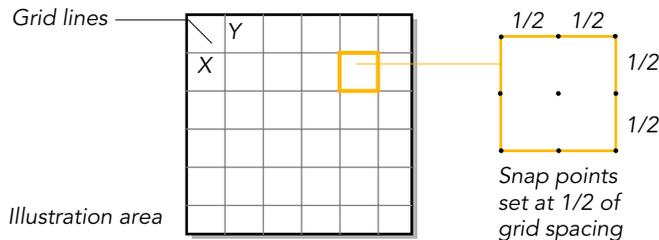
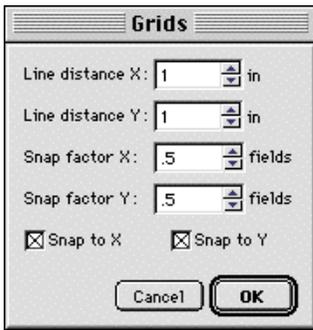
- ◆ **To display grid lines on screen:** Choose Layout > Display > Show Grids. To turn off grids, choose Layout > Display > Hide Grids.
- ◆ **To turn on snap-to-grid:** Choose Layout > Snap To > Grid. Choose the command again to turn off snap-to-grid.
- ◆ **To temporarily override the grid constraint:** Press Tab as you create, resize, or move objects.

To set up the alignment grid

- 1 Choose Layout > Grids. The Grids dialog box appears.
- 2 Type a value in the Line Distance X: Units text box. This is the distance from one vertical grid line to another.
- 3 Type a value in the Line Distance Y: Units text box. This is the distance from one horizontal grid line to another.
- 4 Type a value in the Snap Factor X: Fields text box. This value sets the snap points along the horizontal lines of the grid.
- 5 Type a value in the Snap Factor Y: Fields text box. This value sets the snap points along the vertical lines of the grid.

You can enter decimal or fractional values; Canvas converts fractional values to decimal values. For example, if the Line Distance is 1 inch, a Snap Factor of 1/2 Fields sets snap points every 1/2 inch.

- 6 Select Snap to X and Snap to Y to make objects snap to the snap points on both sets of grid lines.
- 7 Click OK to implement the grid settings.



Using alignment guides and objects

You can create alignment guides and alignment objects. Other objects can “snap” to alignment guides and objects.

Alignment guides are horizontal and vertical lines you can drag into a document from the document rulers. When you create alignment guides, Canvas places the guides on a guide layer.

Alignment objects are objects that you draw on a guide layer. For example, if you draw a rectangle on a guide layer, objects can snap to the sides of the rectangle.

Alignment guides and objects normally do not print, because the guide layers are set to be non-printing. See “Working with layers” on page 72.

To set up alignment guides

1 To display the document rulers, if they are hidden, choose Layout > Display > Show Rulers.

2 Point to either ruler and drag a guide into the document area. To remove a guide, drag the guide back to its ruler.

◆ **To show or hide guides:** Choose Layout > Display > Show Guides or Layout > Display > Hide Guides.

◆ **To move objects touching an alignment guide:** Press Option (Mac) or Ctrl (Windows) as you drag an alignment guide. This method does not apply to alignment objects on a guide layer.

◆ **To snap to alignment guides:** Choose Layout > Snap To > Guides. When the snap-to feature is active, objects you move will snap to alignment guides and objects on guide layers.

DOCUMENT LAYOUT

You can use multiple pages and layers in the documents you create in Canvas.

- You can use layers to arrange objects and organize separate levels of illustrations on multiple pages (“sheets”).
- In Presentation documents, you can use slides and transition effects to create presentations.
- In Publication documents, you can use master and body pages for single-sided and double-sided publications.

This chapter explains how to configure the layout of a document and use layers.

Document components

Canvas lets you create three kinds of documents: Illustrations, Publications, and Presentations. The documents types are distinguished by their options and layouts.

Layers

Layers are like transparent overlays that divide the stack of objects in a document. You can use layers in any Canvas document.

Layers are clear — a layer itself blocks nothing behind it. On a single layer, an object blocks whatever is behind it in the stacking order. With multiple layers, an object blocks other objects on any layer that is farther back in the stack of layers.

Layers can help you work more efficiently because you can perform operations on layers. You can hide, print, and save layers individually. You can use layers to hold different colors to produce simple spot-color separations, or to keep text objects separate so you can hide artwork when you edit the text.

Pages

All Canvas documents can contain multiple pages. Publication documents can be set up with single-sided or two-sided pages. In Illustration documents, pages are referred to as “sheets.” In Presentation

documents, pages are referred to as “slides.” In this chapter, “pages” is used as a general term to refer to pages, slides, and sheets, unless otherwise noted.

Presentation documents

When you create a Presentation document, the document has one master slide and one main slide. You can add as many additional main slides as you like, limited only by available memory.

You arrange slides and set up optional transition effects to create a slide show presentation. Slide shows can be self-running or operator-controlled. You can use the master slide to hold common elements that you want to appear in the background on most slides.

Each main slide can have multiple layers. During slide show playback, all visible layers can appear as one slide. Or, if you select the Progressive Build option in the Slide Show dialog box, each layer’s contents can be added to the base image in sequence.

When you work in a Presentation document, commands for layers and slides appear in the Layers & Slides submenu in the Layout menu.

You can use the slide icons and arrow buttons below the document window to navigate among the master and main slides. The icon representing the current slide is highlighted.

Publication documents

When you create a Publication document, the document contains at least one body page and one master page, or two master pages (left and right) if you select Facing Pages in the Document Setup dialog box.

When you work in a Publication document, commands for layers and pages appear in the Layers & Pages submenu in the Layout menu.

You can use the page icons and the arrows at the bottom of the document window to navigate among the master and main pages. The icon representing the current page number is highlighted.

The Document Layout palette

The Document Layout palette is the command center for working with sheets, pages, slides, and other aspects of a document’s layout, including the arrangement of master pages and layers.

The Document Layout palette is available in Illustrations, Publications, and Presentations. Some features of the palette change depending on the document type.

The palette lists a document's sheets, pages, or slides, and layers. You can add, delete, rearrange, rename and change options for each of these items.

◆ **To open the Document Layout palette:** Choose Layout > Document Layout. The Document Layout palette appears.

You can also open the palette by pressing a page icon at the bottom of the document window. A list of the layers on the current page appears. Drag the list away from the page icon and the Document Layout palette appears.

The Document Layout palette floats so you can place it anywhere on screen. You can dock the palette on the Docking bar. You can expand the palette horizontally or vertically by dragging the grow box at the bottom-right corner of the palette.

Using the Document Layout palette

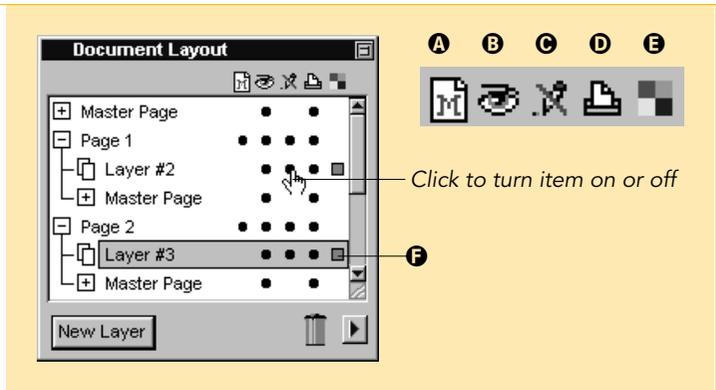
You can set up various options for pages using the Document Layout palette.

Document Layout palette

Bullets (•) and color squares (F) indicate active options for each item in the list. To turn an option on or off, click to add or remove a bullet or color square in the appropriate column.

See "Document Layout columns," next, for details on these options.

- A Show master page.** Select to show or hide the master page for a page or slide.
- B Visible.** Select to make an item visible or not visible.



- C Locked.** Select to lock or unlock an item.
- D Printable.** Select to make item printable or not printable.

- E Color override.** Select to apply an override color to a layer.

Document Layout columns

The Document Layout palette has options in five columns that control the following features: displaying or hiding master pages, making items visible or not visible, locking items, making items printable, and displaying override colors for an item.

Show master page Select this option to show the master page for a page or slide. Deselect this option to hide the master page. When a master page is hidden, the bullet in the column is hollow. When the master page isn't hidden, the bullet is solid.

Visible items Select this option to make the content of a sheet, page, slide, layer or master page visible. Turn this option off to hide the content of an item. When you hide a sheet, page, or slide, its layers are also hidden, unless the active layer is part of the item you're hiding.

Locked Select this option to protect an item from accidental or unwanted changes. A bullet in this column indicates the item is locked and its content can't be selected, moved, edited, or deleted. Grid layers are always locked. A padlock icon indicates the item is also password-protected. In addition, you can lock or unlock a layer using the Layer Options dialog box.

Printable An item will print when this option is selected. When no bullet appears, the item will not print.

Color override When you've applied a color override to a layer, a square with the override color appears in this column. Keep this option on to make the layer's content appear on screen and print with the override color. Turn this option off to hide the override color for a layer's content and make it print without the override color. When this option is off, the square in this column is not visible. See "Applying color overrides to layers" on page 75.

Selecting items in the palette

When you select a page or layer in the palette, you can select a range of items, or non-contiguous items. When an item in the palette is selected, its name is shaded.

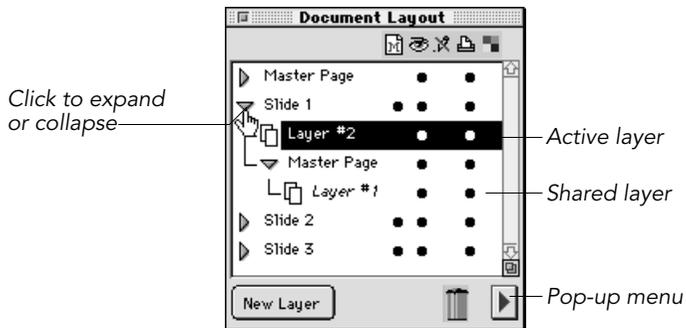
To select items in the palette

- 1 Click the name of an item in the list, or do one of the following:
 - To select a continuous range of items, press Shift, and then click the first and last items' names.

- To select (or deselect) several non-contiguous items, press Ctrl, and click each item's name.

Setting up sheets, pages, and slides

The Document Layout palette lets you set up the layers and pages. A new Illustration contains one page (sheet). A new Presentation contains one page (slide), and one master page. A new Publication contains one page, and one master page. Each page in a new document also contains one layer.



To expand or collapse the list

- ◆ **To collapse the non-indented items in the list:** Choose Collapse All in the palette's pop-up menu.
- ◆ **To expand the non-indented items in the list:** Choose Expand All in the palette's pop-up menu.

To add pages

In the Document Layout palette, select a page, and then click New Sheet, New Page, or New Slide. Canvas adds the item to the palette's list, and names the new item with the next number in the sequence.

You can also add pages by choosing New Sheet, New Page, or New Slide in the palette's menu. In Illustrations and Presentations, a dialog box appears in which you can name the item. Type a name, and then click OK. In Publications, pages cannot be named. The new item appears in the list.

Adding pages with Layout commands

Commands in the Layout menu let you insert new pages into a document.

1 Choose Layout > Layers & Sheets > Insert Sheets in an Illustration document. Choose Layout > Layers & Pages > Insert Pages in a Publication. Choose Layout > Layers & Slides > Insert Slides in a Presentation.

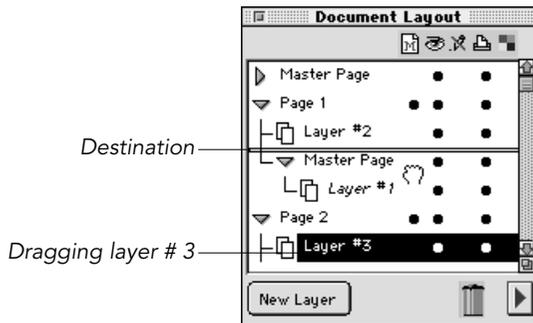
2 A dialog box appears. Enter the number of items you want to add, choose a location to insert the new items in the palette, and then click OK.

Changing the order of items

To change the order of sheets, pages, master pages, slides and layers, drag the item to a new position in the palette's list. Canvas does not rename layers when you change their order in the list. However, Canvas will rename pages based on their position in the sequence if they have not been assigned unique names.

For example, if you name a sheet "Landscape," and then drag it to a new position in the list, Canvas doesn't rename it. But if you drag "Sheet 5" under "Sheet 2," Canvas renames it "Sheet 3."

In addition, if you drag a layer to a collapsed item, the item opens so you can decide where to position it.



◆ **To copy layers:** Select one or more layers in the palette, and then Ctrl-drag them to a new location.

◆ **To delete sheets, pages or slides:** Drag the item from the list in the palette to the Trash icon.

You can also delete items by selecting them in the palette and then choosing Delete Sheet, Delete Page, or Delete Slide in the palette's pop-up menu.

Deleting pages with Layout commands

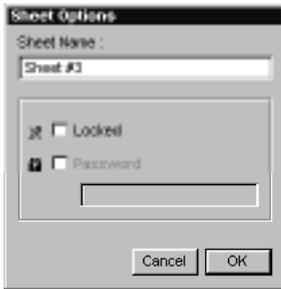
You can remove items from a document using commands in the Layout menu.

- 1 Choose Layout > Layers & Sheets > Delete Sheets in an Illustration document. Choose Layout > Layers & Pages > Delete Pages in a Publication. Choose Layout > Layers & Slides > Delete Slides in a Presentation. A dialog box appears.
- 2 Specify a range of items to delete, and then click OK to remove the items and their contents from the document.

Sheet and page options

In Illustrations and Publications, double-click a sheet, page, or master page to select options.

- 1 Type a name for the item (page or sheet). By default, Canvas names the item based on its sequence in the list. In Publications, the name text box is not available.
- 2 Select the Locked option to lock the item.
- 3 To assign a password, select the Password option and type at least three characters in the text box.
- 4 Click OK. If you entered a password, a message asks you to confirm it. Type the password in the text box and click OK to finish.

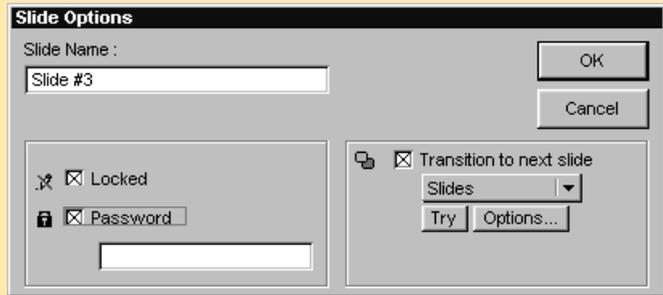


Slide and master slide options

By double-clicking a slide or master slide in presentations, you can open the Slide Options dialog box and set up various options: slide name, locked status, and password protection. You can also set up slide show features. See “Slide show features,” next.

Slide show features

When the “Transition to next slide” option is selected, you can set up transition effects for on screen slide shows. If you have one slide only in the document, the “Transition to next slide” option is dimmed.



To select slide transitions

You can select from more than a dozen transition effects for slide shows.

- 1 Double-click the name of a slide in the Document Layout palette’s list. The Slide Options dialog box appears.
- 2 Select the “Transition to next slide” option, and then select a transition in the Transition pop-up menu.
- 3 To preview the effect of the transition setting, click Try.
- 4 If the selected transition offers additional options, click the Options button in the Slide Options dialog box. A dialog box appears.
- 5 Configure the options as desired, and then click OK.
- 6 Click OK in the Slide Options dialog box to make the settings take effect.

Working with layers

In Canvas, you draw, paint, and work with text on layers. Layers are like clear overlays that divide the stack of objects in a document. You can add as many layers to a document as you want.

Layers make it easy to perform operations on objects without affecting objects on other layers. You can hide, print, and save layers individually. You can use layers to hold various colors to produce spot color separations, or keep text separate from other types of objects.

Adding layers

In the Document Layout palette, you can add layers using the New Layer button, or the Add Layer command. When you use the Add Layer command, you can configure options for the layer before it's added. In Canvas, the active layer appears in bold in the palette, and shared layers appear in italics.

Using the New Layer button

- 1 Select a layer under the sheet, page, or slide you want to add another layer to. The item's name is shaded.
- 2 Click New Layer in the palette. Canvas names the new layer with the next number in the sequence. To configure options for the layer, double-click it to open the Layer Options dialog box. See "Layer options" on page 75.

Using the Add Layer command

- 1 Select the sheet, page, or slide you want to add a layer to. The item's name is shaded.
- 2 In the pop-up menu, choose Add Layer.
- 3 In the dialog box that appears, configure the options as desired, and then click OK. Canvas adds the layer's name to the palette. See "Layer options" on page 75.

Sharing layers

You can share layers among pages in a document. A shared layer is part of a group of layers that have been united, so changes to any shared layer are reflected by the other layers in the group. This makes shared layers like "custom" master pages you can set up. You can share layers in any document type.

To share a layer

- 1 Select the layer you want to share in the palette's list. The layer's name is shaded.
- 2 Choose Share Layer in the palette's menu.
- 3 In the dialog box that appears, select the pages you want to share the layer. To share the layer with all the pages in the list, click Select All.
- 4 Click OK to share the selected layer. Canvas unites the specified layers as a shared group. Shared layers appear in italics in the palette.

To unshare a layer

- 1 Select the layer you want to unshare.
- 2 Choose Unshare Layer in the palette's menu.
- 3 In the message box that appears, do one of the following:
 - Click Yes to unshare all of the layers in the shared group. When you do this, Canvas disunites the layers and creates a copy of each layer.
 - Click No to unshare the selected layer only. When you do this, Canvas creates a copy of the unshared layer and keeps the rest of the layers in its group shared.

To delete layers

- 1 Select the layers you want to delete.
- 2 Do one of the following:
 - Choose Delete Layer in the pop-up menu.
 - Drag the selected layers you want to delete to the trash icon.

Canvas removes the layers.

Setting layer options

You can set options for layers using the Document Layout palette or the Layer Options dialog box. You can set some options, such as printable status, in both the Layer Options dialog box and the Document Layout palette. However, some options, such as password protection, can be set in the Layer Options dialog box only. Other options, such as layer visibility, can be set in the palette only. See “Document Layout palette” on page 67.

Layer options

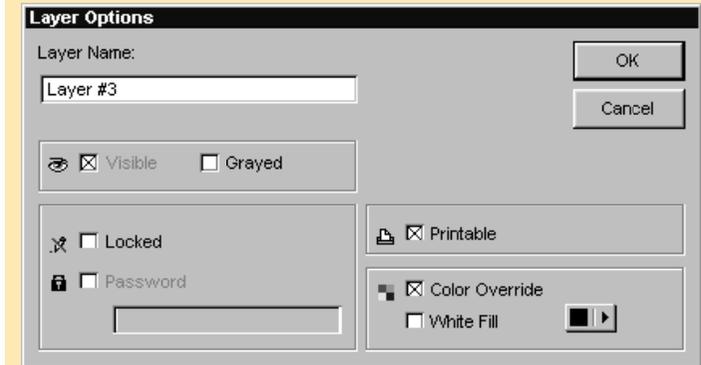
By double-clicking a layer in the palette, you can set up various options: name, and grayed, locked and printable status. You can also assign a layer a password, an override color, or a white fill.

Layer Name. Type a layer name.

Visible. To set options for a layer, it must be visible, so this option is not available. To make a layer not visible, you can use the Visibility column in the Document Layout palette.

Grayed. Select to make objects on the layer appear with ink colors that are lighter than the actual colors assigned to the objects.

Locked. Select to lock a layer. You can't move, delete, or edit



the content of a locked layer. This option is unavailable for grid layers, which are always locked.

Password. Select to assign a locked layer a password in the text box.

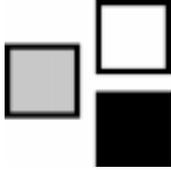
Printable. Select to make a layer printable.

Color Override. Select to apply a color override to a layer. See "Applying color overrides to layers," next.

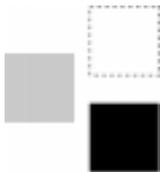
White Fill. Select to use the White Fill option for vector objects and text objects on a layer. See "White Fill option" on page 76.

Applying color overrides to layers

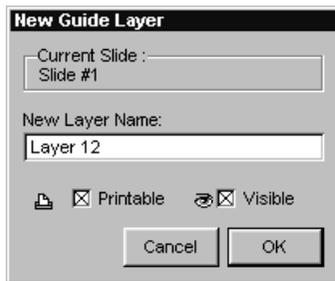
When you apply a color override to a layer, you temporarily assign a color to vector and text objects on the layers you specify. A color override does not affect paint objects. When you turn off the Color Override option, all affected objects revert to their original colors.



The gray and black square (left) has a visible stroke. With a black override color, the object is visible whether White Fill is selected (top) or not (bottom).



The gray square (left) has no stroke. With White Fill selected, the object (top, indicated by a dashed outline) is not visible with a color override. When the White Fill option is not selected, the object is visible (bottom).



White Fill option

The White Fill option in the Layer Options dialog box lets you control how override colors appear on vector objects. This option doesn't change the way override colors appear on text.

When the White Fill checkbox is selected, Canvas applies the override color to the pen ink of vector objects and applies white as the fill ink color. In other words, the override color becomes the color of the stroke (outline) of vector objects, while the inside of the object remains white. This is the method used in Canvas 5.0.3, Canvas 3.5, and earlier versions.

When the White Fill option is not selected, Canvas applies the override color as both pen and fill inks.

If you use the White Fill option, objects without a visible stroke are not visible against the white layout area.

Guide layers

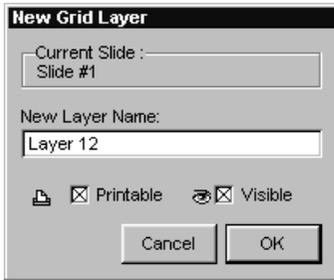
In addition to general purpose layers, you can use special layers for guides and guide objects. A guide layer lets you create “magnetic” guides from vector objects on the layer. An object on a guide layer makes objects snap to its edges.

To add a guide layer

- 1 Select the page you want to add a guide layer to.
- 2 Choose Add Guide Layer in the palette's pop-up menu. The New Guide Layer dialog box appears.
- 3 Configure the options as desired, and then click OK. Canvas adds a new guide layer.

By default, vector objects drawn on guide layers are light blue. By assigning a guide layer an override color, you can make the vector objects on a guide layer any color you want.

Guide layers can be arranged to be in front of or behind drawing layers. Guide layers have three states: Visible with snap active; visible with snap inactive; not visible (snap is inactive for invisible guide layers). In addition, when you drag guides from the ruler into the drawing area, Canvas places the guides on a new guide layer. If there's an existing guide layer, Canvas places any guides you drag from the ruler onto the existing guide layer.



Using master pages

Grid layers

Canvas lets you create special grid layers. Grid layers display a gray grid on a layer that makes it easier to position objects on drawing layers precisely. In addition, when you create a grid using the Grids command in the Layout menu, Canvas places the grid on a new grid layer. Grid layers are always locked.

To add a grid layer

- 1 Select the page you want to add a grid layer to.
- 2 Choose Add Grid Layer in the palette's pop-up menu. The New Grid layer dialog box appears. Configure the options as desired, and then click OK. Canvas adds a new grid layer.

Master pages hold common elements that you want to appear on most pages or slides. Objects on a master page appear on the corresponding pages or slides that use the master page. You can add a master page for each page or slide in Publications and Presentations. Illustration documents do not use master pages.

Linking and unlinking master pages

You can unlink a master page from a page or slide. This lets you edit a master page's contents like you would objects on a layer, without changing the appearance of the master page for other pages or slides. Canvas also lets you re-link a master page.

To unlink a master page

- 1 Select the page or slide with the master page you want to unlink.
- 2 Choose Unlink Master in the palette's pop-up menu. Canvas unlinks the item's master page, copies the master layers and their contents, and then makes them regular layers.

To link a master page

- 1 Select the page or slide you want to re-link a master page to.
- 2 Choose Link Master in the palette's pop-up menu. Canvas adds a new master page, but keeps any copies of layers created when the page was unlinked.

Presenting slide shows

You can display Presentation documents as on-screen slide shows. The term *slide show* is used because you build a presentation as a series of screens, or “slides,” with illustrations and text. The metaphor is based on the way traditional business presentations have been assembled from photographic slides or transparencies and displayed with a slide or overhead projector. When you play back a Canvas Presentation document, Canvas displays the document’s slides in order, using the specified transition timing and effects.

A presentation slide show can be set to automatic mode, in which the slide show plays once and stops or repeats continuously. Slide changes also can be controlled by an operator. Canvas can show slides using a time interval that you specify, or you can control the pace by clicking to switch to the next slide whenever you are ready.

You set up a presentation by first creating a Presentation document using the New command in the File menu, then adding additional slides and layers as described in this chapter. You can also use the Document Layout palette to specify transitions between slides.

You can use the presentation document’s Master slide for background objects and text. Use the Document Layout palette to apply the Master slide to other slides, and to set options for slides.

To configure a slide show

- 1 In a Presentation document, choose Layout > Slide Show. The Slide Show palette opens.
- 2 To play the slide show at the largest size possible on the current display device, turn on Fit To Screen.
- 3 To make the slide show start over after displaying the last slide, turn on the Loop option. Otherwise the slide show stops after the last slide.
- 4 To show a pointer on-screen during playback, turn on Show Pointer and select a pointer from the adjacent pop-up menu.
- 5 If you want Canvas to sequentially add the contents of visible layers to main slides, turn on Progressive Build. If Progressive Build is off, visible layers appear as part of their main slide.
- 6 If a slide includes QuickTime movies, turn on “Auto-play QuickTime movies” to play the movies when the slide appears.



7 To make a slide show self-running, turn on “Advance Every x seconds,” and type the number of seconds to display each slide.

Slide Show options

Fit to screen reduces or enlarges the document’s slides so they fit within the screen area of the system used to play the slide show. Canvas calculates a scaling factor based on the size of the system’s monitor and the resolution setting.

Loop Causes the slide show to play continuously until you interrupt it. When Canvas reaches the end of the document, it begins the slide show from the first slide.

Show Pointer Displays a pointer you specify on screen during playback. You can control the pointer with the mouse during the slide show, so you can indicate important items in the presentation.

Auto Play QuickTime movies Causes any QuickTime movie files that have been placed in the Presentation document to begin playing automatically. When a slide containing a movie is played, Canvas loads the movie and begins playing it if this option is selected.

Advance Every x Seconds Makes the slide show self-running by advancing from one slide to another after a specified interval, without any intervention from the operator. Enter the number of seconds in the text box. The exact timing between slides depends on the speed of the system used for playback and the complexity of the illustrations.

Progressive Build Affects presentations in which layers are used to contain items designed to appear in sequence against a common background. If this option is selected, Canvas displays a slide and its first layer, and then displays the slide’s additional layers in sequence. If this option is not selected, slide layers are displayed as part of the slide, like the layers in an illustration.

To play a slide show

1 Choose Layout > Slide Show.

2 To start a slide show, click Play. If “Advance Every x Seconds” is on, Canvas displays the slides, using the specified timing. If the Loop option is also on, the slide show will repeat.

If the slide show is not self-running, click to advance one slide. Ctrl-click to go back one slide.

3 To stop the slide show, press Esc (Mac) or right-click (Windows).

FILE AND DATA EXCHANGE

Canvas supports all standard formats for exchanging files and data with other programs. This chapter explains how to use non-Canvas file formats, and how to share data using Publish and Subscribe (in Mac OS), and Object Linking and Embedding (in Windows).

Methods for sharing information

You have several options for sending graphics created in Canvas to other programs, and for using illustrations and text from other programs in Canvas:

- Use a file format both applications support to exchange files.
- Copy and paste selected objects using the Clipboard.
- Create dynamic links to share objects between documents.

Exchanging files

The Open, Place, and Save As commands let you work with many file formats. With a common file format, you can bring a file generated in another program into a Canvas document, or transfer a Canvas document into another program.

When you want to exchange files with another program, you should also refer to “Read Me” files and release notes from that program.

For general information on file formats and procedures for opening and saving files, see “Using other file formats” on page 82.

Sharing information

Often, rather than just move a graphic, you want to share it among several documents, or create a link between the original and copies placed in other Canvas documents. For these types of data exchange, you can use Publish and Subscribe (Mac) and Object Linking and Embedding (Windows). See “Sharing information through Publish and Subscribe” on page 109 and “Using Object Linking and Embedding (OLE)” on page 106.

Using other file formats

Because the native Canvas format saves all the objects, properties, and effects that Canvas documents can contain, you should save all your documents in Canvas format. Still, you might want to export a document in a different format, or import graphics into a Canvas document from a non-Canvas file.

When you use a non-Canvas file, you can avoid problems such as lost information and printing errors if you know the capabilities and limitations of the file format. For example, some formats support only one type of data (vector, raster, or text), while others support multiple types. Image formats support certain image modes.

File filters

Canvas uses file filters to translate files to or from its native format. Many file filters are external tool modules. The file formats they provide appear in the format menus in the Open and Save As dialog boxes. If a supported format does not appear, check that Canvas has loaded the necessary external tool. For more information, see “Loading external tools” on page 183.

QuickTime previews (Mac only)

Some files include a QuickTime preview image that compatible image browsers and page-layout programs can display. If you have QuickTime installed on your system, Canvas can store and display preview images with its native files and several other file formats. See the individual file format listings in this chapter and the on-line Help system for more information on preview images.

Importing files

You can use the Open and Place commands to import non-Canvas files. You choose the format you want to use in the format pop-up menus in the Open and Place dialog boxes.

You can use the Acquire submenu to acquire raster images from files. See “Acquiring images” on page 87.

To open or place a file

- 1 Choose File > Open or File > Place.
 - Open creates a new Canvas document containing the file you select.

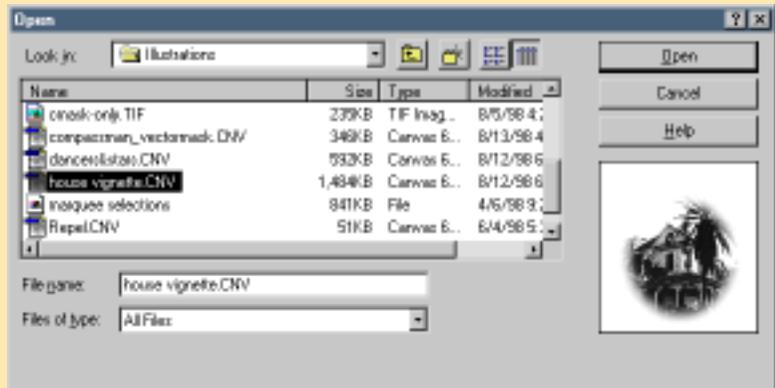
- Place inserts the file in the current Canvas document. Place is available only if a Canvas document is open.
- 2 Choose a file type in the File Format (Mac) or Files of Type (Windows) pop-up menu. The file list shows files that match the selected format.
 - Select All Files (Windows) or Show All Files (Mac) to show every file in the folder. You can choose All in the File Format menu (Mac) to show all files that Canvas can open.
 - 3 In the file list, select a file and click Open or Place. You can also double-click a file name. For some file formats, a dialog box presents options for opening files. Configure the options and click Open or Place.
 - If you open the file, Canvas creates a new document.
 - If you are placing the file, a Place pointer appears. Click where you want to place the top-left corner of the file.

Windows Open dialog box

Choose a file format in the “Files of Type” menu.

Type a file name in the File Name box or click a file in the list to select it.

Click Open to open the selected file as a new document.



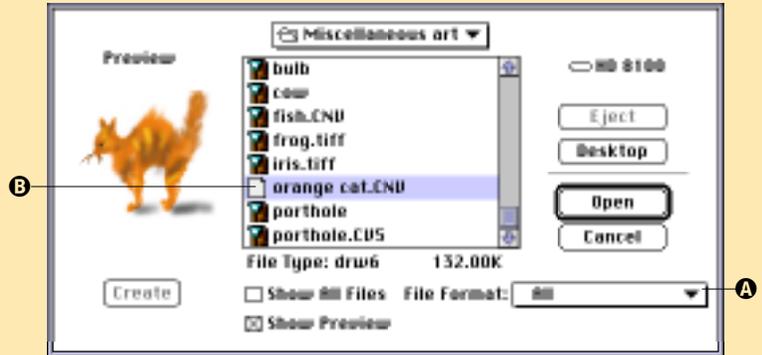
Mac OS Directory dialog box

A Choose a file format.

Select Show All Files to see every file in the current folder.

B Click a file to select it.

Click Open to open the selected file as a new document.



Saving files in other formats

You can use the Save As command to export files in a variety of file formats. However, be aware that most file formats do not support every Canvas object or effect. For this reason, Canvas asks if you are sure when you select other file formats for saving files.

For example, a TIFF file can save only a single raster image; it does not support text or vector objects. If you save a Canvas document containing vector objects or text in TIFF format, all the objects in the document are changed into an image. If you then open the TIFF file, its contents appear as one raster image, so you can't edit the original text or reshape the vector objects.

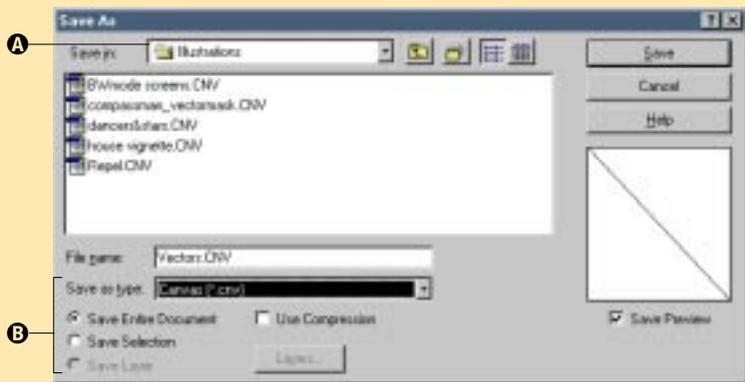
Windows Save As dialog box

A Select save location.

Type a file name in the File Name box and enter a file format in the Save As Type box.

B Options are available for saving in Canvas format only.

Click Save to save a file.



Mac OS Save As dialog box

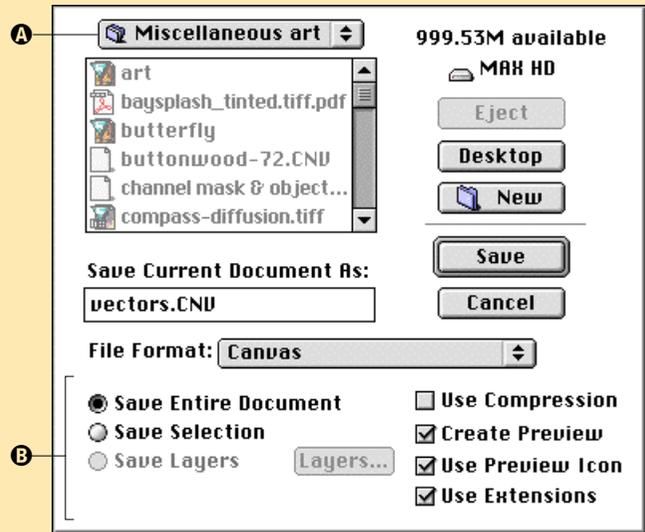
A Select location to save the file.

Type a file name in the Save Current Document As box.

Choose a file format from the pop-up menu.

B Options are available for saving in Canvas format only

Click Save to save a file.



When you save a Canvas document in a non-Canvas format, Canvas creates a new file on disk, but does not close the Canvas document or change the name of the document in the title bar. If you then try to close the Canvas document (without saving it in Canvas format), a message asks you to confirm that you want to close the document without saving it.

When saving in certain non-Canvas formats, Canvas displays a dialog box with options.

To save a document in a non-Canvas format

1 Depending on what you want to save, do one of the following:

- To save specific objects, select the objects.
- To save specific layers of a multi-layer document, make sure the layers you want to save are visible.

2 Choose Save As in the File menu. A directory dialog box appears.

3 Select a file format in the pop-up menu labeled “File Format” (Mac) or “Save as type” (Windows). If a format or option is not available, be sure it is compatible with the document contents.

✓ Tip

Always save your work as a Canvas document, so you can edit your work later in Canvas if necessary.

- On Windows, a message asks you to confirm that you want to save in a format other than Canvas. Click Yes to continue. On Mac OS, this message appears after you click Save; click Save in the message box to continue.
- 4 Select the Save Entire Document, Save Selection, or Save Layers option at the bottom of the dialog box to specify what to save.
 - 5 The following options are available when you save in Canvas format:
 - Select Create Preview (Mac) or Save Preview (Windows) to store a preview image in the file. Select “Use Preview Icon” (Mac OS only) to make the file’s icon from a preview of the document’s illustration, visible page, or current slide.
 - Select Use Compression to compress the saved file.
 - Select Use Extensions (Mac only) to include a three-character extension in the file name.
 - 6 Type a name for the file, select a location, and click Save.

If options are available when saving in the selected file format, a dialog box appears. Configure the options as you wish and click OK. When you use a file format that stores raster images only, the Render Image dialog box appears if the objects you are saving must be rendered. See “Rendering documents,” next.

Rendering documents

When you save a Canvas document in a file format that stores images only, Canvas renders the document to make a raster image that can be saved.

The Render Image dialog box appears before Canvas saves the file. The dialog box lets you set options for converting the document to an image. In some cases, another dialog box presents file format options before the Render Image dialog box appears.

After you select options in the Render Image dialog box, click OK. Canvas then renders the document contents and saves the image in a file. See “Rendering objects and images” on page 491.

Acquiring and exporting images

You can use the Acquire and Export commands in the Image menu to work with raster image files. These commands are especially useful because you can add new file formats by installing Photoshop-compatible plug-in modules.

Exporting images

When you use the Export command, you create a file on disk from a selected paint object in a Canvas document. The Export command is similar to the Save As command, except that you must select a paint object before you choose Export. The Export command is not available if a paint object is not selected.

To export an image

- 1 Select the paint object to export. Be sure the paint object is not in edit mode.
- 2 Choose Image > Export > *image format*, where *image format* is the name of the format in the Export submenu.
- 3 In the directory dialog box, type a file name, select a location for the exported file, and then click Save.

If the image mode of the selected paint object is not supported by the format file you choose, the Render Image dialog box appears. In the dialog box, you can select an image format supported by the file format. If an image mode is not available in the Mode pop-up menu, the selected file format does not support that mode.

Acquiring images

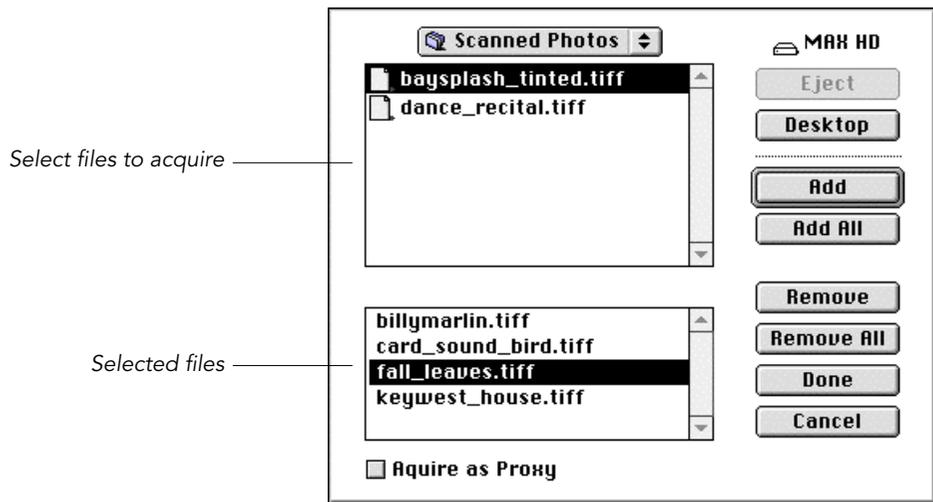
You can use commands in the Image > Acquire submenu to import images from files on disk. You can also acquire images from scanners and digital cameras using the TWAIN interface or acquire plug-in modules.

Acquiring an image places it in the current document as a paint object. In most cases, Canvas stacks acquired images at the center of the current view.

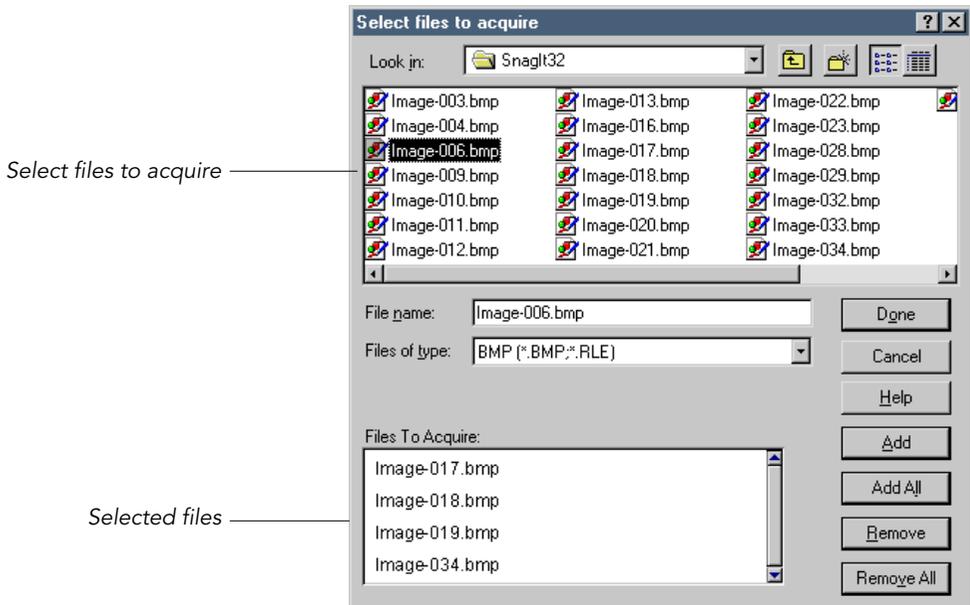
Note: The Open and Place commands work with image files also. The Open command opens a file as a new document. The Place command places a file in the current document. These commands will not import an image file as a proxy or import multiple images at once.

To acquire images from files

- 1 Choose Image > Acquire > *file format*, where *file format* is the name of the image file format.
- 2 A directory dialog box appears. Navigate to the folder that contains the files to acquire. Files that match the format you selected will appear in the files list.
- 3 To select files to acquire, do either:
 - *Mac*: Double-click a file or select it in the list and click Add, and then click Done. Selected files appear in the lower box. You can select multiple files before you click Done.
 - *Windows*: Double-click a file, or select it in the list and click Open. Selected files appear in the Files to Acquire box. To acquire multiple files, select each file, click Add, and then click Done.



Mac



Windows

Acquiring multiple files

In the directory dialog box, you can specify multiple files to acquire at once.

Add Click to add a selected file to the list of files to acquire. The Add button is available when you select a file.

Add All Click to add all the displayed files to the list of files to acquire.

Remove Click to remove a selected file from the list of files to acquire.

Remove All Click to remove all files from the list of files to acquire.

Importing Photoshop files

When you acquire a Photoshop image that contains layers, the Photoshop Image dialog box appears. Select Load Layers or Load Merged Result, and then click OK.

Load Layers Imports layers as separate objects and stacks them in the document. Layers that have transparency are imported with visi-

bility masks. Canvas creates an alpha channel and a channel mask for a Photoshop layer mask. Canvas also imports alpha channels.

Load Merged Result Imports the image as a composite image. Layer masks, alpha channels, and transparency effects are not imported. The imported paint object has an opaque background.

To acquire an image from a TWAIN device

- 1** To use a TWAIN scanning device, choose Image > Acquire > TWAIN Acquire.
- 2** A dialog box appears. Refer to the documentation for the device or acquire module for information on options and settings.

Acquiring images as proxies

You can use the Acquire as Proxy option to import a low-resolution proxy, rather than a high-resolution image, from an image file. The proxy image will be linked to the original image file.

The Acquire as Proxy option appears in the directory dialog box when you acquire TIFF, JPEG, and CVI files.

Select the Acquire as Proxy option to place a proxy of the selected image file in the document. The proxy image will be linked to the image file. The option is selected by default for the CVI file format. See the chapter “Image proxies” on page 619.

File formats

Ext: Canvas extension. **Color bits:** Number of bits of color information: 1=2 colors, 4=16 colors, 8=256 colors, 16=65,536 colors, 24=16.7 million colors. **O:** Open and Place. **S:** Save.

Name	Ext	Description	Color bits	O	S
Adobe Illustrator	AI	Editable PostScript format supports vector objects, raster images, and formatted text	1, 24, 32	✓	✓
Adobe Photoshop	PSD	Proprietary format for raster images. Canvas imports or flattens layers when opening files	1, 8, 24, 32	✓	✓
Adobe Portable Document Format	PDF	PDF files can be exchanged across platforms and viewed with Acrobat Reader software	1, 8, 24	✓	✓
Amiga IFF	IFF	RGB Color Raster image format	24	✓	✓
Brooktrout	BRK	Black and white raster format (CCITT Group 3) for fax hardware and software	1	✓	✓
CALS	CAL	Black and white image format with Fax Group IV compression	1	✓	✓
Canvas 5, 3.5, art-WORKS	CVS	Native formats of earlier Canvas versions and art-WORKS on Mac OS and Windows platforms	24	✓	✓
Canvas Image File	CVI	Supports all of the color modes, resolutions, and image editing effects of images in Canvas	24	✓	✓
Computer Graphics Metafile	CGM	ANSI format for RGB color illustrations supports vector and raster graphics, layers, and text	1, 8, 24	✓	✓
CorelDRAW	CDR	Proprietary format of the CorelDRAW! graphics program	8, 24	✓	
Drawing Exchange File Format	DCX	Supports multiple PCX images in one file	1, 8, 24	✓	✓
Drawing Interchange Format	DXF	Metafile format that supports plain text, 2-D and 3-D geometric data	8	✓	✓
Encapsulated PostScript	EPS	Editable PostScript format for printing graphics in other applications; can include preview	1, 8, 24, 32	✓	✓
Enhanced Metafile	EMF	Windows only. Metafile format supports vector objects, images, and text	1, 8, 24	✓	✓
GEM Image	IMG	Raster image format from GEM operating system	1, 8	✓	
Graphics Interchange Format	GIF	Widely used format with compression for grayscale and 256-color images for Internet and online use	8	✓	✓
Halo CUT	CUT	Raster image format used by some paint programs	8	✓	

Name	Ext	Description	Color bits	O	S
Hewlett-Packard Graphics Language	PLT	Vector format for plotter printing files	8	✓	✓
Icon	ICO	Windows format for bitmap icon images	1, 8, 24	✓	✓
Initial Graphics Exchange Specification	IGS	2-D and 3-D vector graphics format used in CAD and rendering applications	8	✓	✓
IOCA	ICA	Supports CCITT G3, CCITT G4 and MMR formats	1	✓	
Joint Photographic Experts Group	JPG	Raster image format supports lossy compression for file size reduction	8, 24	✓	✓
Kodak Photo CD	PCD	Raster image stores photos at several resolutions in RGB and YCC color systems	24, 32	✓	
MacDraw Pro	n/a	Mac OS only. Vector and text format	24	✓	
MacPaint	MAC	Mac OS-only raster image format supports black and white images to 720 by 576 pixels	1	✓	
Micrografx Draw	DRW	Proprietary format supports vector objects and text	8	✓	✓
PC Paintbrush	PCX	Raster image format	1, 8, 24	✓	✓
PICT and PICT 2	PCT	Mac OS QuickDraw graphics format, supports vector objects, 72 PPI images, and text. Original PICT supports 1-bit color and files up to 32 Kb.	24 (PICT 2) 1 (PICT)	✓	✓
Portable Network Graphics	PNG	Raster image format that supports Indexed and RGB color images	8, 24	✓	✓
QuickDraw 3D Metafile	n/a	Mac OS only. 3D graphics format for rotating, lighting, and changing colors in QuickDraw 3D graphics	24	✓	✓
QuickTime Movie	MOV	Sound and animation file format	24	✓	
Rich Text Format	RTF	Text-only format in which type formatting and layout information can be encoded	n/a	✓	
Sound	SND	Mac OS audio file format used for system sounds	n/a	✓	✓
Tag Image File Format	TIF	Raster image format supports high resolution RGB Color and CMYK Color (export only) images	1, 8, 24, 32	✓	✓
Targa	TGA	Raster image format used in video and image-processing applications	8, 24	✓	✓
Text (ASCII)	TXT	Plain text uses ASCII encoding without formatting	n/a	✓	
Windows Bitmap	BMP	Common raster image format for Windows; supports compression	1,8 24	✓	✓

Name	Ext	Description	Color bits	O	S
Windows Metafile	WMF	Windows only. Metafile format used by most Windows applications	1,8, 24	✓	✓
WordPerfect Graphics	WPG	Proprietary format for clip art; Canvas supports raster images in WPG files	8	✓	✓

Translating data between formats

If a file contains data for proprietary or unsupported features, the program opening the file must convert the data to something it understands, or simply omit the unfamiliar information. If you use a non-Canvas file format to bring data into Canvas, many, but not all, objects, text, and images can be converted into Canvas equivalents. The same is true if you save a Canvas document in another format.

Saving CGM files

Computer Graphics Metafile (CGM) format is a standard for exchanging 2-D graphics and text. Variations and extensions to the “standard” format can create incompatibilities with the Canvas file filter. When you save a Canvas document in CGM format, Canvas makes the following image color mode conversions:

Canvas image mode	CGM image mode
CMYK, Duotone, Grayscale, and LAB color	RGB cell arrays
Black & White	CGM versions 1 and 2: RGB cell arrays CGM version 3: Black & White
Multichannel	First channel becomes an RGB cell array; other channels ignored

Canvas alerts you the first time each of the above conversions occurs.

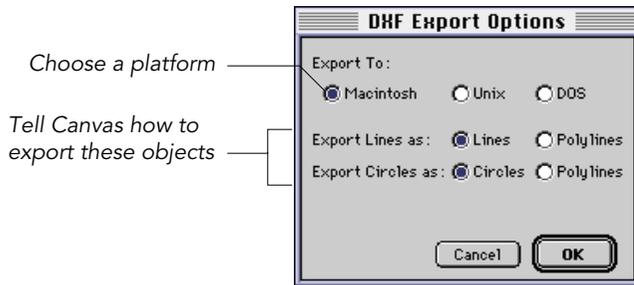
Using Drawing Interchange Format (DXF)

Drawing Interchange Format (DXF) is a format developed by Autodesk, Inc., for exchanging data with AutoCAD and other drawing applications. DXF format provides platform-independent storage of 2D and 3D technical drawings and supports multiple layers. Canvas supports DXF files containing ASCII data, but does not support DXF files that contain data in binary format.

When you save a document in DXF format, Canvas converts the following Canvas objects and attributes to DXF objects and attributes:

Canvas objects / attributes	DXF objects / attributes
Paint object	Not converted
Pen and fill patterns	Solid pens and fills
Arcs	Polylines
Calligraphic pen strokes	Fixed-width pen strokes
Continuous dashes	Dashes start in each segment
Layer names with spaces or non-uppercase characters	Spaces removed and characters become uppercase
Grayed layers	Objects appear in original colors

You can set the following DXF export options in this dialog box:



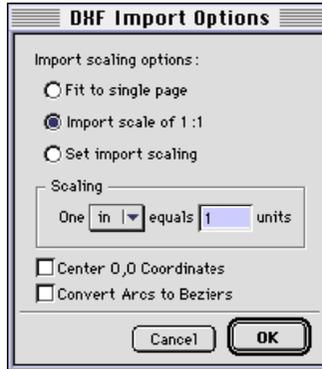
When opening a DXF file, Canvas makes the following conversions from DXF objects to Canvas objects:

DXF objects	Canvas objects
Blocks	Groups
Traces, Solids, and Quadratic polylines	Polygons
B-spline Polylines	Bézier curve paths
ATTDEF and ATTRIB	Text objects

Canvas does not support 3D objects (3D lines and 3D Face objects in DXF files), so these objects are not imported into Canvas.

DXF Import scaling options

You can set the scaling and coordinate options when you import a DXF file.



Fit to single page Select this option to import a drawing to fit a single page of a Canvas document.

Import scale of 1:1 Select this option to import a drawing at a scale of 1:1.

A document in which the scale is 1:1 will probably be much too large to print on one sheet of paper. A scale of 1:1 means the objects in the document will print actual size. For example, you would fill a 20-foot-long sheet of paper when you print a 20-foot-long room if the scale is 1:1.

Set import scaling Select this option to import a drawing at the scale you want. After you select this option, you can specify the scale of the drawing using the options in the Scaling area.

Scaling Select inches or centimeters from the pop-up menu and type a value in the adjacent text box to specify the scale.

Center 0,0 Coordinates Places the drawing's centerpoint at the center of the Canvas document.

Convert Arcs to Beziers Lets you import arcs as paths.

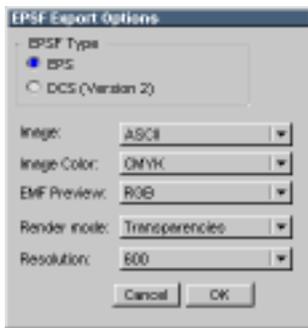
Using Encapsulated PostScript (EPS)

Encapsulated PostScript (EPS) is a file format based on PostScript. However, EPS files don't include document information, such as page size or orientation, so EPS files themselves must be placed in a document and printed by a graphics layout program like Canvas.

When you import EPS files into Canvas, a dialog box gives you the option of placing the EPS file as an encapsulated object or converting the elements of the EPS file to individual, editable Canvas objects.

Saving EPS files

When you save a file in EPS format, a dialog box lets you choose the EPS format and preview options. Select the settings you want to use and click OK.



EPSF Type Choose an option for the format of the EPS file. You can select standard format by choosing EPS. Or, choose Desktop Color Separations (DCS) to create CMYK color separations as a set of EPS files. The file set includes one composite file that can be used as a preview.

EPS preview options Canvas (and other programs that support preview images) can display a preview of an EPS graphic. The preview lets you position and size the graphic in a document. On Windows, previews are stored in Enhanced Metafile format (EMF). On Mac OS, previews are stored in PICT format. Other programs might display EPS previews saved on the same platform only.

Image format Binary format is the most compact format for image data. ASCII is the least compact, but is compatible with some networks that cannot transmit binary image data to printers. Level 2 ASCII is more compact than standard ASCII data. RLE and JPEG compress image data using standard compression methods.

Image color Select a color format depending on the colors used in the objects or images you are saving.

Preview Select an image format for the EMF preview (Windows) or PICT preview (Mac) to be saved in the EPS file.

Render mode Select a mode for rendering of transparency effects to be saved in the EPS file. These modes correspond to transparency printing options; see “Rendering options” on page 51 for mode descriptions.

Resolution Set the resolution for the EPS file. Select a resolution that matches the output device that will be used to print the file.

About PostScript formats

PostScript is a programming language that encodes document pages as commands and data. PostScript is the language used by many inexpensive desktop printers and by high-end commercial imagesetters. PostScript supports vector objects, type, and raster images.

When printing a document to a PostScript printer, an application program sends information to a printer driver. The printer driver creates a PostScript program that describes the document and sends it to the printer. The printer (or a PostScript raster-image processor) interprets the PostScript program to reproduce the document on the page.

In Canvas, you can position, scale, rotate, mask,

and apply colors to EPS graphics. If the file contains a preview, you can see the effects of these commands on the EPS graphic. However, because the preview is a low-resolution version of the original, you should use the print preview feature and print a proof to check the alignment and appearance of an EPS graphic.

EPS and PostScript printer files include font specifications, but often do not include the fonts themselves. Therefore, the correct fonts must be available when you print the EPS graphic. Otherwise, text won't print correctly. You can convert text to paths before saving a document in EPS format, but this isn't practical for more than a few lines of text.

Saving in Graphics Interchange Format (GIF)

Graphics Interchange Format (GIF) is a raster image format that uses color optimization and LZW compression to achieve reduced file size.

GIF is an appropriate format for many computer-generated graphics that contain a small number of colors, such as vector art with large areas of flat color. GIF format is often used for graphics and animations on the Internet.

GIF format supports Black & White and Indexed color images. It stores from 1 to 8 bits of color data, for a maximum of 256 colors. GIF format also supports multi-frame images. Canvas can open and save images in GIF87a and GIF89a formats.

To save a document in GIF format

- 1** Choose the Save As command in the File menu. The Save As dialog box appears. For a complete explanation of the Save As command, refer to “Saving files in other formats” on page 84.
- 2** Type a name for the document you’re saving in the “File name” text box (Windows) or the “Save Current Document As” text box (Mac OS). Next, choose a location on your hard disk to save the file.
- 3** In the “File Format” pop-up menu (Mac OS), or the “Save as type” pop-up menu (Windows), choose “GIF.”
 - If you’re running Windows, a message appears. Click Yes to continue. To save the document in GIF format, click Save. If the document you’re saving contains an indexed image only, proceed to step 6 below. If the document you’re saving contains a Grayscale image only, Canvas saves the document in GIF format and you don’t have to do anything else.
 - If you’re running Mac OS, click Save. A message appears. To save the document in GIF format, click Save. If the document you’re saving contains an Indexed image only, proceed to step 5 below. If the document you’re saving contains a Grayscale image only, Canvas saves the document in GIF format and you don’t have to do anything else.
- 4** Unless the document contains a single, Indexed image, Canvas opens the Render Image dialog box after you click Save. If this dialog box appears, configure the options you want, and then click OK. For more information on rendering, refer to “Rendering documents” on page 86.

You can select Indexed or Grayscale color mode for the image. You can also specify its size and resolution. GIF files do not support CMYK Color or other color modes, such as RGB Color, LAB Color, or Duotone. After configuring the options, click OK. The Indexed Color dialog box appears.

- 5** In the Indexed Color dialog box, configure the options you want, and then click OK. For a complete explanation of the options in the Indexed Color dialog box, refer to “Indexed image mode” on page 517. After clicking OK, the Export GIF dialog box appears. For an explanation of each option, refer to “Exporting in GIF format” on page 99.

Note: When saving documents in GIF format, you can't choose individual alpha channels in the "Transparency From" pop-up menu in the Export GIF dialog box. When a paint object is rendered, alpha channels are not preserved. To choose alpha channels in the pop-up menu, you must convert the document you're saving to an Indexed image, and then choose GIF in the Export submenu in the Image menu. For more information on exporting images, refer to "GIF export options," below.

6 To save the document in GIF format, configure the options in the Export GIF dialog box, and then click OK. Canvas saves the document in GIF format.

Exporting in GIF format

Exporting in GIF format lets you export selected images, but not entire documents.

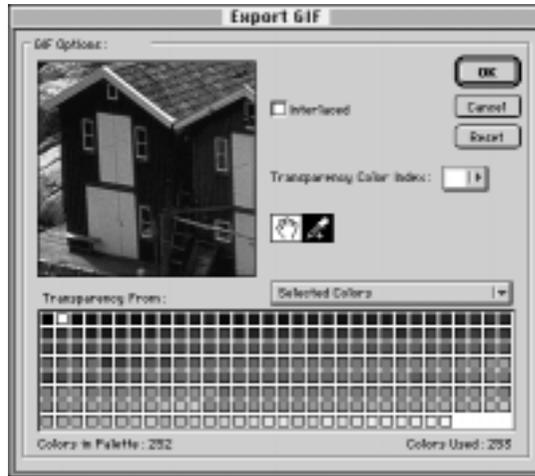
To export a Canvas document in GIF format

1 Select a paint object to export. You can choose export options if the paint object is in Indexed mode. No options are available for Black & White and Grayscale mode paint objects. Paint objects in other modes will be rendered for export.

2 Choose Image > Export > GIF. A directory dialog box appears. To save the file, type a name in the text box and choose a location on your hard disk. Next, click Save. If you're exporting an Indexed image, Canvas displays the Export GIF dialog box. Configure the options, and then click OK.

GIF export options

The Export GIF dialog box lets you set color and transparency options if you're exporting an Indexed image, or saving a document in GIF format. The dialog box contains a preview of the image or document being exported, a Hand tool for moving the preview, and also shows the number of colors in the color palette, and the number of colors that will be used when the image is exported. You also have the ability to set transparency by color or alpha channel.



Use the Hand tool to move the preview in the window. By dragging with the Hand tool, you can preview the entire image you're exporting, if the image is larger than the preview window.

To use the Hand tool, select its icon in the dialog box. Position the pointer over the preview to change the pointer to a hand, and then drag to reposition the preview in the window.

To select a transparency color

The Dropper tool lets you select colors in an image to make one or more colors completely transparent.

- 1 Choose Selected Colors in the Transparency From pop-up menu. This selects the Dropper tool when you position the pointer over the preview window or the grid of color swatches below the Transparency From pop-up menu.
- 2 Position the pointer over the preview window or the grid of color swatches. The pointer changes to the Dropper tool.
- 3 Click or drag in the image preview or the grid of color swatches to select colors for transparency. When you select a color, it becomes highlighted in black in the color grid. To switch between the Hand tool and the Dropper, press the Spacebar.

When using the Dropper tool on the preview, you can toggle the state of the pointer by pressing Option (Mac) or Alt (Windows). When the pointer displays a plus sign (+), any color you click becomes trans-

parent. When the pointer displays a minus sign (-), any color selected to be transparent becomes opaque when you click it. As you use the Dropper tool, the changes you make appear in the preview window. If you see results you don't like, click Reset.

You can't use the Dropper tool if an alpha channel's name or "None" is selected in the Transparency From pop-up menu.

Interlaced

Select the Interlaced checkbox to save the image as an interlaced GIF. Interlacing divides the image data for faster initial display in Web browsers that support interlaced GIF images. In other words, the image appears progressively in the Web browser.

If the Interlaced checkbox is not selected, and the Transparency From pop-up menu is set to None when you click OK, the image is saved in GIF 87a format. Otherwise, the GIF 89a format is used.

Transparency From

Select an option in the pop-up menu.

None Creates no transparency in the image.

Selected Colors Selects the Dropper tool. This lets you select colors to be transparent in the image. You can use the Dropper tool to select colors in the grid of color swatches below the menu, or in the preview window.

Channel names To use an alpha channel as a transparency mask, select its name in the list. This option exists only if you have alpha channels in the image. The "Channel names" option stands for each alpha channel listed at the bottom of the Transparency From pop-up menu. To see the result of choosing different channels, look at the preview window. Remember, you can select alpha channels only when using the Export command to create a GIF file. If you use the Save As command to create a GIF file, the document and all its information will be rendered, and any existing alpha channel information in the document will be lost.

Transparency Color Index

Use the pop-up palette to select a transparency indicator color. This option is not available if you select "None" in the Transparency From pop-up menu. The selected color appears in the image preview window in the transparent areas of the image. When an application other than Canvas does not support GIF transparency, the indicator color

you select appears in place of transparent colors. The default indicator color is white.

Reset

Click to reset the dialog box to its initial state, with all transparency options deselected.

Color table

The grid of colors below the Transparency From pop-up displays the number of colors in the current color palette and the number of colors used by the image. This grid is called a color table. Under the color table, the numbers next to the labels Colors in Palette and Colors Used change as you select and deselect colors for transparency.

Using JPEG format

JPEG format provides compression of high resolution, full-color (24-bit) images. JPEG is often used to store images that will be placed on web pages.

JPEG is designed for efficient storage of continuous-tone images such as photographs, rather than images like vector illustrations that have large areas of solid colors. The name JPEG is an abbreviation of Joint Photographic Experts Group, a standards organization that promoted the format.

JPEG files can store images that have been compressed by a “lossy” compression scheme. This type of compression sacrifices some color fidelity and resolution in exchange for reduced file size.

When you save a file or export an image in JPEG format, the Export JPEG dialog box appears. Specify the compression setting, and then click OK to export the image to a JPEG file.

Compression You can specify the amount of compression by entering a “quality” value in the Export JPEG dialog box. Enter a value of 1% to 100% in the Quality box. The higher the quality setting, the less the image is compressed and the more original data is preserved. At 100%, the image is not compressed.

QuickDraw 3D Metafile (3DMF)

QuickDraw 3D tool

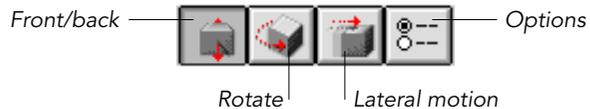
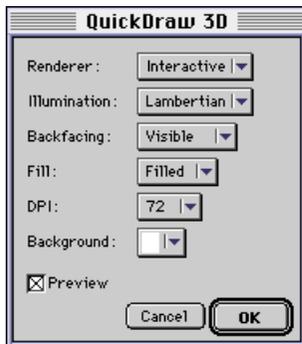


You can open, place and save QuickDraw 3D graphics in Canvas documents. After you open or place a QuickDraw 3D graphic, you can use the QuickDraw 3D tool to rotate, light, and change its colors. The tool is located in the Object Tools toolbar in the toolbox.

Note: To open, place, and save QuickDraw 3D graphics, you must have the QuickDraw 3D extensions installed and active on your Mac OS system.

To use QuickDraw 3D graphics

- 1 Select the QuickDraw 3D tool in the Object Tools toolbar.
- 2 Click where you want to place the object in the document. A directory dialog box opens.
- 3 Locate the QuickDraw 3D file that you want to place in the document and click Open. Canvas places the graphic in the document.
- 4 To change lighting and display options, double-click the QuickDraw 3D graphic with the Selection tool; four buttons appear at the bottom of the object.



- 5 To move the 3D graphic, click a button and drag inside the bounding box of the graphic.
- 6 To use the options dialog box, click the Options button, or double-click the QuickDraw tool. Configure the settings you want in the dialog box and click OK.

You can also save QuickDraw 3D objects and Canvas extruded objects in QuickDraw 3D Metafile format. To do this, you must first select a QuickDraw 3D object, or an extruded object. Then choose Save As in the File menu, select the Save Selection option, and choose QuickDraw 3D Metafile in the File Format pop-up menu.

QuickTime Movie

QuickTime tool



Apple Computer’s QuickTime technology lets you record, edit, and play digital movies and sound files. QuickTime software is an extension included with Mac OS and is available as an option for Windows. QuickTime is required to work with some file, graphic, and sound formats, including QuickTime movies, sound (SND) files, and graphics that use JPEG compression provided by QuickTime.

Using the QuickTime tool in the Object Tools toolbar, you can create movie files from Presentation documents, record and place sounds, and place and play QuickTime movies in your Canvas documents.

Loop Turn on to make a QuickTime movie repeat when you play it. To loop the movie from beginning to end, choose Normal in the pop-up menu; choose Back and Forth to make the movie play forward and backward alternately.

Play Selection Only Turn on to play one selected QuickTime object at a time.

Show Controller Turn on to display the QuickTime movie playback controls with the object.

When you save a Presentation document as a QuickTime movie, the Export Options dialog box opens. You can set the number of seconds to show each slide and the color depth. In the Maximize pop-up menu, you can choose an option:

Animation Quality makes slide transitions as smooth as possible at the expense of image resolution.

Image Quality uses high image resolution but might slow animation.

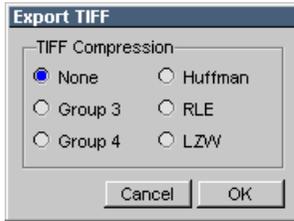
Compression keeps the file size to a minimum, at the cost of lower image quality.

On Mac OS, you can also turn on “Playable on non-Apple computers” so the movie is compatible with QuickTime for Windows.

When you save a Canvas document that contains a QuickTime movie object, Canvas updates the links to any movies that are in the Canvas document. If Canvas can’t find an original movie file, an alert box asks you to locate the file. Use the directory dialog box to select the movie file and click Open. If you can’t locate the file, click Cancel to continue saving and Canvas saves only the movie’s “poster” preview.

Using Tag Image File Format (TIFF)

Tag Image File Format is a high-resolution raster image format. Canvas supports both RGB and CMYK TIFFs. Although TIFF is a “standard” format, many TIFF variations exist. Different resolutions, color systems, previews, and compression schemes make the format flexible but can cause compatibility problems.



TIFF files are often used for high-resolution images in desktop publishing. Because large, high-resolution images can require huge amounts of memory, if you have problems opening TIFF files, check that your system has enough available memory. You might also need to check free disk space if the system uses a virtual memory disk file.

You might also have problems opening TIFF files created by a program that uses unusual format tags. If possible, save files using the default settings before trying to open them in Canvas.

When you save TIFF files, you can choose compression options in the TIFF export dialog box. Various compression options are available, depending on the mode of the image you are saving.

Using text files

Text is a standard format for files containing only ASCII (American Standard Code for Information Interchange) encoded characters.

Text format is available on nearly every computer platform; it's the “plain vanilla” format, the lowest common denominator for words and numbers. Text files don't include proprietary or application-specific character or formatting codes. Some punctuation marks, symbols, and all accented letters are non-ASCII characters that display incorrectly when used in text files. Still, ASCII text can be used to transfer text among a variety of applications, including text editors, word processors, and databases.

When you open a text file, Canvas creates one text object containing the file's contents, and assigns the default font and text formatting attributes to it. If the file contains more text than can fit in the Canvas workspace, Canvas truncates the text object and displays an overflow indicator. You can then flow the truncated text into other columns.

Using Object Linking and Embedding (OLE)

In Windows, Object Linking and Embedding (OLE) lets you easily exchange graphics among programs. Because Canvas provides full OLE support, objects you exchange retain their full functionality and are editable with all the tools of the original application.

Windows programs provide various levels of OLE support. In OLE parlance, Canvas is a fully capable *object* and *container* application. Briefly, this means Canvas can transfer objects to and from other programs through OLE.

In the world of OLE, objects created in Canvas are identified as “Canvas Drawing” objects. If you use the Insert Object command in another application, you should be able to select “Canvas Drawing” as a type of object to insert.

Inserting objects into Canvas documents

You can use three methods to insert objects in a Canvas document: the Clipboard, drag-and-drop, and the Insert Object command. The objects you insert can be either linked or embedded.

Clipboard When you copy Canvas objects to the Clipboard, Canvas places OLE formats, as well as lower-fidelity formats, on the Clipboard. When you paste into another program, that program receives the highest-fidelity format it can accept. If the other program is an OLE container, pasting creates an embedded OLE object. The same applies when pasting into Canvas; Canvas creates an embedded OLE object if OLE formats are available on the Clipboard.

Drag-and-drop In Windows, you can drag objects from Canvas documents to almost any destination on the Desktop (including local and network folders) to create a “scrap” file containing the objects. You can also drag Canvas objects into other documents, and drag objects, such as scrap files and other program’s objects, directly into Canvas documents. When you drag an object to another program, it creates an embedding.

You can copy an object when you drag it by pressing a modifier key. Normally, dragging moves the object. If you want to copy the object, rather than move it, Ctrl-drag the object to another document. This copies the object and creates an embedding.

Insert Object The Insert Object command in the Edit menu opens a dialog box in which you can choose any registered OLE object type

to insert into a document. You can create a new object or choose a file as the source of the embedded object.

To embed objects

When you embed an object in another document, you can use the original program's tools and commands to edit the object.

Note: Not all programs support OLE and can create embeddings.

- 1** Select the objects you want to embed in another document.
- 2** Choose Copy in the Edit menu. Canvas puts the selection on the Clipboard.
- 3** Switch to the document where you want to embed the selection and choose Paste in the Edit menu. The object is embedded into the document.

To link objects

If you want an object to be updated when it changes in the original document, you can create a link to the object. The Canvas document from which you copy objects to be linked must have been saved before you copy the objects.

Note: Not all OLE programs support OLE linking.

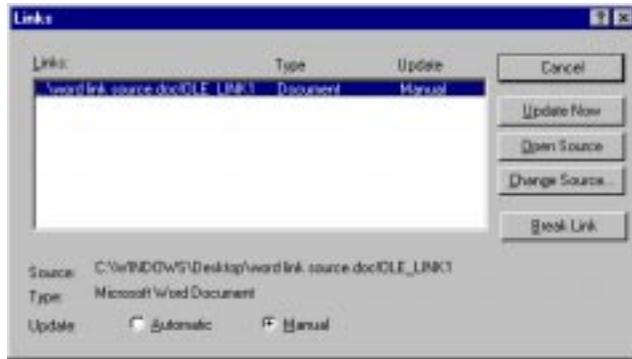
- 1** Select the objects to link and choose Copy in the Edit menu.
- 2** Switch to the document where you want to paste the linked object and choose Paste Special in the Edit menu.
- 3** In the dialog box, Canvas Drawing format is selected and you can click Paste Link to link the object.

To manage linked objects

You can use the Links command to check the source file of a linked object and repair a broken link if a source file has been moved.

- 1** Select a linked object in a document.
- 2** Choose Links in the Edit menu. The Links dialog box displays the link type and update method. To change the update method, choose the Automatic or Manual option.
- 3** Use the buttons to update or change the linked object:
 - To update the object from its source, click Update Now.
 - To open the source document, click Open Source.

- To select a different source document, click Change Source.
- To remove the link so changes to the source do not affect the linked object, click Break Link.



Differences between linking and embedding

When you insert an object into a Canvas document, or insert an object from Canvas into another program's document, you create an association between the object and its application. Linking and embedding create different types of associations.

Linking When you link an object, the object remains in the file where it was created. Only a link (reference) to the source object winds up in the document, which makes linking an efficient method of storing commonly-used objects and files. Linking makes a dynamic connection between an object and all documents in which it appears. When you edit the object, changes are automatically sent to linked instances of the object in all documents.

Because the object is linked by only a reference to another file, if any of the linked files change locations, the link will be disrupted. To move linked files without disrupting the references, you must move all linked files as well as the entire directory structure so that the relative locations of the files don't change.

When you edit a linked object, the object's application opens in a separate window. When you finish editing, you close the application to return to the document containing the link.

Embedding When you embed an object in a document, the object itself (not just a reference) is copied into the document. Therefore, a

document can be moved to another computer without losing the object.

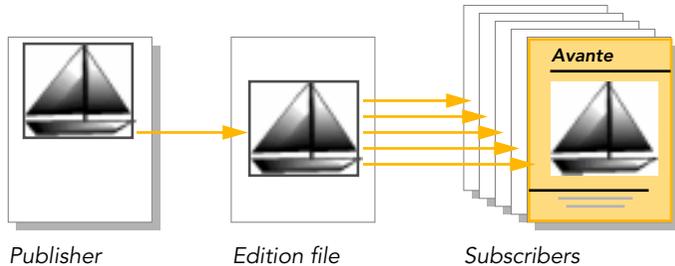
Sharing information through Publish and Subscribe

Publish and Subscribe is a Mac OS technology that lets you share information in Canvas and with other Mac OS programs.

Publish and Subscribe is useful when you want to be able to update an object in several documents whenever you change the original.

You can share an object by publishing it, which creates an edition, and then subscribing to the edition.

The arrows represent manual or automatic updates from the publisher to the edition, and from the edition to the subscribers.



To share an object, you make it a *publisher*. This creates an intermediate file, called an *edition*. To place the object in other documents, you subscribe to the edition file. Subscribing creates a *subscriber*, which is linked through the edition to the publisher.

Publish and Subscribe creates dynamic links between documents, unlike moving data through the Mac Clipboard. When you change a publisher, Canvas can update the edition automatically. When an edition changes, its subscribers can be updated automatically. You can also turn off automatic updating and then update changes manually.

To publish a selection

When you publish a selection, Canvas creates an edition file containing a copy of the published selection. You can subscribe to the edition from other documents. You can use the same procedure to publish information in another program and subscribe to it in Canvas.

- 1 Select the objects in Canvas that you want to publish.
- 2 Choose Edit > Publishing > Create Publisher.
- 3 In the Create Publisher dialog box, select a location and type a name in the text box for the edition file, and then click Publish.

Canvas creates the edition file on disk and displays a rectangular shaded border around the published selection.



Publisher borders



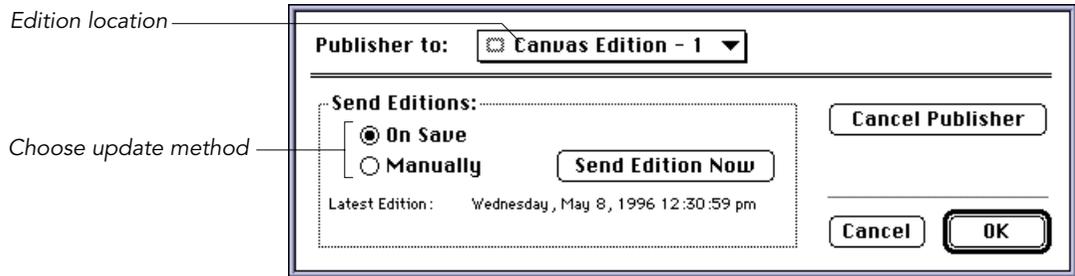
The rectangular border Canvas displays around a publisher is like a window into the document. Canvas sends objects that are within the border to the edition file. You can resize and move the border and move objects into and out of it to change the contents of the edition.

To set publisher options

The Publisher Options command lets you specify when to update a publisher's edition file. It also lets you update the edition manually and cancel the link between the publisher and edition. The command is available once you save the document containing the publisher.

- 1 Click the publisher border to select it and choose Edit > Publishing > Publisher Options.
- 2 To update the edition immediately, click Send Edition Now. Canvas updates the edition file. Whether subscribers to this edition also get updated depends on their update setting; see “To set subscriber options” on page 111.
- 3 To specify when Canvas should update the edition file, choose an option in the Send Editions area.
On Save Tells Canvas to update the edition file whenever you save the publisher document.
Manually Tells Canvas not to update the edition. If you select this option, Canvas shows the time of the last publisher change.
- 4 When you finish setting publisher options, click OK.

- ◆ **To break the link between publisher and edition:** Click Cancel Publisher in the Publisher Options dialog box. This breaks the link to the edition. However, canceling the publisher does not delete the edition file or affect documents that subscribed to the edition.



To subscribe to a published selection

After you publish a selection, which creates an edition, you can subscribe to the edition file to place the published selection in as many documents as you want.

- 1 In the document in which you want to place the published objects, choose Edit > Publishing > Subscribe To.
- 2 In the directory dialog box, select the edition file for the published selection and click Subscribe. The published information appears in the subscriber document within a non-printing gray rectangle. You can move and resize the subscriber border.

To set subscriber options

You can make changes to an edition file appear automatically in subscriber documents or update the subscriber manually. To set these and other options, use the Subscriber Options command.

- 1 Click the subscriber border to select it and choose Edit > Publishing > Subscriber Options.
- 2 To update the subscriber now from the edition, click Get Edition Now. To specify when the subscriber should get changes from the edition file, choose an option in the Get Editions area:

Automatically Tells Canvas to update the subscriber when you open the document and whenever the edition changes.

Manually Tells Canvas not to update the subscriber. If you select this option, Canvas shows the time of the last update.

- 3 When you finish setting subscriber options, click OK.
- ◆ **To break the link between a subscriber and edition:** Click Cancel Subscriber in the Subscriber Options dialog box.
 - ◆ **To open the publisher document:** Click Open Publisher in the Subscriber Options dialog box.



Updating publishers and subscribers

When you work on a document containing publishers or subscribers, you can update all the linked items in the document at once.

- ◆ **To update all edition files:** Choose Edit > Publishing > Send All Now. Canvas updates all editions that are linked to the publishers in the document.
- ◆ **To update all subscribers in a document:** Choose Edit > Publishing > Get All Now. Canvas gets updates from all editions that are linked to the subscribers in the document.

WEB PUBLISHING WITH COLADA

Colada is a tool that lets you create web pages from Canvas documents, and create Java-based animations, buttons, sounds, and encapsulated presentations.

This chapter explains how to use Colada. It includes information on creating hyperlinks, specifying URLs, and publishing pages on the world wide web.

You can use any web browser to view Colada web pages, without having to download any special software. We recommend version 4 or later of Internet Explorer or Netscape Communicator for best results. To view Colada buttons, animations, and sound, support for Java must be enabled in your browser program. To use page/slide navigation controls, Java script support must also be enabled in the browser.

Overview of Colada features

Using Java programming, Colada translates a Canvas document into a web page that looks as close as possible to the original document. You can export Java and non-Java Colada web pages in a single step.

Colada lets you use all drawing, painting, image editing, typography, and data-exchange features of Canvas to design web pages. You can make Publications and Presentations into encapsulated documents that you can navigate in a web browser.

Colada's tools let you attach **http**, **ftp**, and **mailto** URLs to any object or text selection. You can apply colors and text styles to hyper-text. You can use a floating palette to work with hyperlinks, and to select objects based on their links.

You can also assign actions to objects, and create Java-based animations, buttons and sounds.

Saving a Canvas document in Colada Web format turns the document into a Colada web page. Depending on the options you choose, the procedure creates an HTML file, a Canvas web (CVW) file, and a Java applet to display the web page. You can also save a JPEG or

GIF image of the document so non-Java browsers can display the web page by loading the image file.

You can use vector objects, raster images, and text in web page layouts

You can assign URLs to objects and text



You can create images and import GIF, JPEG, TIFF, BMP, and other file formats

Colada interface

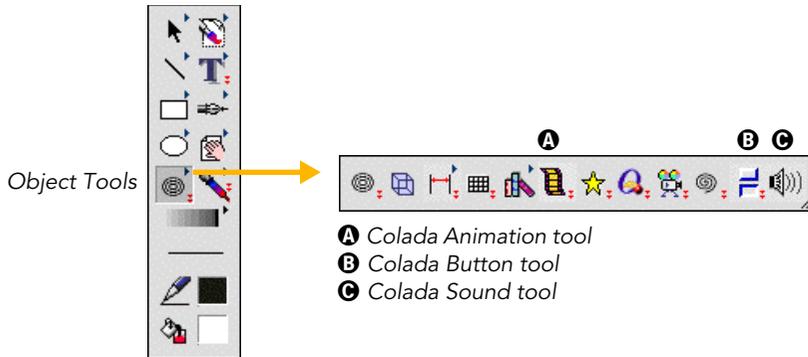
The following commands and tools provide Colada's features.

The URL Tag command and the URL Attachment palette The URL Tag command is in the Object menu. Choose this command to display the URL Attachment palette. The palette lets you create and manage hyperlinks for web pages. For more information, see "Using the URL Attachment palette" on page 117.

Colada Web format To convert a Canvas document to a Colada web page, you simply choose Save As in the File menu, select "Colada Web" format, and then click Save. For more information, see "Saving Canvas documents for the web" on page 148.

Save Web Document dialog box When you save documents in Colada Web format, the Save Web Document dialog box presents options for the Colada web pages. See "Save Web Document options" on page 149.

Colada object tools Tools to place Colada animations, sounds, and buttons are in the Object Tools toolbar. See “Colada animations” on page 133, “Colada buttons” on page 139, and “Colada sounds” on page 145.



Designing Colada web pages

Colada lets you include all types of objects — vector drawings, text, images, and imported graphics — and use all types of new or existing Canvas documents to create web pages.

This section describes how different document types can be used in Colada web pages, and introduces the concept of web hyperlinks.

Illustration document You can use Illustration documents to create separate Colada elements, such as buttons or animations, or entire web pages. When you save an Illustration document in Colada Web format, the resulting web page is the size of a rectangle containing all the objects in the document.

Publication document You can use multi-page Publications, such as newsletters, to create web pages. You can save each Publication page as a separate Colada web page. Or, create a web publication with controls to navigate the pages. When you save a Publication document, the size of the resulting web page is the same as the Publication’s pages, no matter how many objects a page contains.

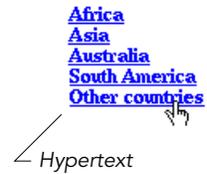
Presentation document You can use Presentations to make web “slide” shows. You can save each slide as a separate web page. Or, create a presentation with controls to change and select individual slides. When you save a Presentation document, the size of the resulting web page is the same as the Presentation’s slides, regardless of how many objects a slide contains.

Hyperlinks and hypertext

After you create illustrations and text for a web page in Canvas, you can use the URL Attachment palette to link items in the layout to other web pages and resources on the Internet.

Visible objects, such as buttons or graphics, that lead to other web pages are called *hyperlinks* or simply *links*. Text that contains a hyperlink is called *hypertext*. Someone viewing your web page clicks a hyperlink to jump to another web page located on your site or anywhere on the Internet. The web browser searches the Internet for the address associated with the hyperlink. An internet address is referred to as a URL, an abbreviation of *Uniform Resource Locator*.

Examples of hyperlinks



✓ Tip

To create invisible “hotspots,” you can assign URLs to objects that don’t have visible strokes or fill inks. This lets you designate any area of a web page as a hyperlink.

When you design Colada web pages, you can make hyperlinks by assigning URLs to any object, including the following:

- vector objects, such as small illustrations
- image objects, including photos and painted images
- text selections and entire text objects
- Colada buttons, animations, and sounds

Note: To prevent unintended changes, you can’t assign URLs to objects on locked layers, pages, or slides.

Colada lets you attach URLs to any shape that you can draw, including polygons, ovals, Bézier curves, and freeform shapes.

You can attach URLs to vector objects (visible or not) to set up hyperlinked areas in illustrations



Using the URL Attachment palette



The URL Attachment palette is a small floating window that lets you do the following:

- attach URLs to objects and text, or remove an attached URL
- find objects that have a specified URL attached to them
- display the URL attached to a selected object or text
- attach sound and animation controls to objects or text
- apply colors and styles to hypertext
- designate selected text as searchable keywords
- specify the path to use for relative hyperlinks

The URL Tag command

Choosing the URL Tag command displays the URL Attachment palette. If the palette is already displayed, choosing the command removes the palette from the desktop.

Creating hyperlinks

Using the URL Attachment palette, you can create links to web pages and other resources on the Internet. Your links can point to web pages with **http** URLs; to files with **ftp** URLs; and to e-mail addresses with **mailto** URLs. You can also make hyperlinks to web pages (whether they were made with Colada or not) that are on a local hard disk or company intranet.

URL formats

All URLs start with text that identifies the type of resource located at the URL address.

http:// A web page URL starts with “http” (for *Hypertext Transport Protocol*), followed by the Internet address, path and name of a web page file. For example: <http://www.deneba.com/index.html>

ftp:// A file’s URL can start with “ftp” (for *File Transfer Protocol*) followed by the Internet address, path and name of a file. For example: ftp://ftp.deneba.com/public/Colada_guide.pdf

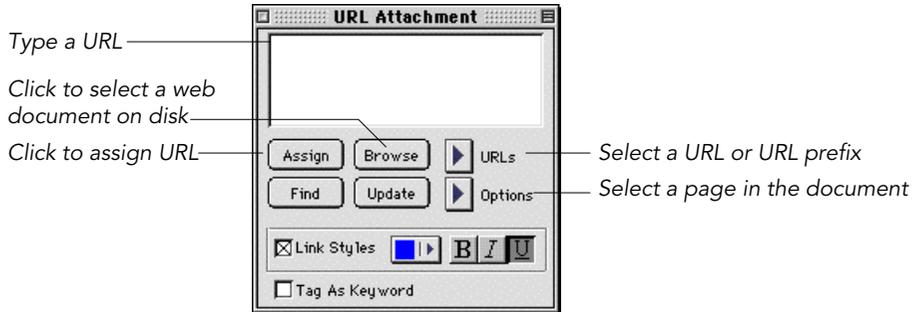
mailto: An Internet e-mail URL starts with “mailto” followed by a username, @ symbol, and domain name. For example: <mailto:support@deneba.com>

Relative paths You can create hyperlinks to web pages by typing relative paths, rather than complete URLs, in the URL Attachment palette. Colada specifies links this way when you select local files by using the Browse button in the URL Attachment palette. See “Creating links to other files” on page 126.

To assign a URL to an object

Use the steps below to create hyperlinks. Instructions for creating various types of hyperlinks appear after this procedure.

- 1 If the URL Attachment palette is not displayed, choose Object > URL Tag to display it.
- 2 Select the hyperlink object or text. If the selection has a hyperlink, the link text appears in the URL Attachment palette.
- 3 Do one of the following to enter the hyperlink URL:
 - Type a URL (including *http*, *ftp*, or *mailto*), or a local web page file name in the text box at the top of the palette.
 - Use the URLs pop-up menu to enter a URL. See “Using the URLs pop-up menu” on page 123 for information.
 - Use the Browse button to select a web page file on disk. See “Creating links to other files” on page 126.
 - Use the Pages/Slides pop-up menu to select a page or slide. See “Creating links to pages and slides” on page 124.
- 4 Click Assign to assign the URL to the selection.



Note: You can't assign a URL or action to objects on layers, pages, or slides that are locked.

To remove an assigned URL

- 1 Select the object that has a URL link that you want to remove. The object's URL appears in the text box.
- 2 In the URLs pop-up menu, choose "Unassign URL from selection." This command appears in the pop-up menu only if the selected object has a URL assigned to it.



Updating URLs assigned to objects

You can use the Update button in the URL Attachment palette to change the URL assigned to a selected object. The difference between the Assign button and the Update button is that Update changes all the objects in the document that have the same URL assigned to them; Assign changes only the selected object.

For example, if you have a "Home" hyperlink on each page of a Publication document and you want to change the URL for "Home," you can use the Update button to change all the "Home" hyperlinks in the same document at once.

- 1 Select an object whose hyperlink you want to change. The hyperlink text appears in the URL Attachment palette.
- 2 Edit the text as desired.
- 3 Click Update. A dialog box asks you to confirm that you want to replace the existing hyperlink with the new hyperlink text.
- 4 Click OK to replace all occurrences of the old hyperlink text in the document.

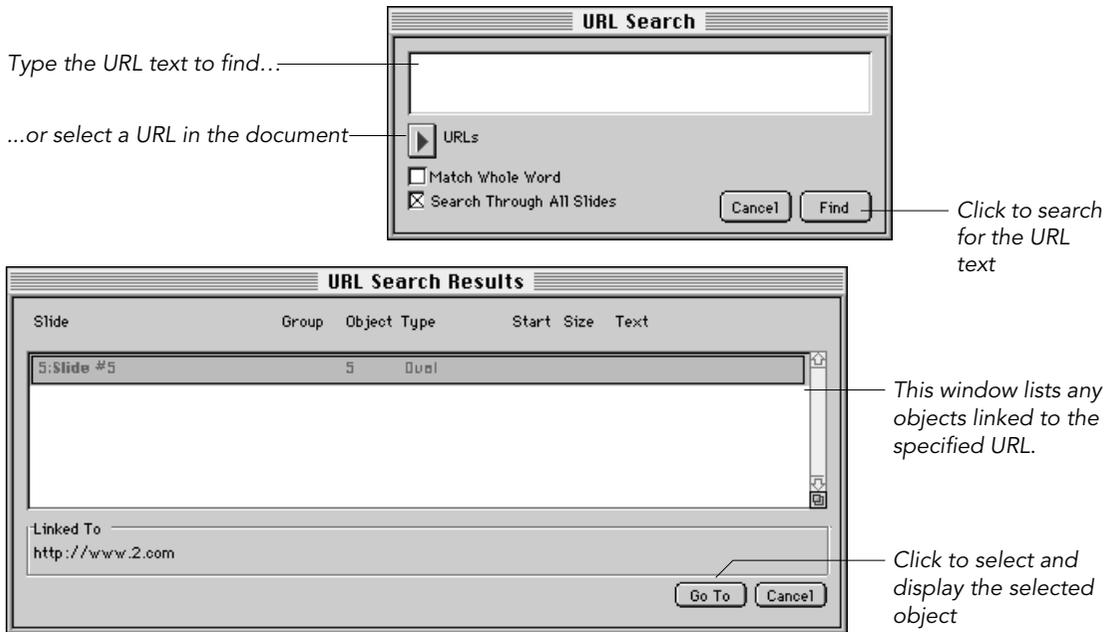


Finding objects assigned to a URL

You can use the Find button in the URL Attachment palette to search for and select objects that have specified hyperlink text attached.

When objects are found, you can see the object type, object number, and whether an object assigned to a URL is part of a group. For text objects, you can see the number of characters linked, where in a text object the linked characters start and end, and the linked text itself.

- 1 Click Find in the URL Attachment palette. The URL Search dialog box appears (if the document contains at least one URL).
- 2 To specify the text to find, choose a URL in the URLs pop-up menu or type a URL in the text box.
- 3 Click Find. The URL Search Results dialog displays information about objects that have the specified hyperlink text attached.
- 4 To select an object listed in the URL Search Results dialog box, click the object's name and then click Go To.



Search options

You can select the following options in the URL Search dialog box.

Match Whole Word Select this option to match the specified text exactly. If you type “home.htm” and this option is selected, you won’t find “/user/home.htm.” If the option is not selected, you will.

Search Through All Pages / Slides Select this option to search all pages in a Publication or slides in a Presentation, instead of only the current page/slide. This option isn’t available in Illustrations.

Attaching hyperlinks to text

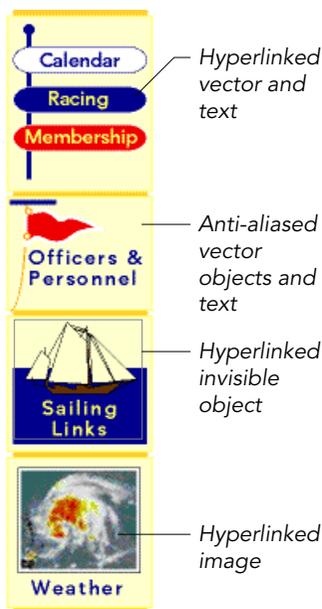
You can select any amount of text — from one character to whole paragraphs or entire text objects — and use the URL Attachment palette to make the text selection a hypertext link to a web page, ftp address, or e-mail address.

Hypertext styles Many web browsers display underlining or colors on hypertext. You can use the URL Attachment palette to apply styles and colors when you assign a URL to a text selection.

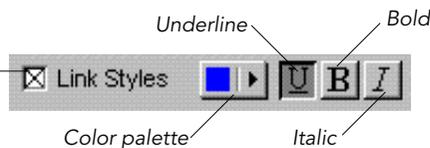
Text in images Making hypertext links in Canvas lets you design the equivalent of *image maps* that can be easily edited. To do this, place text on images (or vector objects), and then link the text to the appropriate URLs. Later, if you want to change the illustration, you can edit the text, images, and objects separately in the original Canvas document.

To create a hypertext link

- 1 Choose Object > URL Tag to open the URL Attachment palette, if necessary.
- 2 Make a text selection in the Canvas document. The selected text appears highlighted.
- 3 Do one of the following to define a link for the selected text:
 - Type a URL (including *http*, *ftp*, or *mailto*) or a web page file name in the text box at the top of the palette.
 - Use the URLs pop-up menu to enter a URL. See “Using the URLs pop-up menu” on page 123.
 - Use the Browse button to select a web page file on disk.
 - Use the Pages/Slides pop-up menu to select a page or slide. See “Creating links to pages and slides” on page 124.
- 4 To apply styles or color to the text, select the Link Styles check box. The text style buttons and a pop-up color palette appear.

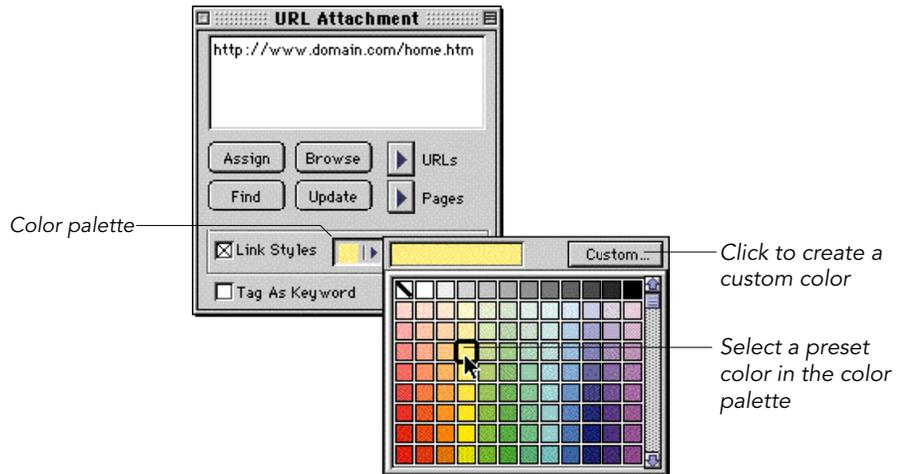


Select Link Styles to show the text style options



- Click buttons for the styles to apply.

- Select a solid color ink from the color palette, or choose the Custom button to use the Color Editor.



- 5 Click Assign to assign the URL and the selected Link Styles to the text selection.

Using the URLs pop-up menu

The URLs pop-up menu lists URL prefixes and links used in the document



The button labeled “URLs” in the URL Attachment palette opens a pop-up menu. You can choose several types of items from this menu. You can choose URL prefixes and the text of links that have been assigned to objects in the document. You can choose commands to create sound and animation control objects. Also, you can choose an “unassign” option to remove a link from a selected object.

URL prefixes

In the URLs pop-up menu, you can select prefix text for web sites, ftp sites, and e-mail addresses.

- Choose **http://** or **http://www.** to enter a web address.
- Choose **ftp://** to enter a file transfer protocol (FTP) address.
- Choose **mailto:** to create an e-mail link.

After selecting a prefix, type the rest of the link text in the text box.

URL history

When you create a hyperlink in a Canvas document, the URL is added to the URLs pop-up menu. Also, when you create a link using

the Play, Sound On, or Sound Off commands, the link text appears in the pop-up menu.

After you assign a link to an object, you can assign the same link to other objects by choosing the link text from the pop-up menu. The link text then appears in the text box at the top of the palette and you can click Assign to assign it to a selected object.

URL prefixes appear at the top of the URLs pop-up menu



"Unassign" appears if a selected object has a link assigned to it

Links that have been assigned to objects appear under the link prefixes

Finding objects

To find objects that have a particular link or command assigned to them, you can select the link or command text from the URLs pop-up menu. See "Finding objects assigned to a URL" on page 120.

Creating links to pages and slides

A pop-up menu in the URL Attachment palette lets you create hyper-text links from one page or slide to another in a Canvas document. The pop-up menu is labeled "Pages" if the active document is a Publication document, "Slides" if the active document is a Presentation document, and "Options" otherwise.

If a Publication document has multiple pages, you can create hyperlinks among the pages by choosing the page names in the Pages pop-up menu. You can link slides in a Presentation document by choosing the names of the slides in the Slides pop-up menu.

After you create links among pages or slides in a Canvas document, you will export each page or slide in the document as a separate web page (see "Exporting multiple pages" on page 150). Using this technique, you can easily convert a single Canvas Publication or Presentation into a series of hyperlinked web pages.

Note: You can create a navigable web page from a Publication or Presentation document without creating links. For more information, see “Exporting multiple pages” on page 150.

Tip

You can use the Document Layout palette to assign meaningful names to pages or slides before you create links to them using the URL Attachment palette. It’s best to assign unique names to avoid confusion when creating hyperlinks and saving files.

Edit page and slide names in the Document Layout palette

To create links within a Canvas document

- 1 In a Publication document with multiple pages, or a Presentation document with multiple slides, select an object or text to be a hyperlink.
- 2 Choose Object > URL Tag to open the URL Attachment palette, if necessary.
- 3 Press the button labeled Pages or Slides in the URL Attachment palette. In the pop-up menu, choose a page or slide to be the target of the hyperlink. The item’s name appears with the extension “htm” appended to it in the text box at the top of the URL Attachment palette; this is the name of the HTML file that Colada will create when you save the document as web pages.
- 4 Click Assign to assign the hyperlink to the selected object.



Choose page or slide names from the pop-up menu

Invalid characters in page and slide names

Because some special characters are invalid in web page names, Colada converts these characters if they are in a page or slide name that you select in the URL Attachment palette.

If any invalid characters (see the following table) appear in a page or slide name, underscores appear in place of the invalid characters when Colada assigns the URL to the selected objects. Invalid charac-

ters include a blank space (the character created by the spacebar) and the characters in the following table.

Invalid characters in assigned URLs

!	&	[` (<i>grave accent</i>)
@	*]	~
#	({	<
\$)	}	>
%	+		?
^	=	tab	

Exporting a document's pages or slides

When you create links within a Canvas document, you must export the document's pages or slides as separate web pages; otherwise, the links among the pages or slides will not function.

To export pages or slides as separate web pages, select the "Export all pages/slides" option in the Save Web Document dialog box. See "Exporting multiple pages" on page 150.

Format of hyperlinks Colada creates links among pages or slides using only file names, not complete URLs. The "Create Absolute URLs" option in the "Directories for Server Aliases" dialog box does not affect links to pages or slides within a Canvas document.

Therefore, when you create a series of linked web pages from a Canvas document, be sure to keep the resulting files together in the same folder or directory on the web server so the links among the pages function correctly.

Creating links to other files

You can use the Browse button in the URL Attachment palette to create links to web pages stored on a local hard disk.

Creating links to local pages depends on the location of the files in a directory structure. You can use the Directories command (in the Options / Pages / Slides pop-up menu) to specify a directory path for local web pages and the URL for a web server. You need to do this before using the Browse command to link local files. For details, see "Using the Directories command" on page 127.

To use Browse to link to a local web page

- 1 Click Browse in the URL Attachment palette.

2 Use the directory dialog box to select the HTML file of the web page.

Note: By default, files that do not have an extension containing “htm” do not appear in the file list. To link to Colada web pages, be sure to select files that have the extension “htm.”

3 To assign the link to the selected object, click Assign. Colada makes the link based on the file’s location in the directory structure.

Messages displayed when using Browse

Before you can use the Browse button, you must choose Directories in the Options / Pages / Slides pop-up menu to define the Root URL of the web server and the Equivalent Root folder on your local hard disk. You can also specify the Destination directory where you will save the current web pages.

If you haven’t specified the Root URL of the web server and the Equivalent Root, a message appears. If this happens, click OK in the message box to continue. Then, use the Directories command as described next.

Using the Directories command

The Directories command lets you specify the root directory of your web server and the equivalent directory for web pages on your hard disk. You need to do this to be able to use the Browse button to create links to local web page files.

- 1** Choose Directories in the Options / Pages / Slides pop-up menu in the URL Attachment palette. The “Directories for Server Aliases” dialog box appears.
- 2** In the Root URL text box, type the complete URL for the root directory of the web site. Usually, the root URL format is “http://” followed by the domain name (such as www.deneba.com), followed by a slash that indicates the root directory.
 - When you assign a hyperlink in the URL Attachment palette, and the “Create Absolute URLs” option is selected in the “Directories for Server Aliases” dialog box, Colada constructs the complete URL by preceding the name of a file you select with the text you enter in the Root URL text box.
- 3** In the Equivalent Root text box, type the name of the directory or folder on your local hard disk that you use as the “root” folder for storing your site’s web pages. Click the Browse button to use a

directory dialog box to select a file that is in the folder you want to specify as the Equivalent Root folder.

- Colada uses the location of the Equivalent Root folder when it creates URLs for a file you select on disk as the target of a hyperlink. Colada compares the file's location within the directory structure to the location of the Equivalent Root. For example, if the file you select is one level below the Equivalent Root, Colada includes the parent folder in the directory path when it constructs a complete URL.
- 4 In the Destination folder text box, type the name of the folder where you are saving the current document's web pages, or use the Browse button to select a file in this folder.
 - 5 Click OK to implement the directories.

Create Absolute URLs option

You can select the option "Create Absolute URLs" in the "Directories for Server Aliases" dialog box to tell Colada how to enter URLs when you use the Browse button in the URL Attachment palette.

If "Create Absolute URLs" is selected, and you use the Browse button to select a file, the link to the file appears as a complete URL (beginning with `http://`) in the URL Attachment palette. If this option is not selected, links to other pages appear as relative paths when you use the Browse button to select a file on disk.

Type the URL of the web server's root directory

Type the equivalent folder on your local hard disk

Type the folder where you store web pages

The screenshot shows a dialog box titled "Directories for Server Aliases" with a subtitle "Set Server Alias". It contains three text input fields: "Root URL", "Equivalent Root", and "Destination Folder". Each field has a "Browse" button to its right. At the bottom left, there is a checkbox labeled "Create Absolute URLs". At the bottom right, there are "Cancel" and "OK" buttons. Three lines of text with arrows point to the input fields: "Type the URL of the web server's root directory" points to the Root URL field, "Type the equivalent folder on your local hard disk" points to the Equivalent Root field, and "Type the folder where you store web pages" points to the Destination Folder field.

An example of directories specified for a web site shows the root folder “~deneba” is equivalent to the folder “Website,” which is in a “Colada docs” folder on the Mac OS desktop of “Max HD”

Root URL	<input type="text" value="http://www.shadow.net/~deneba/"/>
Equivalent Root	<input type="text" value="MAX HD/Desktop Folder /Colada docs./website/"/>
Destination Folder	<input type="text" value="MAX HD/Desktop Folder /Colada docs./website./home1/"/>

About file locations and URLs

In most cases, web files are created on one computer and transferred to a web server that is connected to the Internet. You might create web pages on your home or office computer, then transfer the files over a network or the Internet to a web server.

Web pages often contain links to other web pages on the same web server. Because these links are based on the names and locations of the files on the web server, changing file names or locations can break the links among the pages.

To successfully create hyperlinks among web pages on your site, you should understand how to use relative directory paths, absolute directory paths, and Internet URL addresses.

Absolute paths An absolute path specifies a file’s location starting at the top, or root, of the directory structure in which the file is stored. For example, if a file named “Calendar.html” is stored in a folder named Events, inside a folder named Public, which is inside a folder named Home at the root of the hard drive, the path to the file is:

```
/Home/Public/Events/Calendar.html
```

Relative paths A relative path specifies the location of a file relative to the location of another file in the same directory structure. Rather than starting at the root of the directory structure, a relative path starts at the location of one file or folder and lists the relative steps needed to get to the specified file. In a relative path, the symbol `../` (two periods and a slash) signifies a move up one step toward the root level in the directory structure.

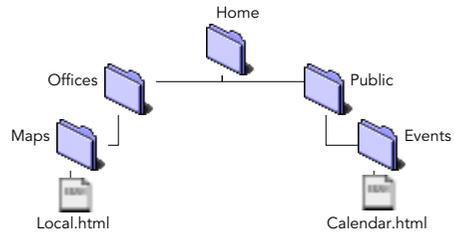
Directory paths

In the directory diagram shown here, the relative path from the file “Local.html” in the Maps folder to the file “Calendar.html” in the Events folder is:

```
../../Public/Events/Calendar.html
```

In this case, the relative path starts on one branch of the directory tree, moves to the root, and then back down another branch.

If two files are on the same branch of a directory, the relative path can be much shorter than the absolute path. For example, the relative path between the file “Calendar.html” in the



Events folder and a file named “Schedules” in the Public folder (one level above Events) is:

```
../Schedules.html
```

The absolute path to the same file is:

```
/Home/Public/Schedules.html
```

Complete URLs Like an absolute path, a complete URL lists the directory path starting at the root to the location of a web page on a server. In addition to the path and file name, a complete URL includes a protocol (http or ftp) and an Internet domain name.

A complete URL for a web page

Root of directory

```
http://www.deneba.com/default.html
```

Protocol Domain file name

In the “Directory paths” diagram on page 130, if the folder named Home is the root folder of a web site, the URL for the “Calendar.html” page is:

```
http://www.domain.com/Home/Public/Events/Calendar.html
```

Entering file names and URLs When you create hyperlinks, you can specify the target as a relative path or a complete URL.

- If the two pages are in the same folder or directory, the relative path is simply the name of the target file.
- A complete URL specifies the actual location of the file on a web server on the Internet.

You can type a relative path or a complete URL in the text box at the top of the URL Attachment palette.

When you use the Browse button in the URL Attachment palette, Canvas can enter a relative path or a complete URL. See “Create Absolute URLs option” on page 128 for more information.

Creating sound and animation links

The commands Play, Sound On, and Sound Off in the URLs pop-up menu let you assign sound and animation actions to objects on a web page.

Play

The Play command lets you create “play” buttons for Colada animations and sounds on web pages. You assign the Play command to an object such as a web button, and specify the animation or sound object to be played. When you click the button, the specified sound or animation plays on the web page.

Sound On / Sound Off

These commands let you disable or enable sound playback for animations that contain Colada sounds. You can attach the Sound On or Sound Off command to an object such as a web button, and specify the object number of the animation that you want to control. When you click the button on the web page, it enables or disables sound playback for the specified animation.

Sound On and Sound Off do not affect sound playback while an animation is running. If the sound is disabled, the Sound On command enables sound; the sound is heard the next time the animation is played. If sound is enabled, the Sound Off command disables sound; the sound is not heard the next time the animation is played.

To create a sound or animation control object

Use the following procedure with the Play, Sound On, or Sound Off commands to create a control button.

- 1 Select the object you want to use as a control object, such as a Colada button, vector object, image, or text object.
- 2 In the URL Attachment palette, choose a command in the URLs pop-up menu. The command appears in the text box.
 - Choose Play to play a Colada sound or animation.

- Choose Sound On to enable an animation’s sound.
- Choose Sound Off to disable an animation’s sound.

3 A dialog box lists the sound and animation objects in the document. Select the object you want to control and click OK, or double-click the object name in the list.

After Play, Sound On, or Sound Off, the number of the object to be controlled appears



Choose Play, Sound On, or Sound Off in the URLs pop-up menu

Invalid link text

If you click Apply in the URL Attachment palette when the text in the text box isn’t valid for creating a link, an error message appears. If this happens, click OK to continue, and then change the text to make a valid link.

Identifying text as keywords

An option in the URL Attachment palette lets you specify that words in a text selection should be tagged as keywords in a web page.

Usually, in a Java-based web page, text on the page is not searchable. This means that search engines can’t “read” the text. However, by tagging text as keywords, you can make the text visible to search engines that use keywords. Select text you want to be identified as keywords, and then select the Tag As Keyword checkbox. The checkbox is not available unless text is selected.

When you select text in a Canvas document, the Tag as Keyword checkbox shows you if this option has been applied to the selected text. If the checkbox contains a checkmark (“X”), the text is tagged as keywords. If the checkbox is empty, the text is not tagged as keywords. If the checkbox is filled with a solid dot, some of the selected text, but not the entire selection, is tagged as keywords.

Colada identifies keywords using a “meta” tag like the following in the web page’s HTML file:

```
<META HTTP-EQUIV="Keywords" CONTENT="travel, history, industry, education">
```

The words that you tag (using the Tag as Keyword option) appear after the “content” parameter, separated by commas and spaces. The keywords tagged in this example are “travel,” “history,” “industry” and “education.”

Colada animations

You can create animations to play in Colada web pages. Colada animations can include most types of objects, including images, vector drawings, and Colada sound objects. You can make animations run continuously, play when you click them, or play when a page loads.

Colada animations comprise multiple frames, which are displayed in sequence, like movies or cartoons.

The Colada Animation tool and palette

Colada Animation tool



The Colada Animation tool appears in the Object Tools toolbar in the toolbox. You double-click the tool to open the Colada Animation palette, in which you can do the following:

- Create animations by inserting objects into frames.
- Change the order of frames, add or delete frames, and edit the contents of frames.
- Set the playback method for an animation.
- Control the duration of an animation and the interval for individual frames.
- Place Colada animations on web pages.
- Store animations in the palette.
- Save animations in files and load animations from files.

Colada Animation palette

The following options and controls appear in the Colada Animation palette.

Frames shows the total number of frames in the animation.

Duration sets the total length of the current animation, in seconds.

Frame shows the current frame number. Type a number to select the corresponding frame. The frame contents appear in the preview box (D).

Interval sets the current frame's interval in seconds. Type a number to change how long this frame appears.

Play displays a preview of the current animation in the preview box (D).

Clear removes all frames from the frame list. Click Clear to start a new animation.

Del deletes the current frame specified in the Frame box and shown in the preview box (D).

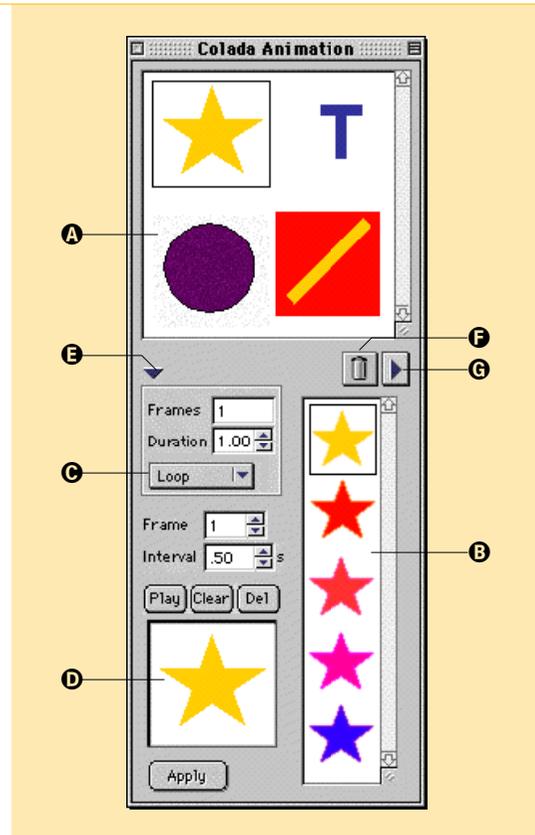
Apply applies the current frames and settings to a selected animation object. Use Apply to update an animation in a document after you change settings or add or rearrange frames, without storing the changes in the palette.

A Stored animations. The selected animation is boxed; its frames appear in the frame list (B). Drag an animation into the document to place it. To store an animation in the palette, drag it from the preview box (D) to here.

B The frame list shows several frames of the current animation. Click a frame to select it. Drag a frame to change its order in the animation. Drag a frame into the document to copy its contents.

C Select the playback method for the current animation (see "Setting the animation playback method," page 136).

D Displays the current frame. Drag objects into



the box to add new frames to the animation. To replace the current frame's contents, press Shift and drag an object into the box. Click **Play** to preview the current animation here. To store an animation, drag it to the top of the palette (A).

E Click to show or hide the manager area.

F Drag a stored animation here to delete it.

G Choose Save Animations to save the palette's animations in a file on disk. Choose Load Animations to replace the palette's animations with ones stored in a file. Choose Append Animations to add animations from a file to the palette. Choose Clear Animations to delete stored animations from the palette.

Creating Colada animations

A Colada animation is a sequence of frames. The frames contain objects—drawings, images, or text. When you assemble an animation, you create frames by dragging objects into the Colada Animation palette. The only objects that can't be inserted into animation frames are Colada animations themselves and Colada buttons.

To create a new animation

1 Double-click the Colada Animation tool to open the Colada Animation palette, if necessary.

Note: This selects the Colada Animation tool, so that if you click in the document and an animation is selected in the palette, you place the animation in the document where you click.

2 If an animation is selected in the palette, click Clear to empty the frame list. If the palette contains no animations, skip this step.

3 Do one of the following to fill animation frames:

- Drag a single object to the preview box to create a new frame containing the object. The new frame appears at the end of the animation.
- Drag multiple objects to the preview box to create new frames for each object. Canvas adds frames starting with the back object and moving forward in the stacking order.

4 Repeat the previous step to create as many frames as you want. The total number of frames appears in the Frames text box.

5 Do any of the following to use the current animation:

- To store the animation in the palette, drag from the preview box to the scrolling area at the top of the palette. This area shows the first frame of each animation stored in the palette.
- To place the animation in the document, drag from the preview box into the document.

After you create an animation, you can place the animation in a document, modify the animation, or store it in the palette.

To change a frame's content

Select the frame you want to modify by clicking in the frame list or typing the frame number in the Frame text box. The frame appears in the preview box. Press Shift and drag an object to the preview box to replace the frame's contents. The replacement object appears in the

Important

Be sure to store a new animation that you want to keep before you click an animation object in the document or another animation in the palette. Otherwise, the animation you click becomes the current animation, which replaces the new animation.

preview box and the frame list. If you do not press Shift when you drag an object to the preview box, you create a new frame.

To delete an animation frame

Select the frame you want to delete by clicking in the frame list or typing the frame number in the Frame text box. Click the “Del” button to delete the frame. The next frame appears in the frame box.

Duplicating and arranging frames

In the Colada Animation palette, you can arrange, duplicate, and copy the contents of frames in the current animation. You can drag a frame up or down in the frame list to change its place. To copy the contents of a frame into a document, drag from the frame list into the document. To duplicate a frame, drag it into the document, and then drag the frame’s contents into the preview box to create a new frame.

Adding sound to animations

You can drag a Colada sound object into the preview box to insert a sound into an animation. The sound plays when the animation reaches the frame containing the sound object. For information on sound objects, see “Colada sounds” on page 145.

Setting the duration of animations

You can set an animation’s total duration and adjust values for individual frames. The value in the Duration box is the total duration. Changing the Duration makes all frame intervals equal to the Duration divided by the number of frames. Changing the Interval for a specific frame will increase or decrease the Duration.

- ◆ **To set the playback duration:** In the Duration text box, type the number of seconds in which you want the animation to play.
- ◆ **To set the time interval for a frame:** Select the frame (either click in the frame list or type a number in the Frame text box). Type the display interval amount in seconds in the Interval text box.

Setting the animation playback method

Animations can play automatically when a web page loads or when the viewer clicks the animation. To set the playback method, choose an option from the pop-up menu in the Colada Animation palette before you save or place the animation in a document.

Loop Plays the animation continuously once the web page loads.

On Click Plays the animation when it is clicked.

✓ Tip

It’s a good idea to set the Duration for an entire animation, and then adjust any frame intervals that you want to change, because all intervals are reset if you change the Duration value.

On Load Plays the animation one time when the web page loads.

When you store an animation in the Colada Animation palette, the animation playback method is stored with the animation.

You can also use another object — a Colada button, vector object, image, or text object — to play a Colada animation. For the procedure, see “Creating sound and animation links” on page 131.

Placing and storing Colada animations

When you create an animation, you can place it in a Canvas document immediately, and you can store animations in the Colada Animation palette for use later. When you store an animation, its duration, interval, and playback settings are stored with it.

◆ **To place a new animation in a document:** Drag from the Colada Animation palette’s preview box and drop the animation into the document. The animation’s first frame appears in the document.

◆ **To store an animation in the palette:** Drag from the Colada Animation palette’s preview box to the scrolling area at the top of the palette. Stored animations are represented by their first frames.

To place stored animations

- 1 Double-click the Colada Animation tool (in the Object Tools toolbar) to open the Colada Animation palette, if necessary.
- 2 Click a stored animation at the top of the palette to select it.
- 3 Do one of the following:
 - Click in the document where you want to place the upper-left corner of the animation object.
 - Drag in the document to place the animation and set its size.

To place an animation at normal size, you can also drag it from the Colada Animation palette and drop it into the document.

To change animation options

You can change the settings of an animation stored in the Colada Animation palette or one that is selected in a Canvas document.

- 1 Select an animation by doing either:
 - Click a stored animation in the Colada Animation palette.
 - Click an animation object in a Canvas document.

The selected animation appears in the frame list, and its first frame appears in the frame box.

2 Select new settings for the options you want to change. You can change the duration or interval settings, or the playback method. You can also delete frames, and rearrange frames in the frame list.

3 To apply the changes to a selected animation object, click Apply.

4 To store a modified animation in the palette, drag from the frame box to the scrolling area at the top of the palette.

Saving and loading animation files

You can store the animations in the Colada Animation palette in a file. You can load animations into the palette from animation files.



◆ **To save animations:** In the Colada Animation palette pop-up menu, choose Save Animations. Type a name for the animation file and click Save.

◆ **To load animations:** To replace all animations in the Colada Animation palette, choose Load Animations from the palette's pop-up menu, select an animation file and click Open. To keep the animations in the palette, choose Append Animations from the pop-up menu, select an animation file and click Open.

◆ **To clear animations:** To remove all animations from the Colada Animation palette, choose Clear Animations from the pop-up menu.

Previewing Colada animations in Canvas

Colada animations are meant to be viewed on Colada web pages in a web browser. To use the Colada Animation palette to preview animations, select an animation and click the Play button. The animation plays in the current frame box at the bottom of the palette.

Viewing Colada animations with a web browser

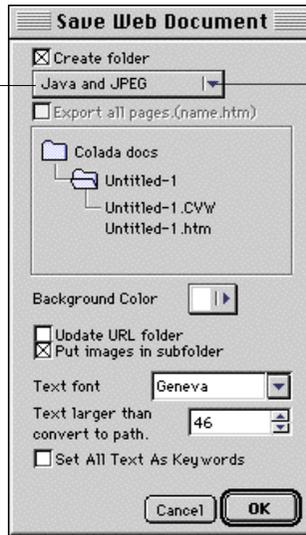
You can view Colada animations in a web page with a browser that supports Java, including Netscape Navigator 4 and Internet Explorer 4 (and later). If you do not have a browser that supports Java, Colada animations appear as empty frames on a web page.

If your web browser's preferences allow you to turn off Java, make sure you have Java compatibility turned on if you want to view Colada animations.

Saving documents containing Colada animations

When saving a Canvas document that contains Colada animations, be sure to choose Java only, Java and JPEG, or Java and GIF in the Save Web Document dialog box. If you do not choose one of these options, the resulting web page will not display Colada animations.

Choose one of the Java formats if your document contains Colada animations



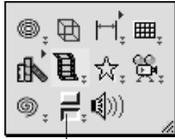
The three options at the top of the pop-up menu let you include Colada animations when you save a Canvas document

Colada buttons

With the Colada Button tool you can create and place java-enabled buttons in Colada web pages. Colada buttons can be linked to URLs, sounds, and animations.

You can use text, vector objects, and images as button components. A Colada button can include three stages, so it changes appearance when the pointer touches it and when the button is clicked.

Colada buttons require that you view Colada web pages in browsers that support Java. In a browser that doesn't support Java (or when Java is disabled), Colada buttons appear as empty frames.



Colada Button tool

The Colada Button tool opens the Colada Buttons palette and places Colada buttons in documents. The Colada Button tool is in the Object Tools toolbar.

◆ **To open the Colada Buttons palette:** Double-click the Colada Button tool. The Colada Buttons palette floats so you can place it anywhere on screen. Stored Colada buttons appear in the scrolling area at the top of the palette.

Creating Colada buttons

A Colada button has three states: when the pointer is not on the button, when the pointer touches the button, and when the button is pressed. When you create a Colada button, you can use a separate object or image for each of the button's states.

For example, to make a circular button that changes from red to blue when you point to it, and then changes to green when you click it, you could use circles filled with red, blue, and green.

Note: You can't use a Colada button, Colada animation, or Colada sound as a component of a Colada button. Also, null objects can't be used in Colada buttons or Colada animations. A null object is an object that has its pen ink and fill ink set to "none."

To create a Colada button

- 1 Open the Colada Buttons palette, if necessary. To do this, see "To open the Colada Buttons palette" on page 140.
- 2 Drag the object for the button's "Up" state (when the pointer is not on the button's bounding rectangle) into the Up box in the Colada Buttons palette. The object appears in the box.
- 3 Drag the object for the button's "Over" state (when the pointer is on its bounding rectangle) into the Over box.
- 4 Drag the object for the button's "Down" state (when the button is clicked) into the "Down" box.

Note: You can drag objects into the Up, Over, and Down boxes in any order.

◆ **To add a Colada button to the palette:** To store a button in the palette, drag from the preview box to the scrolling area at the top of the palette.

Colada Buttons palette

This palette lets you create, store, and place Colada buttons on Colada web pages.

A The scrolling box displays a preview of each button stored in the palette. Click a stored button to select it. A box appears around the selected button. Drag into the document to place a stored button.

B Preview of the current button. Move the pointer into the box to show the Over mode; press the mouse button in the box to show the Down mode; the Up mode appears when the pointer is not in the box.

To store this button in the palette, drag from the preview box to the scrolling box at the top of the palette (**A**).

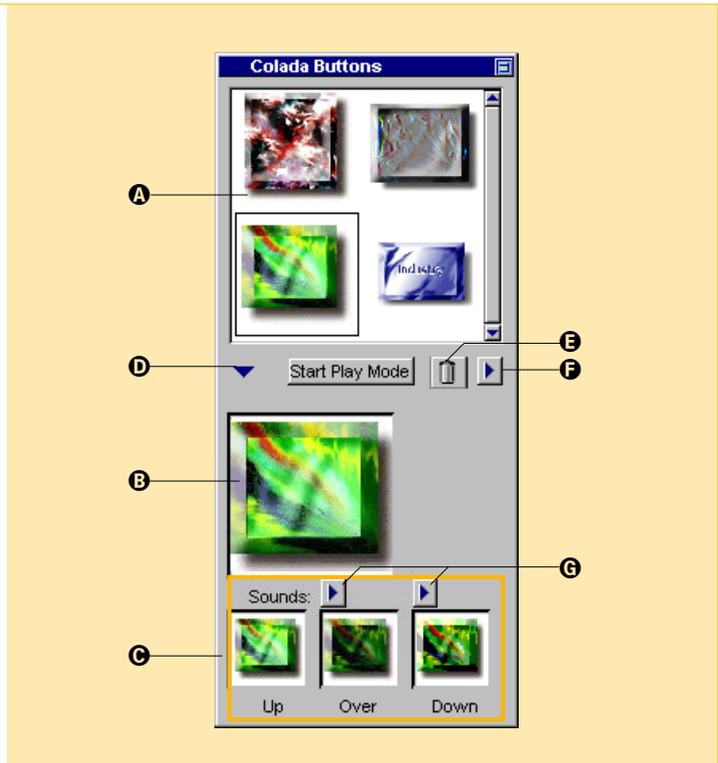
C These boxes show three objects that make a Colada button. To use an object for one of the button's states, drag the object to the appropriate box. To copy an object back into a document, drag it out of the palette.

Up. This object appears when the Colada button is not touched by the pointer.

Over. This object appears when the pointer is touching the Colada button.

Down. This object appears when the button is clicked.

D Click the triangle to open or close the manager part of



the palette. Open the manager to create or edit buttons. If the manager is closed, you can select stored buttons (**A**) to place in a document.

Play mode. Click Start Play Mode to test Colada button objects in the Canvas document. When the pointer touches a button or clicks it, you see the effects in the document. Click End Play Mode to return to normal operation.

E Drag a stored Colada button (**A**) to the trash can to remove it from the palette.

F Choose Save Buttons to save the palette's buttons in a file on disk. Choose Load Buttons to replace the palette's buttons with ones stored in a file. Choose Append Buttons to add buttons to the palette from a file of saved buttons. Choose Clear Buttons to remove stored buttons from the palette.

G To associate sounds with the Over and Down states, choose a preset sound in the pop-up menu, or choose Other, select a sound file, and then click Open. To remove a sound, choose None.

- ◆ **To delete a Colada button from the palette:** Drag the button you want to delete to the trash can in the palette. The button disappears from the palette.

Adding sounds to Colada buttons

You can attach sounds to the Over and Down states of a Colada button. The Over sound plays when the user moves the pointer over the button, and the Down sound plays when the user clicks the button. You can attach separate sounds to a button's Over and Down states.

Use the pop-up menu over the Over or Down box to do one of the following:

- Choose a preset sound. The menu contains a variety of built-in sounds you can assign to a button state.
- Choose Other and select an “AU” sound file, and then click Open.
- Choose None to remove a sound from a button state.

After attaching a sound to a button state, you can store the button in the palette and place it in documents, as described under “To create a Colada button” on page 140.

Placing Colada buttons in a document

Use this procedure to place Colada buttons in a Canvas document. If you want to place multiple copies of the same button, use this procedure once, and then see “Placing copies of Colada buttons,” next.

- 1 Double-click the Colada Button tool to open the Colada Buttons palette. If the palette is already displayed, select the tool.
- 2 At the top of the Colada Buttons palette, select the button to place. The selected button appears in the preview box.
- 3 Do one of the following to place the button:
 - Click where you want to place the button's top-left corner.
 - To scale the button, drag to create a bounding rectangle.

Note: When the Colada Buttons palette is closed, you can use the Colada Button tool to place the last selected button. Or, if the Colada Button tool is not selected but the palette is open, you can drag a button from the palette into the document.



Placing copies of Colada buttons

To place multiple copies of the same button, it's recommended that you use the Colada Button tool to place the first button in the document, and then use the Edit > Duplicate command to create copies. This method results in faster display of a Colada web page than if you use the Colada Button tool to place several instances of the same button.

Editing Colada buttons

When a Colada button has been placed in a document, you can select the button and drag a handle to resize its bounding rectangle. You can't edit its attributes, such as pen ink, fill ink, and stroke. You can, however, change the objects that make up the button, and then replace the button.

To change a button's Up, Over, or Down object, drag the object from the palette into the document. Modify the object's attributes, and then drag it back into the palette. Place a new copy of the button in the document, and store the modified button in the palette if you want to use it again.

Testing Colada buttons

Before storing a new button in the palette, you can test it in the Colada Buttons palette. When the pointer is not in the preview box, you can see how the button will look on a web page when the pointer is not on the button's bounding rectangle. To see the button's appearance when the pointer is on its bounding rectangle, move the pointer into the preview window. To see the button's appearance on a web page when the button is clicked, click in the preview box.

Testing Colada buttons in a document

After you place a Colada button, you can test it before you save the document in Colada Web format. To do this, you use the Colada Buttons palette's "play" mode.

When you click "Start Play Mode" in the Colada Buttons palette, Canvas puts Colada button objects in the document in "play" mode. When you move the pointer over a button, or click it, you see the effects in the document. When you finish, click "End Play Mode."

It's recommended that you click "Start Play Mode" only to test Colada buttons. You shouldn't work in Canvas while play mode is

active. Be sure to click End Play Mode before starting other work. Otherwise, you might not be able to select objects or change tools.

Distinguishing Colada buttons from other objects

When Colada buttons are not in “play” mode in a Canvas document, you can distinguish them from other objects. To do this, select an object, and then look at the Information area at the right end of the Status bar. Canvas displays the type of object selected. If the selected object is a Colada button object, Canvas displays *Colada Button*.

Linking Colada buttons

By using the URL Attachment palette, you can link Colada buttons to URLs, Colada sounds and animations. For more information, see “Creating hyperlinks” on page 117 and “Creating sound and animation links” on page 131.

Saving Colada buttons

Canvas stores information about Colada buttons in the Canvas Tool Settings file in the Preferences folder in the System Folder (Mac OS), or the cv6tool.set file in the User folder (Windows). When you add a Colada button to the palette, it’s available in all Canvas documents.

When you save a Canvas document that contains Colada buttons to create a web page, be sure to choose one of the Java options (Java only, Java and JPEG, or Java and GIF) in the pop-up menu at the top of the Save Web Document dialog box.

Saving and loading buttons files

You can save in a file all the buttons that are stored in the Colada Buttons palette. You can load buttons back into the palette from these files.



- ◆ **To save buttons:** In the palette’s pop-up menu, choose Save Buttons. Type a name for the file and click Save.
- ◆ **To load buttons:** To replace all buttons in the palette with those saved in a file, choose Load Buttons in the pop-up menu, select a buttons file, and click Open. To add to the buttons in the palette, choose Append Buttons from the pop-up menu, select a buttons file and click Open.
- ◆ **To clear buttons:** To remove all buttons from the Colada Buttons palette, choose Clear Buttons from the palette’s pop-up menu.

Colada sounds

You can use the Colada Sound tool to place sound objects in Colada web pages. Colada sound objects play sounds imported from “AU” (Sun Audio format) sound files. For information, see “Creating sound files” on page 145.

Colada Sound tool



To place a Colada sound object

- 1 Select the Colada Sound tool in the Object Tools toolbar, and then click where you want to place the upper-left corner of the sound object. Or, drag to set the size of the sound object.
- 2 In the dialog box, select an AU sound file and click Open.

Note: The sound file you assign must have an “AU” extension.

To set Colada sound options

After placing a Colada sound object in a document, you can set options for the object. You can control whether the object will be visible in the Colada web page and specify a playback method.



Select the Visible option if you want a sound object to be visible on the Colada web page

- 1 Double-click a Colada sound object.
- 2 Choose a playback method in the Play Type pop-up menu:
 - On Click** plays the sound when the sound object is clicked.
 - On Load** plays the sound one time when the web page loads.
 - URL Linked** establishes no playback method for the sound object. Choose this method if you want to use another object, such as a button, to play the sound.
- 3 Click OK to apply the settings to the sound object.

Linking to sound objects

You can create a link between an object, such as a button, and a sound object. For information, see “Creating sound and animation links” on page 131.

Creating sound files

Colada supports AU (Sun Audio) sound files. You can use several utilities to convert sound files to AU format. It’s important to use the correct settings when you create sound files for use with Colada. The Java language used by Colada supports sound files that are recorded

with single-channel sound at a sampling rate of 8,012 Hz (cycles per second) with μ LAW compression.

Converting sounds on Mac OS

You can use the utility SoundApp by Norman Franke to create compatible sound files to use in Colada web pages. You can download SoundApp on the Internet at <http://www-cs-students.stanford.edu/~franke/SoundApp/>

To use SoundApp to create sound files for Colada, use the following settings:

- Under Convert, select File Format Sun Audio (AU)
- Encoding: μ Law
- Sample rate: 8,012 Hz
- Channel: Mono

To convert a sound, Choose File > Convert, pick the sound you want to convert, and then click Open. SoundApp will create a SoundApp Converted Folder and add the extension AU to the converted file name.

Converting sounds on Windows

You can use the following utilities to convert sound files to AU format on Windows:

Sound Gadget Pro 1.50 (Windows 95/NT) Available on the Internet at: www.compsoc.man.ac.uk/~nigel/sgpro.html

- 1 Choose File > Open. Select the appropriate file type or All Supported Formats. Double-click the sound file to be converted.
- 2 Choose File > Save As. Type a file name and select file type Sun/NeXT (.au; .snd). Click the Options button. Select Sun μ Law and Force to 8 KHz (Web/Java Compatible). Click OK, and then click Save.

GoldWave 3.24 (Windows 95/NT) Available on the Internet at: www.goldwave.com

- 1 Choose File > Open. Select Supported Files or an appropriate file type. Double-click the name of the file you want to convert.
- 2 Choose Effects > Resample. In the Resample dialog box, type 8012. Click OK.

3 Choose File > Save As. Type a file name. Select Sun (*.au). In File Attributes, select μ law mono. Click Save.

Cool Edit version 96 (Windows 95/NT) Available on the Internet at: www.syntrillium.com

1 Choose File > Open. Select the file type and double-click the sound file to be converted.

2 Check the Information bar under the waveform. It should display 8012 / 8 bit / Mono. If not, choose Edit > Convert Sample Type. In the Convert Sample Type dialog box, type 8012. Set Channels to Mono and Resolution to 8 bit. Click OK.

3 Choose File > Save As. Rename the file if necessary. Select the Next/Sun (*.au, *.snd) file type. Click the Options button.

4 Select μ Law 8-bit, click OK, and then click Save.

SOX Sound eXchange (command-line converter applet for DOS)

Available on the Internet at: www.spies.com/Sox/

To convert account1.au (11,025 Hz, 8 bit stereo) SOX performs the rate change first, then the other conversions after a second command. Type the following to invoke SOX:

```
sox -V account1.au -r 8012 tmp.au
```

```
sox -V tmp.au -U -b -c 1 acct2.au
```

In the first line, -V means, “Show me what’s going on during the conversion.” This argument is optional. Sox scans file account1.au and determines it’s a valid AU file. The -r 8012 means that the target file tmp.au will be a resampled version of account1.au. In the second command line, Sox scans the tmp.au file and determines it’s a valid AU file (now at 8,012 Hz). The -U -b -c 1 specifies that the target AU file should be encoded as μ law, 8-bit, and mono respectively.

To convert Robotz.wav (22050 Hz, 8-bit, stereo) use these commands:

```
sox -V Robotz.wav -r 8012 tmp.au
```

```
sox -V tmp.au -U -b -c 1 robot2.au
```

To convert Snpsnap.au (44,100 Hz, 8 bit mono) use the following command:

```
sox -V snpsnap.au -r 8012 -U -b snap.au
```

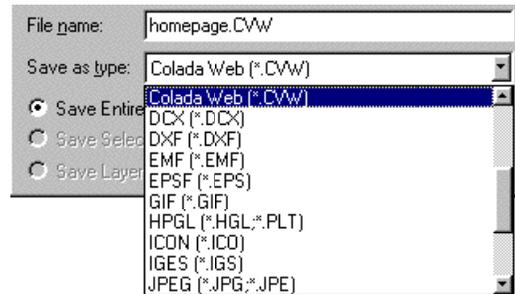
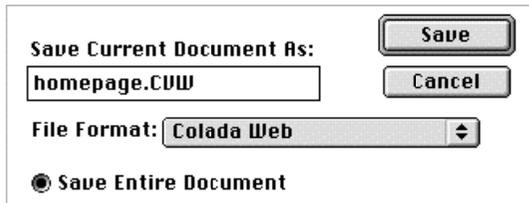
Saving Canvas documents for the web

You can use any objects to design web pages in Canvas. To export a document as one or more web pages, you save the document using the Colada Web file format.

Note: You should save your documents as you normally would in Canvas format before you export the document in Colada Web format. It's important to do this so that you can edit the original Canvas documents when you want to make changes.

To save a document in Colada Web format

1 Open the Canvas document that you want to save as a web page, and then choose File > Save As. Choose Colada Web in the File Format pop-up menu (Mac OS) or the “Save as type” pop-up menu (Windows).



2 Select a location to save the web page files. Type a file name; the name will be used for all files associated with the web page.

3 Click Save. In the Save Web Document dialog box, specify options as described under “Save Web Document options” on page 149. Click OK to create the Colada web page.

Note: You can't use the Save Selection option when saving Colada web pages.

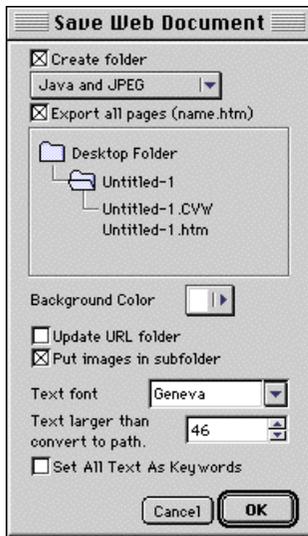
How Colada handles images

Colada uses compression and color reduction to optimize images for faster display on web pages. Colada exports RGB Color and CMYK Color images as RGB (24-bit) images using JPEG compression. Indexed mode images, which use a maximum of 8 bits of color information per pixel, are exported in GIF format. Black and White images are exported as Indexed (8-bit) images. Colada exports Gray-

scale images as Indexed 8-bit images or JPEG-compressed RGB images, using the format that it determines will produce the best results.

Save Web Document options

The Save Web Document dialog box lets you set options when you save a Colada web page.



Create folder

This option organizes files for a web page by placing them in a new folder in the location you specify. The name you assign to the web page file is used for the folder name.

Do not deselect this option unless you want to combine all the files from several web pages together (which can make management of the web site difficult). If you deselect this option, Canvas places the files loose inside the folder you specify when you save the web page.

Choosing formats for saving web pages

The pop-up menu at the top of the Save Web Document dialog box lets you specify Java support and image formats for a Colada web page.

Java only This option creates a Java-based web page for display in browsers that support Java. Web browsers that do not support Java will not be able to display a web page saved with this option.

Java and JPEG This option creates a Java-based web page for web browsers with Java support, and also makes a JPEG image of the page, which is displayed by browsers that don't support Java.

Java and GIF This option creates a Java-based web page for web browsers with Java support, and also makes a GIF image of the page, which is displayed by browsers that don't support Java.

JPEG Image with links This option does not create a Java-based version of the web page. Instead, Colada creates an image of the entire page in JPEG format. Although the page does not use Java features, Colada does preserve hyperlinks in the JPEG image. You can use this option to save a page for browsers that do not support Java.

GIF Image with links This option does not create a Java-based version of the web page. Instead, Colada creates an image of the entire page in GIF format. Although the page does not use Java features,

Colada does preserve hyperlinks in the GIF image. You can use this option to save a page for browsers that do not support Java.

Exporting multiple pages

The checkbox labeled “Export all pages / slides (name.htm)” in the Save Web Document dialog box is available when the Canvas document you are saving contains multiple pages or slides

If your document contains multiple pages or slides, select the “Export all pages / slides” check box if you want Canvas to create a separate web page from each page in the document. When Canvas does this, it uses the name of each page or slide for the name of the file it creates for each web page.

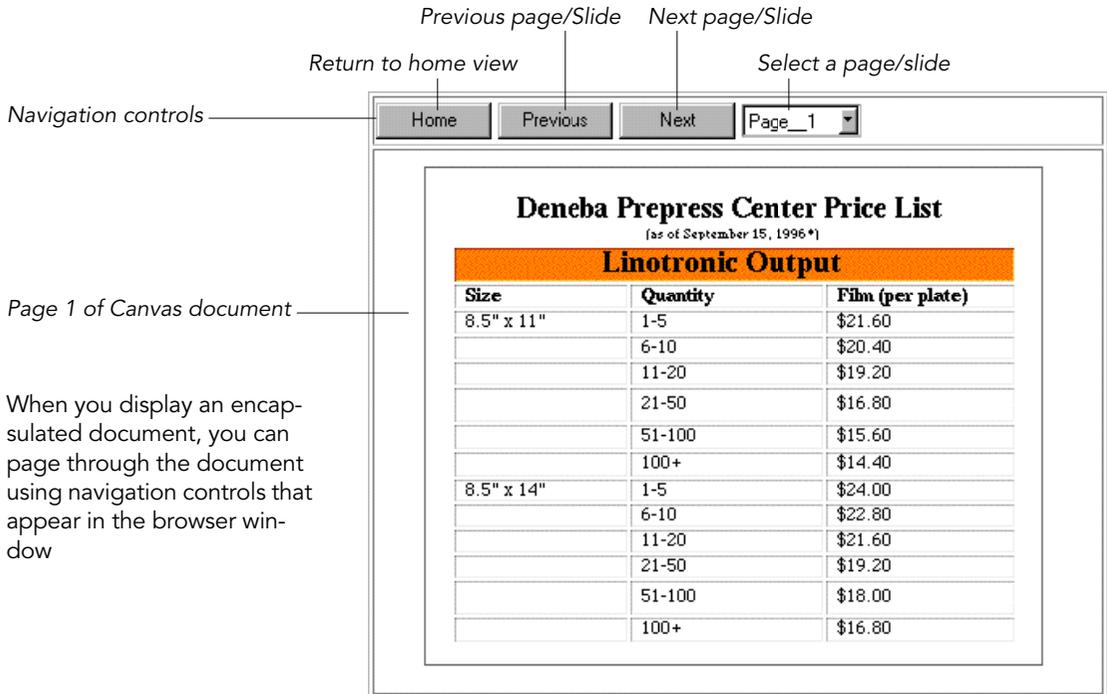
If you used the Pages or Slides pop-up menu in the URL Attachment palette to create links between a document’s pages or slides, be sure to select the “Export all pages / slides” option, so you create Colada web pages from all the pages or slides in the document.

If you do not select this option, Colada exports only the current page/slide as one Colada web page.

Encapsulating documents

If you choose the “Export all pages / slides” option when you save a document that contains multiple pages/slides, a set of Colada web pages that correspond to all the document’s pages or slides is created. Colada also encapsulates the original document’s pages or slides in a single Java-based Colada web page, which lets you view the entire document in a browser, without having to create links between the individual pages or slides.

To view the encapsulated document, open the HTML file that has the same name as the original Canvas document (with an “htm” extension). The first page or slide appears in the browser window. Two buttons that appear above the document let you move through the document’s pages or slides in sequence, and a pop-up menu lets you jump to any page or slide.



Two things to keep in mind if you want to create encapsulated documents:

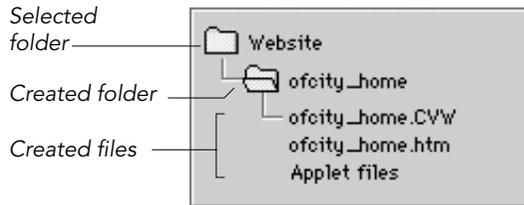
- You must choose the “Export all” option, and choose one of the Java formats in the Save Web Document dialog box; you can’t create an encapsulated document if you choose “JPEG image with links” or “GIF image with links.”
- The browser must have support for Java and Java Script enabled. Without Java Script support, the navigation buttons won’t appear.

Diagram of web page files

Under an icon of the folder that you selected to contain the web page files, a diagram shows the names of the files that Colada will generate for the web page. These files include a CVW file, an HTML file, and a JPG or GIF file, depending on the format you choose in the pop-up menu.

If you select the Create folder option, the created folder appears in the diagram just under the folder you selected in the directory dialog box.

Diagram of folders and files for a web page



Background color

Use the pop-up color palette to select a color that will appear in blank areas of the web page (where no objects appear). The default color is white.

The color you select appears as a background when the page is displayed in a browser window, unless the user has set the browser to display a different background color.

Update URL folder

Colada uses this option to determine the path to use for relative links you have assigned. If you do not select this option, Colada uses the path that you specify in the Destination Folder text box in the “Directories for Server Aliases” dialog box. If you do select this option, Colada refers to the folder where you save the web page file as the basis for relative links.

If you do select the “Update URL folder” option, and you save a Colada Web page in a folder that is not the Destination folder specified in the “Directories for Server Aliases” dialog box, Colada will update the URLs used in the file to match the actual location in which you save the Colada Web page.

However, in some cases, Colada cannot update the URLs in a web page. This happens if the folder in which you save a Colada Web page is higher in the directory structure than the Equivalent Root folder that you specified in the “Directories for Server Aliases” dialog box. In this case, a message tells you that the URLs in the file can’t be updated to match the actual location you have selected for saving the page. If this happens, click OK in the message box to continue saving the web page.

Put images in subfolder

To help organize files, Colada creates a subfolder to hold the image files it creates for a page. This folder appears inside the folder in which you save a Colada Web page. However, with some web browsers, the Java interpreter can't use image files that are in a subfolder. Therefore, to ensure compatibility, you should not select the "Put images in subfolder" checkbox.

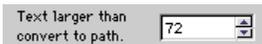
Options for handling type

Two options in the Save Web Document dialog box affect the way that Colada exports type (text characters and text objects) when creating web pages.

Converting to paths

Colada can convert type in a document to objects (also called *paths*) when you save in Colada Web format.

You can specify a type size in the Save Web Document dialog box. Colada will convert to objects any text in the Canvas document that is larger than the point size you specify. For best results, specify a type size of 48 points or larger for converting type to paths. At smaller type sizes, text converted to paths can appear jagged.



◆ **To specify the maximum size for type:** Enter a size in points in the text box labeled "Text larger than convert to path." Colada will convert type that is larger than this size to objects; type that is smaller than this size will be rasterized and displayed as images on the web page.

In any case, all type in the original Canvas document remains editable; Colada converts type to objects or images in the Colada Web files, not in the original Canvas document.

Text font



Colada can export some or all of the text in a document as text, without converting it to paths or images. This text will appear with the text display settings specified in the browser.

In the Text font pop-up menu, choose a font that you want to export as text. Choose "All fonts" if you want to export all text as text. Choosing this option will not preserve the appearance of formatted text in a document. The Text font setting takes precedence over the "Convert to paths" setting.

Set All Text as Keywords

This option lets you specify that all text should be tagged as keywords on the web page. Selecting this option is equivalent to selecting all text in the Canvas document and then selecting the Tag As Keyword checkbox in the URL Attachment palette (see “Identifying text as keywords” on page 132).

Usually, in a Java-based web page, text on the page is not searchable. This means that search engines can’t “read” the text. However, by specifying that text be tagged as keywords, you can make the text visible to search engines. If you want all the text in the document to be searchable, select Set All Text as Keywords.

Text settings

Some browsers let you set a font for text. Other browsers let you choose fonts and sizes for text.

The Options dialog box in Internet Explorer lets users select fonts for text display. Netscape Navigator offers similar options. These settings affect type that Colada exports as text, according to the Text font option in the Save Web Document dialog box.

Although Colada can include text in web pages, you can’t select this text when you view Java-based web pages in a web browser window. If you want Internet search engines to be able to “read” the text on a Colada web page, use the “Set All Text as Keywords” option or the Tag as Keyword option in the URL Attachment palette.

Publishing Colada web pages

When you use Canvas with Colada to create web pages, the usual guidelines for web publishing apply. Here are some practical considerations to keep in mind:

- It’s best to keep all related files for a web page together in one folder on your web server. Colada can create a folder containing the image files, HTML file, Colada Web format file, and Java files when you save a web page. See “Create folder” on page 149.
- It’s best to keep file sizes as small as possible if pages will be downloaded over slower modem connections.
- Using meaningful names for web files makes it easier to maintain links among pages on your web site.
- Get to know the right techniques for web graphics, including how to use color and images to minimize the time it

takes to download a page, and to ensure that graphics appear as you intend in all web browsers.

Managing web page files

For each web page, Colada creates one file with the extension “htm.” This page contains hypertext markup language (HTML) to display the web page using Java or a raster image of the entire page.

When you link to a web page generated by Colada (from other pages on your site, for example), the target of the hyperlinks should be the HTML file (which has the extension “htm”). This file contains links to Java files and images that are needed to display the web page.

You can change the name of an HTML file generated by Colada, but you should not change the names of other files. If you do, browsers might not be able to display the web page correctly.

For each web page, Colada also saves a file with the extension “CVW.” This file contains Java data needed to display the web page. Colada also saves a number of files whose names end with “class.”

Depending on the format you select in the Save Web Document dialog box, Colada creates an image file with the extension “jpg” or “gif” for each web page. This is the image file that will be displayed by a browser that doesn’t support Java.

Viewing Colada web pages

When you create web pages with Colada you can use a web browser program to check the pages before posting them on the Internet. Use the browser’s Open Page or Open File command to open the Colada HTML file.

Zooming and scrolling a Colada web page

You can zoom in and scroll the image when you view a Colada web page. To use this feature, the web browser you use must support Java, and the Colada web page must be saved using one of the Java options.

- ◆ **To zoom in when viewing a Colada web page:** Press the plus (+) key. To zoom out, press the minus (-) key.
- ◆ **To return to normal zoom level:** Press the Home key.

When you have zoomed in to an image or page, you can scroll your view by dragging in the direction you want to scroll.

Using Colada with existing web pages

With Canvas and Colada, you can easily create complete Java-based web pages. In addition, you can use Colada to add Java capabilities to existing web pages. By simply pasting Colada “applet” tags into the HTML files, you can include animation, “touch-sensitive” buttons, sound, and interactive Colada graphics on your web pages.

You can place any objects that you save in Colada format on existing web pages. In a Java-enabled web browser, you can zoom into and pan the view of illustrations saved in Colada format. When you view vector graphics, zooming is resolution independent. Colada lets a browser magnify vector graphics smoothly to show greater detail, the same as when you zoom into a vector graphic in Canvas, without displaying jagged lines.

Creating web items

When you create Colada items for existing web pages, use a Canvas Illustration document and save each item separately. This way, only the item itself is saved. You can also create Colada items in Publication or Presentation documents if you want to include the whole page or slide area with a Colada graphic.

Placing a Colada element in a web page doesn’t require extensive knowledge of HTML tags. If you know the basics, like how to insert a paragraph or horizontal rule in an HTML file, then you can enhance your web pages with Colada.

To place a Colada item in an existing web page

- 1** In Canvas, design the Colada animation, button, sound, or graphic to place in a web page.
 - 2** Choose File > Save As. In the directory dialog box, type a name for the Colada element. Choose “Colada Web” format in the File Format (Mac OS) or Save as Type (Windows) pop-up menu.
 - In Windows, a message about saving in non-Canvas formats appears. Click Yes in the message box, and then click Save.
 - In Mac OS, click Save. A message about saving in non-Canvas formats appears. Click Save in the message box.
 - 3** In the Save Web Document dialog box, select the “Create new folder” option, and select “Java only” in the pop-up menu. Deselect the option “Put images in sub folder.” Click OK to save in Colada format.
 - 4** Canvas saves several files associated with the Colada element. Move these files into the folder that contains the existing web page.
 - 5** Use Canvas or a text editor to open the Colada item’s “HTM” file. Copy the lines of text that start with <APPLET CODE and end with </APPLET> (including the “APPLET” tags). For example, the four lines of text below refer to a Colada applet saved as “Star.”

```
<APPLET CODE=Colada.class HEIGHT=105 WIDTH=118>
<PARAM NAME="cabbage" VALUE="Colcab.cab">
<PARAM NAME="cvwFile" VALUE="Star.CVW">
</APPLET>
```
- You can close the HTM file after you copy the selection.
- 6** In a text editor (SimpleText or Notepad), open the HTML file of the web page in which you want to place the Colada item.
 - 7** Paste the “APPLET” text that you copied from the Colada HTM file into the HTML text. You can position the Colada item anywhere on the web page by pasting the text in the appropriate place among the existing HTML tags (anywhere in the <BODY> section of the HTML file).
 - 8** Save the edited HTML file. Be sure to save the file as plain text if you use a word processor.

9 Use your web browser's Open Page command to open the edited web page. With Java support enabled, you'll see the web page enhanced with the inserted Colada element.

To zoom into a Colada graphic, press the keyboard plus (+) key. After zooming in, press the keyboard minus (-) key to zoom out. To return to normal magnification after zooming, press the Home key.

After zooming into an illustration, you can pan the magnified view by dragging the pointer from the direction you want to view.

CUSTOMIZING CANVAS

You can customize your Canvas work environment to best suit the needs of a specific project and to maximize your productivity. This chapter describes how to set preferences, customize keyboard shortcuts and the Toolbar, save document templates, and create custom sets of Canvas tools.

Setting preferences

Preferences are options that let you customize the display, tools, and commands. You can set these options in the Preferences dialog box.

To change preference settings

- 1 Choose File > Preferences.
- 2 In the Preferences dialog box, click a tab to display its options. Adjust the options you want to change.
- 3 To implement the current settings, click OK.

Note: For options that you turn on and off (as opposed to entering a number or choosing a menu option), the descriptions in this chapter refer to the way Canvas works when the option is on. An option is on when its checkbox is selected (has a check mark in the box); an option is off when its checkbox is not selected (has no check mark).

General preferences

The options on the General preferences tab control various display and window behaviors.

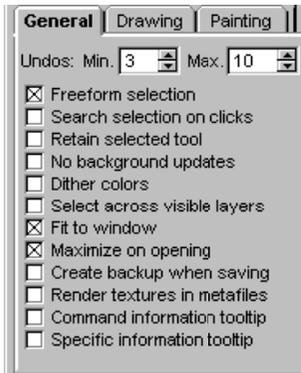
Number of Undo Levels Enter a number in the Min box to set the minimum number of actions that Canvas can reverse. The default is three. Enter a number in the Max box to specify the maximum number of actions that Canvas reverse. The default is 10.

To undo an action in Canvas, choose Edit > Undo.

Canvas uses memory to store operations so they can be undone. The amount of memory depends on the operation. For example, undoing

a filter applied to a 2 MB image requires significantly more memory than reversing a change in type size.

Canvas allocates memory to ensure that you can undo the specified minimum number of actions. Canvas tries to set aside enough memory so you can undo the specified maximum number of actions. It uses this memory if it's needed for other operations. Therefore, you should be able to undo the specified minimum number of actions, but you might not be able to undo the specified maximum number of actions. The memory allocation ensures that you'll have the most memory available in Canvas.



Freeform Selection Lets you place objects in freeform mode by clicking already-selected objects. Otherwise, you must use the Effects > Freeform command to put an object in freeform mode.

Retain Selected Tool Keeps the current tool selected after you use it, instead of reverting to the Selection tool.

No Background Updates Prevents Canvas from redrawing open Canvas documents when you are working in another application. This option lets other applications run faster when Canvas is in the background.

Dither Colors Provides the best onscreen color representation, but requires more system memory. If you are using Canvas for Mac OS, this option requires 32-bit color capabilities.

Select Across Visible Layers Lets you select objects on all visible layers in a document, rather than just the active layer.

Note: If this option is off, you can still select objects on other visible layers by pressing Tab and clicking the objects.

Fit to Window Opens documents so the full layout area can be seen in the center of the window. When this option is off, documents open in Home View (100% magnification with the upper-left corner of the page in the upper-left corner of the window).

Maximize on Opening Opens documents at full screen size. Otherwise, documents open at a standard size that fits any monitor, but might not fill the screen completely.

Create backup when saving Saves a copy of the current document each time you save changes to the document. The backup copy has the extension “.bak,” and Canvas saves to this same file each time.

Search selection on clicks When this option is on, you can drag a selected object from behind another object. If this option is off, you

can drag only the front object, because dragging deselects a back object.

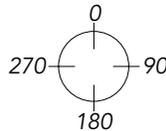
Command information tool tip Displays information, tips and shortcuts in small boxes that appear when you point to an item, such as a tool or button. For example, if you move the pointer over the Copy button in the Button bar, Canvas displays the command name and shortcut.

Specific information tool tip Displays information in small boxes that pop up at the pointer. When this option is selected, Canvas displays user comments when you point to an object that has comments, and displays information when you point to an ink in the Inks palette. For color inks, Canvas displays color system information. For example, if you point to a CMYK ink, the color values such as “5c 2m 92y 0k” appear in a pop-up box. For other inks, Canvas displays the ink name.

Drawing preferences

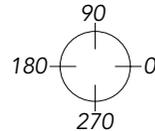
The Drawing tab lets you select a coordinate system for angular measurements and specify behavior for moving and copying objects.

Coordinate System Choose the Standard or Engineering system for angular measurements.



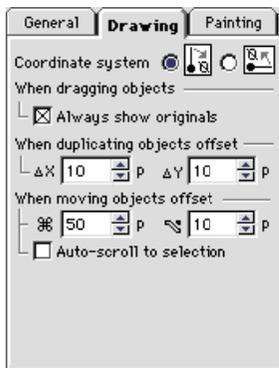
Standard

*Zero degrees at 12 o'clock,
increases clockwise*



Engineering

*Zero degrees at 3 o'clock,
increases counterclockwise*



When dragging objects always show originals Objects you drag follow the pointer, but also appear in their original position until you finish dragging.

When duplicating objects offset Tells Canvas how far (in pixels) from the original to put object copies when you use the Duplicate or Paste commands in the Edit menu.

When moving objects offset Lets you specify the number of pixels objects move when you use a combination of modifier and arrow keys. For example, with the settings shown here (for Windows), Ctrl+Right Arrow moves a selected object 50 pixels to the right, and Alt+Right Arrow moves it 10 pixels to the right. Canvas for Mac OS users can use the Command and Option keys in combination with arrow keys.

- **Auto-scroll to selection** keeps objects that you move using the arrow keys in view by scrolling the document window.

Painting preferences

The Painting tab lets you set preferences for displaying and editing paint objects and images.

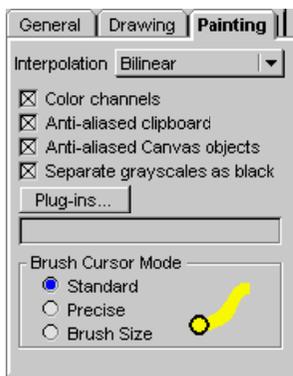
Interpolation Tells Canvas how to fill new pixels created by resizing a paint object or applying certain filters.

- **Nearest Neighbor** fills new pixels with the same color as an adjacent pixel.
- **Bilinear** fills new pixels with colors derived from the color values of adjacent pixels. This creates softer edges than Nearest Neighbor.

Color Channels Makes channel previews in the Image Channels palette appear in color rather than shades of gray.

Video LUT Animation (Mac only) Provides faster previews of some image filters by modifying the color lookup table of your monitor instead of redrawing the image. For example, with Video LUT Animation turned on, changing the brightness of an image in the Brightness/Contrast dialog box with the Preview option off changes the brightness of the entire screen and not just the image.

Anti-aliased Clipboard Anti-aliases vector and text objects pasted from the Clipboard into a paint object.



Anti-aliased Canvas Objects Anti-aliases Canvas vector and text objects drawn in a paint object. For example, if you add text to a paint object in edit mode, Canvas rasterizes and anti-aliases the text.

Plug-ins Click the button to set the location of Photoshop-compatible plug-ins for use in Canvas. In the directory dialog box that appears, select the folder containing the plug-ins. The path name of the folder appears below the Plug-ins button on the Painting tab. Installed plug-in filters appear in the Image > Filters submenu.

Separate Grayscales as Black When producing color separations of grayscale images, this option keeps grayscales on the black plate. Otherwise, Canvas creates four-color grays.

Brush pointers

These options let you change the pointer displayed for painting tools. The default pointer is a symbol of the current painting tool.

Standard Pointer Displays the icon for the current painting tool.

Precise Pointer Displays a cross hair pointer. The intersection of the cross hair is the center of the current brush.

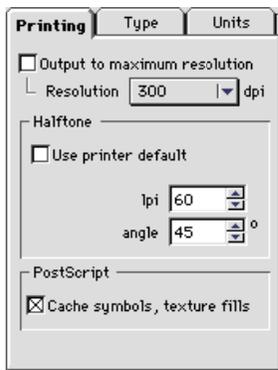
Brush Size Pointer Displays an outline of the current brush as the pointer.

Note: You can use the context menu to change the pointer while you edit a paint object.

Printing preferences

The Printing tab has several settings that let you control the appearance of printed output.

These settings affect printed output when you use the “Print as: Composite” setting in the Print dialog box, and do not affect printing when you use the “Print as: Separations” setting.



Output to maximum resolution Prints Canvas documents at the printer’s highest resolution.

This setting disables image-reduction options and fast-printing features of QuickDraw® printers, which require a setting of 72 dpi.

If you print documents to a PostScript printer, it’s a good idea to select this option. However, if you are using Japanese fonts (two-byte), you can deselect the “Output to maximum resolution” checkbox, and then use the pop-up menu to select 300 dpi, which will speed up printing.

When “Output to maximum resolution” is not selected, you can choose the resolution (from 72 to 2,540 dots per inch) to use in the Resolution pop-up menu.

Halftone The options in this area let you set the halftone screen frequency and the halftone screen angle for composite printing. You can also choose to use the printer’s default halftone settings.

For most desktop publishing purposes, the printer’s default settings are probably the best to use. For commercial printing, you might need to specify a particular frequency and angle for the best output. If you are sending documents to a commercial printer, ask about the appropriate halftone screen settings.

Use printer’s default Select this option when you often print to desktop devices such as laser printers, and the default halftone screen frequency and angle are appropriate for your documents.

LPI To specify a halftone screen frequency, clear the “Use printer default” checkbox, and enter the frequency in the text box. A higher frequency requires a higher printer resolution to produce the same number of grayscale levels in printed halftones.

Angle If you want to specify the angle of the screens used for halftoning, rather than use the printer’s default setting, clear the “Use printer default” checkbox, and enter the angle in the Angle checkbox.

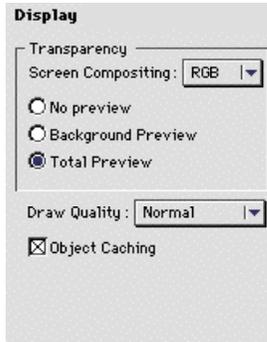
Cache symbols and texture fills This option should be selected to print symbol and texture inks faster on PostScript printers.

If documents containing symbols or textures do not print correctly, or generate a PostScript error, deselect this option and try printing again. Some non-standard PostScript interpreters have problems printing cached symbols and textures.

When printing to non-PostScript printers, this option has no effect.

Display preferences

Options on the Display tab let you customize the display. You can control transparency effects, display speed and display quality.



Screen Compositing

This preference specifies the color space in which Canvas calculates transparency effects and color blending.

RGB Makes Canvas use the RGB color space internally when it calculates transparency and blends between colors. This is the faster option, and should be used when documents are designed to be viewed on screen.

CMYK Makes Canvas use the CMYK color space to calculate transparency and color blending. This can provide a more accurate preview of colors to be reproduced in the CMYK color space. However, transparency and blending effect can be slower at this setting.

Note: The CMYK Preview mode (Layout > Display > CMYK Preview) simulates CMYK colors for the entire display. In contrast, the CMYK display preference simulates CMYK colors for blending and transparency only.

Transparency display

The Transparency options let you control how transparency appears when a paint object is in edit mode.

No Preview Displays a checkerboard pattern to represent transparency in an image. This isolates an image from background objects, which can be helpful for editing complex compositions.

Background Preview Displays transparency in an image during editing. Objects behind the image are rendered realistically while you edit. (If no objects are behind the paint object, the document's white layout area shows through transparent areas.) Objects in front of a paint object are hidden during image editing.

Total Preview Displays both background and foreground transparency during image editing. This is the most accurate preview.

Draw Quality

These options in this pop-up menu affect the entire screen display in Canvas.

Draft Provides the fastest screen display by drawing vector objects less smoothly. Choosing this option can increase display speed by 300%.

Normal Provides fast screen display and draws smooth vector objects. This is the recommended setting and is selected by default.

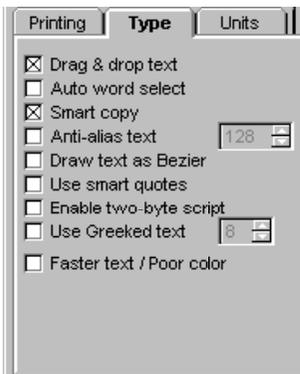
Anti-aliased Significantly smooths all objects on screen, including text and vector objects, by anti-aliasing their edges. This setting is especially useful when you create screen shots or display slide shows on screen. However, this anti-aliasing slows the display compared to Draft or Normal settings.

Note: The effect of the Anti-aliased text option is independent of the Anti-Aliased option on the Display tab. If either option is selected, text is anti-aliased; if neither option is selected, text is not anti-aliased.

Object Caching

Keeps screen images in memory so the display refreshes significantly faster when you move or edit objects. This is the recommended option. If you deselect this option, less memory (up to 4 MB) is used for screen display, but displaying complex images might be very slow.

Type preferences



The Type tab in the Preferences dialog box lets you customize options for text and typography.

Note: Some options on the Type tab are different for Mac OS and Windows versions of Canvas. These differences are noted in this section.

Auto Word Select When you use the I-beam pointer to highlight specific text, this option ensures that you select only whole words (all characters between blank spaces). As you drag to highlight text, Canvas detects when you drag over a space. As you continue to drag, Canvas locates the next space and selects the characters in between.

Drag & Drop Text With this option on, you can highlight specific text, then drag the highlighted text to a new location within the same text object.

Smart Copy With this option on, if you copy and paste text that begins a paragraph, Canvas pastes the text as a new paragraph using

the original paragraph settings. With this option off, Canvas pastes text into the current paragraph using the existing paragraph settings.

Use Smart Quotes Select this option if you want Canvas to insert true typographical apostrophes (’), single quotation marks (‘’), and double quotation marks (‘‘’) when you type these characters with the Text tool. Otherwise, these characters appear as straight tick marks, or foot (') and inch (") marks. Of course, the actual appearance of the characters depends on the design of the typeface in use.

The character that Canvas inserts when you type a quotation mark depends on the position of the insertion point in the text, and its position relative to other quotation marks. For example, Canvas always inserts an open quotation mark (‘) when you type a quotation mark immediately following a space.

The “Use Smart Quotes” preference setting has no effect on text that you type with the Path Text tool.

Anti-alias text Select this option to soften the onscreen appearance of text based on a point size you specify. You can specify a point size from 10 to 128 points. When the apparent point size of text you type is equal to or less than the point size you specify, Canvas softens its appearance.

Use Greek text Select this option if you want Canvas to “greek” text at or below an apparent type size that you specify. Greeking replaces lines of text characters with gray bars, which speeds up screen redraw. This preference does not affect printing.

To use text greeking, select the “Use Greek text” check box, and enter a size in points in the adjacent text box. When “Use Greek text” is selected, Canvas greeks text at the specified size and smaller when the display magnification is 100% or less.

For example, if you specify 12 points for the Greek text preference, and zoom to 200%, Canvas greeks any text that is 6 points or smaller. If you zoom to 50%, Canvas greeks text that is 24 points or smaller.

It’s a good idea to set the size for text greeking to the same size as most body text in your documents. This lets you view headlines and display type normally, while Canvas greeks the body text at 100% magnification. Then, when you zoom in to edit the body text, it will not be greeked because of the higher magnification level.



When "Use Greek Text" is not selected, all text appears in its assigned font at an apparent type size based on the magnification level.



If "Use Greek Text" is selected, Canvas displays gray bars for text that is the same apparent size or smaller than a size you specify.

Windows-only Type preferences

Draw Text as Béziers When using a 256-color display, Windows cannot dither colors in text to approximate a non-system color; instead, Windows uses the closest solid colors. Turning this option on tells Canvas to redraw text as objects, which lets Windows dither colors when necessary. This method is resource-intensive and can be slow; turn this option on only if you need to see dithered color in text on a system with a 256-color display.

Faster Text/Poor Color Turning this option on speeds up screen redraw of text at the expense of color fidelity.

Tools and options for two-byte and vertical text

The option labeled "Enable two-byte script" on the Type tab in the Preferences dialog box tells Canvas to accommodate text characters that require twice as much data (two bytes) as text characters in most

Western languages. This makes it possible to create documents using specialized two-byte fonts, including Chinese, Korean, and Japanese.

The “two-byte” preference also can make available several tools and options that let you create vertical text objects (with or without two-byte fonts), and use an entry window for typing two-byte characters. These tools and options are described in this section.

You can select the “Enable two-byte script” option in any version of Canvas. However, to use two-byte fonts in a document, you must have an operating system version that supports two-byte fonts. For Mac OS, you must have a two-byte system version, or a software package such as the Japanese Language Kit. On Windows, you must have a two-byte version of the operating system.

To activate the ‘two-byte’ text preference

- 1** Choose Preferences in the File menu. The Preferences dialog box appears.
- 2** Click the Type tab to bring it to the front, if necessary.
- 3** Select the “Enable two-byte script” option, and then click OK. A message tells you changes will take effect the next time you restart Canvas. Click OK in the message box to continue.
- 4** To use the two-byte text tools and options, choose Quit (Mac OS) or Exit (Windows) to stop running Canvas. Then restart the program.

Unlike other preferences, which take effect immediately, you must quit and restart Canvas to activate or deactivate the two-byte text preference. If the two-byte text option is selected, after you start Canvas, you can use two-byte text characters.

Depending on the amount of text in your documents, activating the two-byte text preference might slow down text editing.

Two-byte text tools and options

When the two-byte text preference is active, the following items appear:

- “Vertical” options appear in the Column Guides dialog box and the Type palette; see “Options for vertical text and columns” on page 170.
- The Vertical Text tool appears in the toolbox; see “Vertical Text tool” on page 173.

- The Vertical Text Object tool appears in the toolbox; see “Vertical Text Object tool” on page 173.
- The Inline tab appears in the Preferences dialog box; see “To set inline text-entry preferences” on page 174.

Measurement units

When you activate the two-byte text preference, Canvas selects the metric measurement system by default. You can select another system for measurement units by choosing Rulers in the Layout menu. For more information on rulers, see “Setting up rulers and the drawing scale” on page 61.

Options for vertical text and columns

A checkbox labeled “Vertical” appears in two places: the Column Guides dialog box and the Type palette.



Column guides for three columns of vertical text

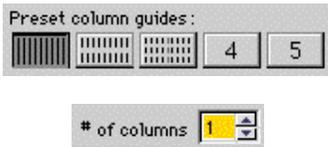
In the Column Guides dialog box, you can create column guides for vertical text in Publication documents. In the Type palette, you can specify horizontal or vertical orientation for text objects.

Note: The Vertical options described in this section, which appear when “Enable two-byte script” is selected, are not related to the “Vertical” command that changes the alignment of text bound to a path.

To use vertical text column guides

You can use the Column Guides dialog box to set up horizontal guides for columns (text objects) that contain vertical text.

- 1 If necessary, activate the two-byte text preference. To do this, follow the procedure, “To activate the ‘two-byte’ text preference” on page 169.
- 2 Choose Column Guides in the Layout menu. The Column Guides dialog box appears.
- 3 Select the “Vertical” checkbox. The column guide buttons at the top of the dialog box change to vertical orientation.



4 Use the preset column buttons or the other options to specify guides for the number of columns that you want to use.

- To use preset column guides, click one of the buttons. Lines on the first buttons show 1, 2, and 3 text columns. Numbers on the last two buttons show that these make 4 and 5 columns.
- You can set up guides for any number of columns from 1 to 12 using the “# of columns” text box.

5 Click OK to create guides for the specified number of columns.

To use the Vertical option for text objects

You can use the Vertical option in the Type palette to set up the Text tool for vertical text, and to orient text objects to contain vertical text.

1 If necessary, activate the two-byte encoding preference. To do this, follow the procedure, “To activate the ‘two-byte’ text preference” on page 169.

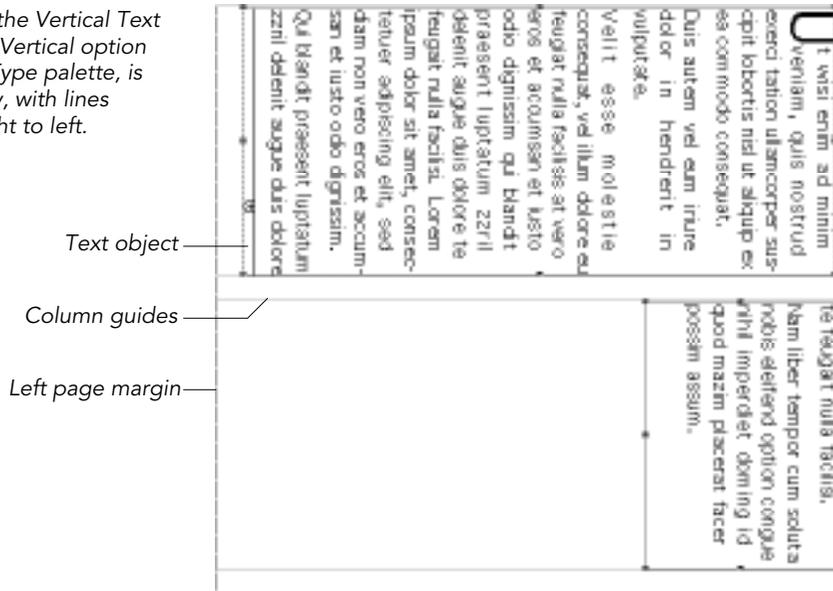
2 Open the Type palette by double-clicking the Text tool or choosing the Type command in the Text menu.

3 Do one of the following to set up the Text tool, or to change the orientation of existing text objects:

- To change the default operation of the Text tool, make sure that no objects are selected in the document.
- To change existing text objects, select the text objects.

4 Select the Vertical checkbox in the Type palette, and then click Apply to apply the current settings. Canvas applies the vertical option to the selected text objects, or to the Text tool.

Text typed with the Vertical Text tool, or with the Vertical option selected in the Type palette, is aligned vertically, with lines running from right to left.



When you set the Text tool to create vertical text, lines of text that you type are vertical, with text flowing from top to bottom and lines running from right to left. This is the same as the orientation of text within an existing text object when you apply the Vertical option.

You can also create text objects with the same vertical text orientation using the Vertical Text tool.

◆ **To change text orientation to horizontal in an object:** Select a text object containing vertical text. In the Type palette, deselect the “Vertical” checkbox, and then click Apply.

Using vertical text in Publication layouts

To make it easy to create text layouts in Publication documents, choose the Column Guides command in the Layout menu, and create the number of column guides you want to use. Then, use the Vertical Text Object tool to click between column guides. This creates a text column sized to fit the column guides. The column extends from the point you click to the left margin of the page. If the column guides are outside the printable area, the column text remains inside the printable area. For more information, see “Vertical Text Object tool” on page 173.



Vertical Text tool

Vertical Text tool

The Vertical Text tool lets you type text in vertical columns that flow from top to bottom and right to left. This makes it easy to create vertical columns of text in languages that use vertical text, or when you work on a publication in which text runs across a page.

When you type with the Vertical Text tool, the text characters flow from top to bottom on screen; this looks the same as text created with the Text tool and then rotated 90 degrees clockwise.

Note: If the Vertical Text tool isn't available because the two-byte text preference isn't selected, you can get the same effect by rotating text 90 degrees with the Rotate command in the Effects menu.

To create empty text objects, such as for a document template, to contain vertical text, you can use the Vertical Text Object tool; see “Vertical Text Object tool” on page 173.

To define a column for vertical text

- 1 Select the Vertical Text tool in the toolbox. The pointer changes to a horizontal I-beam. The horizontal I-beam indicates that text will flow from top to bottom.
- 2 Drag the I-beam to set the size of the column, and then begin typing. As you type, text characters run from top to bottom. When the text reaches the bottom edge of the column, it wraps back to the top and onto the next line to the left.
- 3 To exit text-editing mode, press Esc.

To type vertical text directly

- 1 Select the Vertical Text tool in the toolbox. The pointer changes to a horizontal I-beam.
- 2 Click in the document to place the text insertion point, and then begin typing. Because the text will flow from top to bottom, Canvas expands the bottom of the column to fit the longest line you type.
- 3 To exit text-editing mode, press Esc.

Vertical Text Object tool

The Vertical Text Object tool lets you create empty text blocks for vertical text. Text objects created with the Vertical Text Object tool maintain their width and length. The tool is in the Text toolbar.



Vertical Text Object tool

To create text objects for vertical text

- 1 The Vertical Text Object tool is available only when the two-byte text preference is selected. If necessary, select the two-byte text preference by following the procedure, “To activate the ‘two-byte’ text preference” on page 169.
- 2 Select the Vertical Text Object tool in the toolbox. The pointer changes to a horizontal I-beam, which indicates that text in the text object will flow from top to bottom.
- 3 Drag to define the width and length of the text object. You can then drag in other locations to create more text objects, or begin typing in the new text object.
- 4 To exit text-editing mode, press Esc.

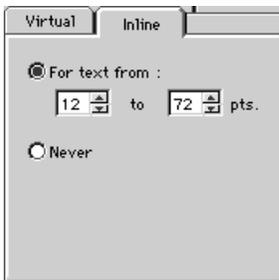
Preferences for two-byte text entry

The options on the Inline preferences tab let you specify whether you want to always enter two-byte text directly into a document, or use a text-entry window when the apparent type size is outside a range that you have set. This feature is available only when you are running system software that supports two-byte fonts, and are using two-byte fonts to enter text into a document. This preference does not affect printing.

Using a low zoom level can make it difficult to see text as you type. By using the text-entry window, you can see and edit text in the window, regardless of the current view magnification level.

To set inline text-entry preferences

- 1 Choose Preferences in the File menu. The Preferences dialog box appears.
- 2 Click the Inline tab to bring it to the front.
- 3 Specify the following options, and then click OK to implement the current settings:
 - If you always want to use a text-entry window, regardless of the size of the type, select the Never option.
 - If you want a text entry window to appear when you type text at some apparent type sizes, select the “For text from” option. Type a number from 6 and 255 in each text box. These numbers set the range in which the text-entry window does not appear and you type directly into a document.



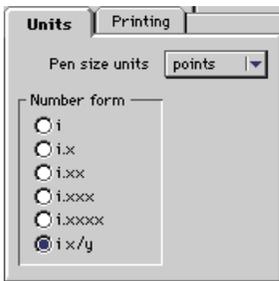
A character's apparent size is the size at which it appears on screen, based on the current view magnification level. For example, 12 point type appears to be 12 points at 100%; at 200%, it appears to be 24 points; at 50%, it appears to be the size of 6 point type.

Using the text-entry window

If you choose the “For text from” option, and you type text in a document at an apparent point size that is outside the specified range, the text-entry window appears at the bottom of the screen. You can type and edit text directly in the window. To enter the text into the current document, press Return (Mac) or Enter (Windows).

If the apparent size of text changes because you change the view magnification, actual point sizes that are beyond the specified “For text from” range might not cause the text-entry window to open. In this case, you can type the text directly into the document.

Measurement units preferences



The Units tab lets you choose measurement settings, such as units, precision, and numerical format. Settings on this tab affect the units displayed in the Strokes palette, the status bar of the Canvas window, the measurements in dimension objects, and the precision of settings in the Type palette.

Pen size units Choose inches, millimeters, points, or picas in the pop-up menu to specify how you want to measure pen size in the Pen tab of the Strokes palette.

Number form Set the precision and numerical format for numbers in the status bar, the Type palette, Show Size display, and other numerical displays. You can choose whole integers, up to four-decimal precision, or fractions. The setting you choose affects the measurement precision only, and does not affect the drawing precision.

Virtual memory preferences (Mac OS only)



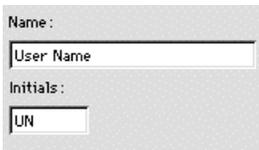
The Virtual tab lets you choose a disk drive, and set other options, for memory management. The memory management feature in Canvas makes it possible to open images and files that require more memory than the amount provided by physical RAM.

Disk Drive Choose a mounted hard disk in the pop-up menu. Canvas uses this disk for virtual memory. The amount of available space on the disk is shown below the pop-up menu.

Use available system memory Turning this option on instructs Canvas to use the allocated system memory first before resorting to its internal virtual memory.

Dynamic Disk Allocation Leave this option on to let Canvas claim and release disk space as needed and available for particular files. If you turn this option off, you can use the “Minimum disk space after allocation” text box to set a limit on how much space Canvas can claim for virtual memory. For example, if you type 50 in the text box, Canvas will leave at least 50 MB free on the disk.

User Info preferences



The User Info tab lets you specify a name and initials for object comments, which you can insert using the Comments command.

Name Type a name in the text box. When you attach a comment to an object, Canvas associates the name you enter with the comment. By default, Canvas uses the name entered when Canvas was installed.

Initials Type initials in the text box. When you attach comments to an object, Canvas associates these initials with the comment.

Customizing the keyboard and Toolbar

With the Customize command, you can assign keyboard shortcuts to commands, tools, attributes, object styles, and font styles. You can also place buttons for these items on the Toolbar at the top of the screen.

To select items to customize

1 Choose File > Customize. In the Customize dialog box, choose items to customize. See “Choosing a category to customize,” next.

2 Use the procedures later in this section to customize keyboard shortcuts or place buttons on the Toolbar. When you finish customizing items, click Close to close the Customize dialog box.

When you close the Customize dialog box, object styles you added to the scrolling list will remain in the list. This lets you customize these styles in any document. Outside of the Customize dialog box, object styles are available only in the document in which you create them.

Choosing a category to customize

In the Category pop-up menu, you can choose which items you want to assign shortcuts or add to the Toolbar.

Commands To select menu commands, choose Menus in the Category pop-up menu. In the Sub-Category pop-up menu, choose the menu you want. The menu's commands appear in the scrolling list.

Tools To select tools, choose Tools in the Category pop-up menu. The names of all tools and their icons appear in the scrolling list.

Attributes To select attributes, choose Inks or Strokes in the Category pop-up menu. Next to the scrolling list, a pop-up palette displays preset inks, or three pop-up palettes display pen strokes, dashes, and arrows. Select an ink or stroke from a palette. The item you select appears in the scrolling list and as a button on the Toolbar.



Inks pop-up palette



Strokes pop-up palettes

To remove an ink or stroke from the scrolling list, select it and click the Remove Selection button; if the item is on the Toolbar, this removes it from the Toolbar also.



Styles To select styles, choose Object Styles in the Category pop-up menu. The names of object styles appear in a pop-up menu below the scrolling list. If no object styles have been created in Canvas, the pop-up menu will be empty.



Font Names and Sizes To select font attributes, choose Font Names and Sizes in the Category pop-up menu. A font size box appears. Select a size, then press the Add Size button. The font size appears in the main scrolling list, and a font size button appears on the Toolbar.



To choose a font, select a name from the pop-up menu. The font appears on the scrolling list, and a font button appears on the Toolbar.

To customize keyboard shortcuts

1 Select an item in the scrolling list in the Customize dialog box. If the item has a keyboard shortcut, the Current Shortcut Key box shows the shortcut keys.

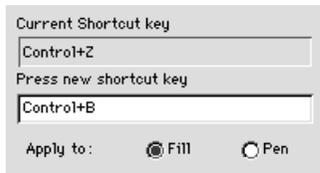
2 To assign a keyboard shortcut, press the keyboard keys you want to use. The keys you type appear in the “Press New Shortcut Key” box. Click Assign to assign the new keys to the item.

Certain keys are restricted, so pressing them will not display their values. Other shortcuts are reserved by Canvas, so they can be assigned, but not applied to some procedures; for example, Ctrl+1, Ctrl+2, and Ctrl+3 cannot be used in painting.

If the keys you type are assigned to another shortcut, the current assignment appears under the “Press New Shortcut Key” box.

You can't assign single keys as shortcuts. For example, you can't assign “H” or “F7” to an item.

- To remove shortcut keys from the selected item, click Remove.
- To restore the default shortcut keys to all commands, click Reset All.
- To restore the default shortcut keys to one command, select the command in the scrolling list and click Reset.



To assign shortcuts to inks

You can create shortcut keys for specific fill inks and pen inks. To assign a shortcut key to a fill or pen ink, select the ink in the scrolling list in the Customize dialog box. Type the keyboard keys you want to use. The keys you type appear in the “Press New Shortcut Key” box. Under the box, select whether you want the ink to be a Fill or Pen ink. Click Assign to assign to the new keys to the ink.

To place buttons on the Toolbar

Select an item in the scrolling list in the Customize dialog box. Inks, Strokes, Object Styles, and Fonts appear on the Toolbar automatically when you add them to the scrolling list. For Menus and Tools, double-click the item in the scrolling list to add it to the Toolbar. A button for the selected item appears on the Toolbar when it is displayed.



Toolbar buttons

To remove an Ink, Stroke, Object Style, or Font button from the Toolbar, click the Remove Selection button under the scrolling list, or double-click the item in the scrolling list. To remove a Menu or Tools button from the Toolbar, double-click the item in the scrolling list.

Arranging buttons on the Toolbar

After you place buttons on the Toolbar using the Customize dialog box, you can change their arrangement directly on the Toolbar.

- To move a button, Shift-drag the button to a new location.
- To remove a button from the Toolbar, press Shift and drag the button away from the bar.
- To add a separator between Toolbar buttons, Shift-drag the button on the right slightly to the right. A separator line appears between the button and the one to its left.

Using ink buttons

When you place buttons for inks on the Toolbar, you can use the buttons to apply fill inks and pen inks, or foreground colors and background colors.

You can apply fill and pen inks to vector objects and text. You can select foreground and background colors for painting.

To apply a fill ink or select a background color for painting, click the ink button on the Toolbar. If no objects are selected, the ink becomes the current fill ink or background color.

To apply a pen ink or select a foreground color for painting, press Option (Mac) or Ctrl (Windows) and click the ink button. If no objects are selected, the ink becomes the current pen ink or foreground color.

Saving and loading configurations

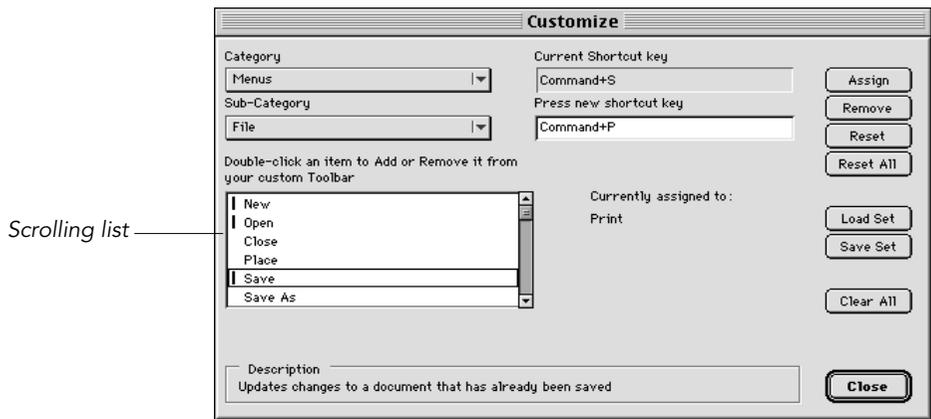
After you customize Canvas, you can save the current configuration in a file. You can create other custom configurations and save these in configuration files. You can load a configuration file to change the Toolbar and the keyboard shortcuts.

A configuration file stores all the current keyboard shortcut assignments and the setup of buttons on the Toolbar.

- ◆ **To save the current configuration:** Click Save Set. In the directory dialog box, type a file name, select a location, and click Save to save the file.
- ◆ **To load a configuration:** Click Load Set. In the directory dialog box, select the configuration file and click OK.

Clearing customized settings

To clear all of the customized settings and Toolbar buttons, press Clear All in the Customize dialog box. Canvas removes all of the customized settings from the scrolling list and all of the buttons from the Toolbar.



Customize dialog box

Use the options in the Customize dialog box to select items, and then create keyboard shortcuts and place buttons on the Toolbar.

Category Choose the category of items to customize. The contents of the scrolling list depend on the Category selection.

Sub-Category For commands, choose the menu containing the commands to customize. The commands in the selected menu appear in the scrolling list.

Scrolling list Displays all tools or styles in the selected category or subcategory (for commands). For inks and strokes, the list contains the inks or strokes you select from the pop-up palettes.

Select an item in the scrolling list to assign a shortcut to it or to place a button for it on the Toolbar. The selected item is highlighted.

Current Shortcut Key Displays the current keyboard shortcut for the selected item, if a shortcut exists.

Press New Shortcut Key With an item selected in the scrolling list, press the keyboard keys you want to assign to the item. To use a modifier key, press and hold Shift, Ctrl, Option, or Command (Mac), or Shift, Ctrl, or Alt (Windows). Press a letter, number, or function key. The new shortcut keys appear in the box.

Assign Click to assign the keystrokes in the Press New Shortcut Key box to the selected item.

Remove Click to remove the current shortcut keystrokes from the selected item.

Reset All Click to restore the default shortcut keys to all items.

Reset Click to restore the default shortcut keys to the item selected in the scrolling list.

Palettes A pop-up palette appears when the Category selection is Inks; three palettes appear when the Category is Strokes. Select an ink or stroke from the palette. The selected item appears in the scrolling list and on the Toolbar.

Remove Selection When the Category selection is Inks, Strokes, Object Styles, or Font Names and Sizes, click the Remove Selection button to remove a selected item from the scrolling list. This also removes a button for the item from the Toolbar.

Save Set Click Save Set to create a file of all current shortcut keys and Toolbar buttons. In the directory dialog box, type a name for the file and click Save.

Load Set Click Load Set to import a file of shortcut keys and Toolbar buttons. In the directory dialog box, select the file to load and click OK. Canvas resets the shortcut keys and the Toolbar according to the configuration stored in the file.

Clear All Click Clear All to clear all of the customized settings in the scrolling list and all of the buttons on the Toolbar.

Close Click to close the Customize dialog box. Inks or strokes added to the scrolling list remain in the list when you close the dialog box.

Saving document templates

You can use a special kind of Canvas document, called a template, as the basis for new documents. Canvas includes many ready-made templates, and you can create your own template documents. Then, when you use the New command, you can select a template — either one supplied with Canvas or one you have created — to create a new document based on the contents and configuration of the template.

A template document stores almost all preferences settings, as well as the settings you specify with the Document Setup command, and other document setup options, including the following:

- Document type: Illustration, Publication, or Presentation
- Configuration of layers, slides, pages, and sheets
- Settings for rulers, grids, guides, and views
- Current inks and strokes settings
- Text styles and default text settings

Canvas stores some settings with the application and not in particular documents, so these settings are not included in a template document. The settings that aren't stored in a template include the position of palettes on the screen and the current set of external tools.

To save a template document

- 1 Use the New command in the File menu to create a new Illustration, Presentation, or Publication document.
- 2 Use the Document Setup command in the Layout menu to select measurement units, document size and orientation, and, for Publications, the margins and column layout.
- 3 Use the Preferences command in the File menu to set up preferences for the document.
- 4 Create or import objects that you want to store in the template.
- 5 Choose Save As in the File menu. In the “File Format” (Mac) or “Save as type” (Windows) pop-up menu, choose Canvas Template and click Save.

For more information, see “Saving Canvas documents” on page 28.

✓ Tip

If you create a template with a small amount of type, such as for a letterhead, convert the type to paths so the template can be used without particular fonts being available.

Loading external tools

Using the ToolPicker, you can choose which drawing, painting, image editing, typography, and import/export tools and commands you want to load for a Canvas work session. By selectively loading tools, you can streamline your work environment, improve system performance, and increase productivity. When you do not load certain tools, Canvas removes their interface items from the menus and toolbox.

By default, Canvas loads all its tools to provide you with the full range of capabilities. You only need to use the ToolPicker to change the current set of tools.

Using tool sets

You can use the ToolPicker to save combinations of tools, called tool sets. Using tool sets makes it easy to quickly select the tools you need for the current Canvas session.

You can create tool sets for specific types of projects. For example, you could save a tool set for image editing, which does not require many of the vector and typographic features of Canvas. Creating tool sets and loading only the necessary tools speeds startup time, and reduces the amount of system resources required to run Canvas.

◆ **To save a tool set:** In the ToolPicker dialog box, select the tools you want to include in the tool set, and then click Save. In the dialog box that appears, type a name for the tool set and click OK. The new tool set name appears in the Tool Sets pop-up menu.

◆ **To delete a tool set:** In the Tool Sets pop-up menu, choose the name of the set you want to remove and click Delete. Canvas asks you to confirm that you want to delete the tool set; click OK to delete the set and close the dialog box.

Note: If you choose a tool set in the pop-up menu, and then modify the list of selected tools and click OK, Canvas loads the currently selected tools and not the ones in the saved tool set. Also, changes you make in the list of tools do not change the saved tool set, unless you delete the tool set and save it again using the same name. You can't save a tool set using the same name as an existing tool set.

Using the ToolPicker

To open the ToolPicker dialog box, launch Canvas and immediately press and hold down the Spacebar until the ToolPicker dialog box appears. After selecting tools to load, click OK to start Canvas.

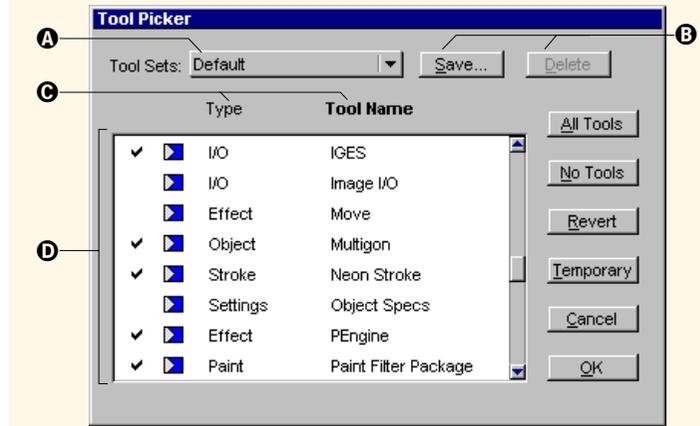
A To load a saved set of tools, choose a tool set in the pop-up menu.

B To save or delete a tool set, click the Save or Delete button. See “Using tool sets,” above.

C To sort the list of tools, click a column heading. Canvas sorts that column in alphabetical order.

D To add or remove tools, click in the left column next to a tool. A check mark appears next to selected tools.

All Tools. Click to select all tools in the scroll list. Canvas



places a check next to each tool.

No Tools. Click to deselect all tools. Canvas removes all check marks in the left column.

Revert. Click to select the same tools that were selected when the ToolPicker opened. Canvas undoes any changes

you made to the list of tools.

Temporary. Click to use the selected tools for the current session only. The next time you start the program, Canvas will load the tools that it loaded before.



OBJECTS & ATTRIBUTES

WORKING WITH OBJECTS

This chapter explains how to work with objects in Canvas. It tells you how to select objects with selection tools or the Find command. It describes common actions, including how to copy, group, lock, move, arrange, flip, and align objects, plus effects you can apply to all objects, including scaling, rotation, and skew. It also tells you how to use the object position data in the Object Specs palette.

Types of objects and common operations

An object is an item that you can select, move, rotate, copy, duplicate, and delete, to name some basic operations. In Canvas, you can work with various types of objects:

Vector objects Geometric shapes — lines, circles, rectangles, polygons, and smooth curves — made with drawing tools. Canvas defines them internally by formulas, which might read like this: “Draw a circle 20 millimeters in diameter starting at coordinates x15 y30.”

Paint objects Frames that hold images — photos, screen pictures, faxes, and paintings — created with scanners or painting tools. Canvas defines them as rectangular areas made of square pixels, with each pixel assigned a color value. As a mass of pixels, they can be cropped, stretched, and filtered, but manipulating millions of pixels and color values can consume a lot of system memory.

Text objects Frames that hold text — numbers, letters and symbols — with character formatting, such as typeface and size, and paragraph formatting, including indents and line spacing. A text object can be empty, or contain up to a full page of text, and it can be linked to other text objects.

Group objects Multiple objects united with the Group command. A group object can be made of one type of object or several types. When grouped, all objects in the group behave like one object.

Each type of object has unique properties, and certain commands apply only to certain types of objects. However, Canvas is designed so you can perform many functions exactly the same on any object.

You can use the same methods to select, copy, move, and arrange them in your documents.

Selecting objects

When you select an object, you distinguish it from other, unselected objects, so that when you choose a command or apply a color, Canvas knows to apply it to the selected object. In most cases, you select objects first, then apply a command or attribute. If you can't apply an attribute, or a command is not available, check to be sure you have correctly selected an object first.

Canvas provides several tools and commands for you to select objects. You can use the most convenient method for each situation. The Selection tools in the toolbox are the primary object-selection tools. You can also use the Select All and Find commands to select objects. Refer to the table “Selection options” for a list of selection tools and commands.

In some cases, you can select parts of objects. For example, you can select an anchor point within a vector object, a word within a text object, and an image area within a paint object. Refer to the following parts of the *User's Guide* for specific selection procedures: Drawing & Vector Effects, beginning on page 311; Text & Typography, beginning on page 387; and Painting & Image Editing, beginning on page 483.

Selection options

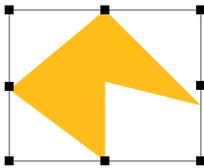
To select	Do this
A single object	Click the object with a Selection tool.
Multiple objects	Shift-click each object with a Selection tool. Canvas for Windows users can also hold down the right mouse button while clicking objects with the left mouse button.
Objects using a selection box	Drag a box around the objects with a Selection tool.
All objects touched by a selection box	With a selection tool, press Option (Mac) or Ctrl (Windows) and drag out a box that touches the objects.
One object within a group object	Click the object with the Direct Selection tool (hollow arrow).
No objects (deselect all objects)	Click a Selection tool in a blank area, or press Enter (Mac) or Esc (Windows).
All objects	Choose Select All in the Edit menu.
An object behind another object	Tab-click the object's location until it is selected.

To select	Do this
Unfilled object	Click the object's border, or press Tab and click inside the object.
An object on a layer other than the current layer, or an object on a master page	Tab-click the object with a Selection tool.
All objects created by a particular tool	Select the tool, then choose Select All in the Edit menu.
Objects based on their attributes	Use the Find command in the Edit menu.

◆ **To select all objects:** Choose Select All in the Edit menu. This command selects every object in a single-layer document. To select all objects on all visible layers in a multi-layer document, change the default selection setting in the Preferences dialog box; see “General preferences,” page 159.

Selection indicators

Canvas indicates that an object is selected by displaying the object's bounding box. The bounding box is a rectangle with solid squares, called handles, at each corner and side midpoint. When an object is selected, its bounding box is visible even if it has attributes (the same color as the background, for example) that make the object itself invisible. Also, a selected object's bounding box is visible even if it's covered by other objects.

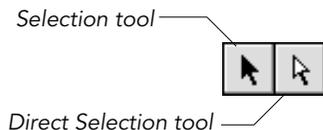


A bounding box with handles surrounds a selected object

When one object is selected, Canvas displays the object type at the right end of the Status bar. When more than one object is selected, the Status bar shows the number of selected objects.

Selecting objects with selection tools

The Selection tool (a filled arrow) selects any object you click. The Direct Selection tool (a hollow arrow) lets you select individual objects within a group object, without first ungrouping.



The Selection tool is the default tool when you start Canvas. Both selection tools are in a toolbar at the top-left of the toolbox. If another tool was selected and you need to return to the Selection tool, click its icon in the toolbox.

◆ **To select one or multiple objects:** With the Selection tool, click an object. To select multiple objects, Shift-click each object you want to select. For Windows only, you can also hold down the right mouse button and click multiple objects to select them.

With the Selection tool, you can drag a selection box around objects to select them. Canvas selects all objects inside the selection box.

Selecting and editing objects with the context menu

You can use the context menu to select an object or place an object in edit mode. Using the context menu can make it easier to select and edit objects that are covered by other objects.

To display the context menu, press Control and press the mouse button (Mac) or right-click the mouse (Windows).

◆ **To select objects using the context menu:** When no objects are selected or in edit mode, point to the object you want to select. If the object is hidden behind other objects, point to its location. Choose **Select > Object Name** in the context menu. Canvas selects the object whose name you choose in the Select submenu. You can choose a vector, text, paint, or group object.

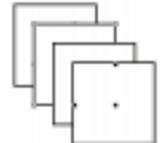
◆ **To edit objects using the context menu:** When no objects are selected or in edit mode, point to the object you want to edit. If the object is hidden behind other objects, point to its location. Choose **Edit > Object Name** in the context menu. Canvas places the object whose name you choose in the Edit submenu into edit mode. You can select a vector, text, or paint object.



Point to hidden object



Select the object in the context menu



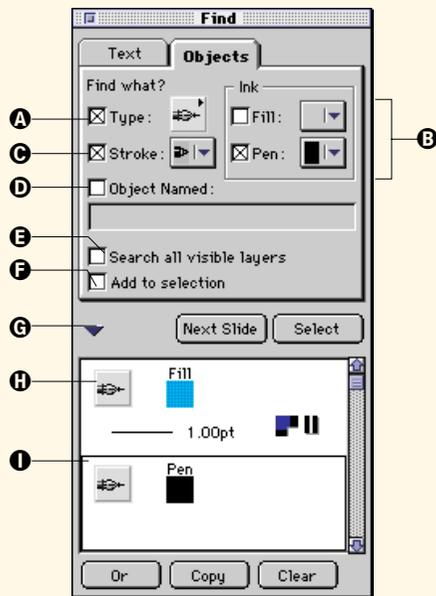
Selected object

Selecting objects based on their properties

You can use the Find command in the Edit menu to select objects by type and attributes, such as rectangles with red fill ink.

In the Find palette, use the Objects tab to set up selection criteria.

- A** To select objects by type, check Type and choose an object type icon in the pop-up menu. Selecting text or paint objects makes Fill, Stroke, and Pen options unavailable.
- B** To select objects by fill or pen ink, check these boxes and choose the inks in the pop-up menus. Only inks used in the document, plus process colors and white, appear in the menus.
- C** To select objects by stroke, check Stroke and choose the stroke in the pop-up menu. Only strokes used in the document appear in the menu.
- D** To select objects by name, check Object Named. Type the name in the text box.
- E** To select objects in the current layer only, uncheck this option.



Using selection sets

- F** Check to select additional objects without deselecting objects that are already selected.
- G** Click to open a window for working with selection sets, which let you broaden a search.
- H** Selection criteria symbols make up a selection set.
- I** The current selection set is boxed. Changing selection options updates this selection set. Click a set to make it the current selection set.

Or. Click to create an empty selection set.

Copy. Click to duplicate the current selection set.

Clear. Click to delete the current selection set. With only one set, Clear is unavailable.

Next Page/Slide. Click to advance to the page or slide and continue searching.

Select. Click to select objects based on the settings.

Copying, cutting, pasting, and deleting objects

Once you select one or more objects, you can perform a variety of basic editing functions. The following are the basic editing commands in the Edit menu:

Command	Result
Copy	Copies a selection to the Clipboard
Cut	Removes a selection and places it on the Clipboard
Clear	Removes a selection without changing the Clipboard
Duplicate	Copies a selection into the same document without changing the Clipboard
Paste	Places the Clipboard contents into the active document
Paste and Place	Places the Clipboard contents into the active document with the upper-left corner at the point where you click

Using the Clipboard to copy objects

The Clipboard is a part of the system that temporarily stores selected objects when you choose the Copy or Cut command. The Clipboard stores the results of one editing action (which can include multiple objects). Whatever is on the Clipboard is replaced by the next selection you place there, including a selection placed by using the Cut or Copy command in another application.

- You can bypass the Clipboard by using the Duplicate command to quickly copy a selected object in the same document without replacing the Clipboard contents.
- Using the Clear command or the Delete keyboard key does not replace the contents of the Clipboard.

When you paste objects into other programs, the Clipboard uses a format that the receiving program understands. However, special types of objects and special object attributes can be lost when pasting objects into other applications. If you can't transfer an object successfully using the Clipboard, consider using a compatible file format to import the object as a file into other programs.

Using Cut, Copy, and Paste commands

The Cut, Copy, and Paste commands let you make copies of objects using the Clipboard. You use Cut or Copy to place objects on the

Tip

You can display the contents of the Clipboard (Mac OS only) by choosing Show Clipboard in the Palettes submenu in the Window menu. Choose Hide Clipboard to close the Clipboard window.

Clipboard, and then choose Paste to place copies in the same document, other open Canvas documents, and also into other programs.

You select one or more Canvas objects before choosing Cut or Copy. You can select text objects, paint objects, vector objects, specialized objects such as dimensions, and group objects. When you choose Cut or Copy, the selected items appear on the Clipboard.

- The Cut command removes selections from the document.
- The Copy command leaves selections in the document.

Using the Paste command to insert the Clipboard contents into a document does not erase the Clipboard. You can use Paste to insert the Clipboard contents as many times as you want. The Clipboard contents remain intact until you use the Copy or Cut command in any application to replace the Clipboard contents with a new selection.

To copy objects by pasting

- 1** Select the objects that you want to copy.
- 2** Choose Edit > Copy. Canvas puts the selected objects on the Clipboard.
- 3** If you want to paste the copied selection into another document, switch to that document. You can switch to an open Canvas document by choosing its name at the bottom of the Window menu.
- 4** Choose Edit > Paste. Canvas pastes the Clipboard contents into the active document. Pasted objects appear selected in the center of the document window.

Selecting formats for copied objects

You can select options when you copy objects to the Clipboard by using the Copy Options command. The Copy Options dialog box lets you choose a format for objects you copy to the Clipboard. You can choose a format that produces the best results when you paste Canvas objects into other programs. These options do not affect objects that you copy and paste in Canvas.

To use Copy Options

- 1** Select the objects to copy and choose Edit > Copy Special > Copy Options.
- 2** Select a format (described next) in the dialog box and click OK. Canvas copies the objects to the Clipboard using the format you

select. You can then paste the objects in the desired format into other programs.

Copy Options formats

In the Copy Options dialog box, you can choose a format for copying objects to the Clipboard. The basic Clipboard format is PICT for Mac OS and WMF (Windows Metafile) for Windows. Other formats let you include PostScript and raster image data on the clipboard.

Copy as PICT / Copy as WMF Copies objects using the standard format for objects copied to the clipboard in Mac OS (PICT) and Windows (WMF). In most cases, this option is the same as using the standard Copy command. PICT and WMF do not support transparency; transparent Canvas objects are not rendered and will appear opaque when pasted into other programs.

Copy with EPS Copies objects to the Clipboard with PostScript information. This can improve the quality of objects that you paste into other applications, including Adobe FrameMaker and Microsoft Word. This option is the same as choosing Edit > Copy Special > Copy With EPS.

Copy With Image Copies objects to the Clipboard as rasterized images at the resolution you specify. Type the resolution you want to use in the Resolution text box. This option is the same as choosing Edit > Copy Special > Copy As Image (although the Copy As Image command does not let you specify a resolution). When you use this option, Canvas renders transparency effects, so that transparency among Canvas objects is preserved. However, most programs do not support transparency, so Canvas objects pasted into another program will not be transparent relative to objects in the other program.

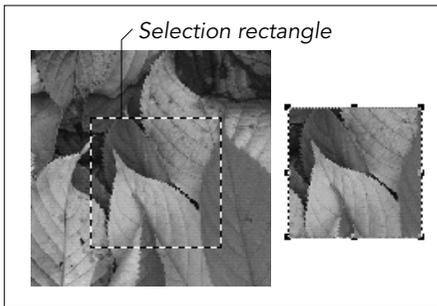
Anti-Alias Softens the edges of objects copied to the Clipboard using anti-aliasing. This is available when you select Copy With Image. Anti-aliasing slightly blurs objects to reduce the jagged appearance of object edges.

Copying selections in objects

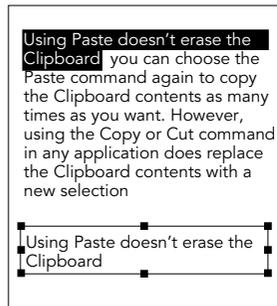
Besides using Cut or Copy to place entire objects on the Clipboard, you can use these commands to place selected parts of Canvas objects on the Clipboard, so you can copy a selection by pasting.

You can cut or copy the following parts of objects:

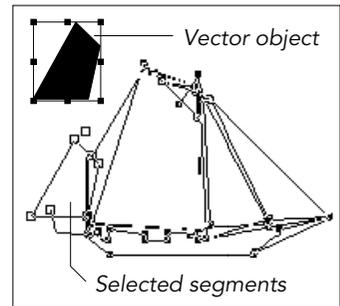
- text selections made by highlighting text in a text object
- image selections made by defining areas, ranges of colors, or loading alpha channels in a paint object
- segment selections made by selecting anchor points of vector objects in path edit mode



A selection copied from an image (left) creates a selected object (right) when pasted into a document



A text object (bottom) results from pasting a copied text selection (top)



A selected vector object (top) results from pasting copied segments of a path

Pasting selections and pasting into objects

When you paste a selection, the result depends on whether an object is in edit mode at the time:

- Pasting with no object in edit mode creates a new, separate object containing the selection.
- Pasting with an object in edit mode usually pastes the selection into the object.

For example, if you copy a highlighted text selection, and then choose Paste when no object is in edit mode, you create a new text object containing only the text you selected. If you choose Paste when a text object is in edit mode, the pasted text appears at the insertion point in the text object. If you choose Paste when a paint object is in edit mode, the selected text appears as a floating image selection in the paint object.

Pasting into text You can paste text into a text object in edit mode. This lets you insert new text cut or copied from another object, and move text from one place to another while editing a text object.

Pasting pixels into images You can paste an image selection into a paint object in edit mode. The pixels that you paste become a floating selection in the paint object.

Pasting objects into images You can paste a vector object or text into a paint object in edit mode. Canvas converts the object into pixels pasted as a floating selection in the paint object. In other words, Canvas rasterizes the Clipboard contents and then pastes an image selection into the paint object.

Placing objects while pasting

You can use the Paste and Place command to copy objects and position the copies anywhere in a Canvas document.

- 1 Copy the objects that you want to paste.
- 2 Press Option (Mac) or Ctrl (Windows) and choose Edit > Paste and Place. The Paste and Place command appears in the Edit menu only when you press the special key.
- 3 After choosing Paste and Place, a Place pointer appears. Position the pointer in the document where you want the top-left corner of the Clipboard contents to appear. Do one of the following to paste the selection:
 - Click to place the Clipboard contents at full size.
 - To set the dimensions of the Clipboard contents, drag to create a bounding box to contain the selection.

Place pointer



Transferring object attributes

You can transfer attributes from one object to other objects using the Paste Attributes command. Transferring attributes can help you maintain consistency between objects.

You can transfer attributes from a source selection — an object or text that has been copied to the Clipboard — to a target selection, which is one or more objects selected in the document. Or, you can retain the source selection attributes as the current attributes — those attributes that you can apply to new objects.

You can use Paste Attributes to transfer inks and stroke settings, object dimensions, effects, and text attributes.

To transfer attributes

- 1 Select an object or text whose attributes you want to transfer.

- If you select multiple objects, only the dimensions of a rectangle encompassing all the objects will be available.
 - If you select a group object, only attributes that apply to the entire group, including the bounding box size and transformations applied to the group object, will be available.
 - If you select a text object, only the attributes common to the entire object will be available.
- 2 Choose Edit > Copy to place the selection on the Clipboard.
 - 3 Select the one or more target objects to receive the attributes. If no objects are selected, the source attributes will be retained as the current attributes and can be applied to new objects.
 - 4 Choose Edit > Paste Attributes. In the Paste Attributes dialog box, select the attributes to paste. Options that appear dimmed were not available in the source selection or cannot be applied to the target selection.
 - 5 Click OK to paste the attributes and close the dialog box.



Vector object



Text object

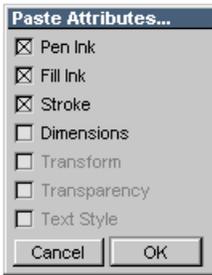


Attributes pasted on text object

Paste Attributes options

Depending on the source selection and the target selection, you can choose options listed in the Paste Attributes dialog box.

An option is available if the attribute was copied from the source selection and can be applied to the selected target objects. The exception to this rule is the Text Style option. The Text Style option is available whenever the source selection is text, even if the target objects are not. In this case, no Text Style attributes will be applied to the target selection, but the Text Style attributes will be retained as the current attributes and can be applied to new text objects.



Fill ink Transfers the source selection's fill ink. You can transfer fill inks if the source selection is a vector object or text that has a fill ink, and the target objects are vector or text objects. If no target is selected, the source fill ink becomes the current fill ink.

Pen ink Transfers the source selection's pen ink. You can transfer pen inks if the source selection is a vector object or text that has a pen ink, and the target objects are vector or text objects. If no target is selected, the source pen ink becomes the current pen ink.

Stroke Transfers the source selection's stroke, including pen, dash, and arrow attributes. You can transfer strokes if the source selection is a vector object or text that has a stroke, and the target objects are vector or text objects. If no target is selected, the source stroke becomes the current stroke.

Dimensions Transfers the dimensions of a rectangle "bounding box" that encompasses the source selection. You can transfer bounding box dimensions from any source object to any selected objects, but not to text selected within a text object. This makes all target objects the same size as the source.

If the source object has been rotated or skewed, you can transfer its original dimensions by selecting Dimensions. To transfer its transformed dimensions, select Transform.

Transform Transfers rotation and skewing applied to the source selection's bounding box. You can transfer these effects to any selected objects.

Transparency Transfers the transparency effects applied to the source selection.

Text Style Transfers the following text attributes from a text source selection to a text target selection: font, type size, text style (bold, italic, and so on), leading, kerning, and justification. You can transfer text attributes when a particular attribute is uniform in the source selection. For example, if different kerning values are applied to characters in the source text, kerning will not be available for transfer to the target text. If no target text is selected, the source text attributes become the current text attributes.

Special copy commands

Several commands let you perform special operations for copying objects to the Clipboard. These commands are Cut Without Com-

ments (Mac only), Copy Without Comments (Mac only), Copy With EPS (Mac only), Copy As Image, Copy at 4X, and Copy at 8X.

Cut Without Comments and Copy Without Comments

In Canvas for Mac OS, you can use Cut Without Comments and Copy Without Comments to place specialized Canvas objects (such as arrowheads, concentric circles, and grids) on the Clipboard as standard objects. This feature is useful if you are having difficulty copying Canvas objects to other applications.

Copy Without Comments leaves the selection in the document and places a copy on the Clipboard, while Cut Without Comments removes the selection from the document and places it on the Clipboard.

The Copy Without Comments and Cut Without Comments commands are available in Canvas for Mac OS only.

◆ **To use Cut or Copy Without Comments:** Select the objects you want to copy, press Shift and open the Edit menu. Choose Edit > Cut Without Comments or Edit > Copy Without Comments.

Copy With EPS

Use the Copy With EPS command in the Edit menu to include Encapsulated PostScript (EPS) information when you copy an object to the Clipboard. Including PostScript information can enhance the quality of illustrations when you paste illustrations generated in Canvas from the Clipboard into other applications, including Microsoft Word and Adobe FrameMaker.

The Copy With EPS command is available on Mac OS only.

◆ **To copy objects with EPS information:** Select the objects to copy and choose Edit > Copy Special > Copy with EPS. Canvas places the selected objects on the Clipboard and includes PostScript formatting information.

Copy as Image

When you want to copy an object, and then paste it into a document created in another application, you can use the Copy as Image command to enhance the printed appearance of the Canvas object. This procedure can smooth out jagged edges and help maintain the object's details.

◆ **To use the Copy as Image command:** Select the objects to copy and choose Edit > Copy Special > Copy as Image. Canvas

places the selected objects on the Clipboard. You can then use another application's Paste command to place the Clipboard contents into a document.

Copy at 4X, Copy at 8X

You can use the Copy at 4X command or the Copy at 8X command to place vector objects on the Clipboard as rasterized objects at specific resolution levels. You might want to do this if you are pasting Canvas vector objects into another program and the objects appear jagged when printed. This can happen when a program prints Canvas vector objects at the low resolution of the screen display.

The Copy at 4X and Copy at 8X commands place selected objects on the Clipboard at specific resolution levels: "4X" indicates resolution 4 times greater than screen resolution and "8X" indicates resolution 8 times greater than screen resolution. 4X approximates the resolution of a 300 dpi printer; 8X approximates the resolution of a 600 dpi printer. Choose the resolution level based on the printing device you are going to use.

When copying and pasting within Canvas documents, these commands perform the same function as the standard Copy command. Using these commands is not recommended for copying paint objects, which are already rasterized at a specific resolution.

◆ **To copy vector objects at increased resolution:** Select the objects to copy and choose Edit > Copy Special > Copy At 4X or Edit > Copy Special > Copy at 8X. Canvas places the selected objects on the Clipboard. You can then paste the Clipboard contents into other applications.

Creating links when pasting on Windows

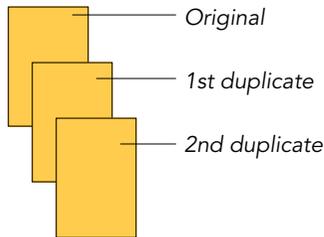
With Canvas for Windows, you can use the Clipboard to place objects into other documents and create links to Canvas as the source application. The Paste command creates a link between a pasted object and the application that created it, using Object Linking and Embedding (OLE), a technology built into the Windows operating system.

Making multiple copies

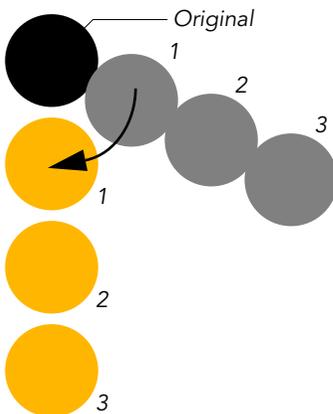
You can use the Copy and Paste commands to make multiple copies of selected objects through the Clipboard. If you want more control

over placement, number of copies, scaling or rotation, you can use the Duplicate and Replicate commands to make multiple copies.

- With a selection on the Clipboard, choose Paste to insert the selection in the center of the active document's current view. Repeat the Paste command to make multiple copies.
- The Duplicate command copies selections immediately and lets you space copies evenly. The Replicate command lets you scale, rotate, and offset multiple copies.



Canvas offsets and stacks duplicates, placing the newest copy in front of the stack.



Duplicated objects are offset a preset amount (gray circles). By moving the first copy and repeating Duplicate, you can set a custom offset distance and direction (orange circles).

Duplicating selections

The Duplicate command quickly copies selected objects into the same document, without affecting the contents of the Clipboard.

◆ **To copy objects into the same document:** Select the objects you want to copy and choose Edit > Duplicate. Canvas creates, offsets, and stacks a copy of the selection in front of the original. To make additional copies, choose Edit > Duplicate again.

The Duplicate command offsets copies a preset distance horizontally and vertically from the original. You can move the copy (without deselecting it) to adjust the offset distance and direction and then repeat the Duplicate command to make more evenly-spaced copies.

You can change the Duplicate command's preset offset values; see “When duplicating objects offset” on page 162.

To duplicate and space copies evenly

- 1 Select one or more vector, text, paint, or group objects to copy.
- 2 Choose Edit > Duplicate. Canvas duplicates the selection and offsets the copy a preset distance from the original.
- 3 The copy must remain selected as you drag it or use the keyboard arrow keys to move it into position. The new position establishes the offset distance and direction from the original selection.
- 4 Choose Edit > Duplicate again. Canvas creates the next copy using the offset defined from the original selection to the first copy. Repeat this step to create additional evenly-spaced copies.

Duplicating objects with the mouse

You can duplicate an object by pressing a modifier key as you drag the object. When an object is selected, you can press a modifier key to duplicate and resize it as you drag a handle. In Freeform mode,

you can press a modifier key to duplicate while rotating or skewing an object.

◆ **To duplicate objects by dragging:** Select the objects you want to duplicate. Press Option (Mac) or Ctrl (Windows) as you drag the objects.

◆ **To make multiple copies while dragging:** Select the objects you want to duplicate. Press Option+Command (Mac) or Ctrl+Alt (Windows) as you drag the objects.

To duplicate while resizing

- 1 Select an object to duplicate.
- 2 Begin to drag a handle on the object's bounding box to the size you want the duplicate to be.
- 3 As you drag, press and hold Option (Mac) or Ctrl (Windows). When you release the mouse button and the modifier key, the duplicate object appears in front of the original.

To duplicate while rotating or skewing

- 1 Select an object and choose Effects > Freeform to put the object in Freeform mode.
- 2 Point to a handle and press Option (Mac) or Ctrl (Windows) as you drag the handle.
 - To rotate the object, drag one of the four corner handles.
 - To skew the object horizontally, drag a horizontal skew handle to the left or right. To skew vertically, drag a vertical skew handle up or down.

The duplicated object rotates or skews depending on which handle you drag. You cannot rotate and skew the object at the same time. When you release the mouse button, the duplicate object is in front of the original.

Creating multiple duplicates

After you duplicate an object using a modifier key, you can make more copies with the same offset distance, angle of rotation, or skew factor.

With a duplicated object still selected, choose Edit > Duplicate. Canvas creates another duplicate and applies the same offset distance, angle of rotation, or skew factor.

Scaling, rotating, and offsetting copies

The Replicate command offers powerful capabilities for duplicating objects. You can use the Replicate dialog box to set the number of copies and to rotate, scale, and position copies with one command.

To replicate a selection

- 1** Select one or more objects to copy and choose Edit > Replicate.
- 2** In the Replicate dialog box, specify the number of copies. Enter the scaling, rotation, and offset values you want to apply. For information on these settings, see “Options in the Replicate dialog box” on page 204.
 - To preview the replication, click Apply. Canvas draws the copies and the dialog box stays open. You can change settings and click Apply to preview the new settings.
 - To cancel the replication, click Cancel. Canvas closes the Replicate dialog box and erases preview copies.
- 3** Click OK to copy the selection and close the Replicate dialog box. The original object is deselected and the copies are selected.

Options in the Replicate dialog box

The Replicate dialog box lets you rotate, scale, and duplicate selected objects.

Copies. Enter the number of objects you want to create.

Rotate. To rotate each copy relative to the preceding object, select Rotate. Type the rotation amount from (minus) -359.0 to 359.0 degrees. The center of rotation is shown in the “Around” box by a hollow handle.

Scale by. To incrementally change the size of each copy, select Scale by. In the pop-up menu, choose Percentage, Length, or Ratio. In the text boxes, enter horizontal (↔) and vertical (↑↓) scaling factors.

Percentage scales each copy by the specified percentages of the preceding object’s dimensions. Enter whole numbers from 1% to 999%.

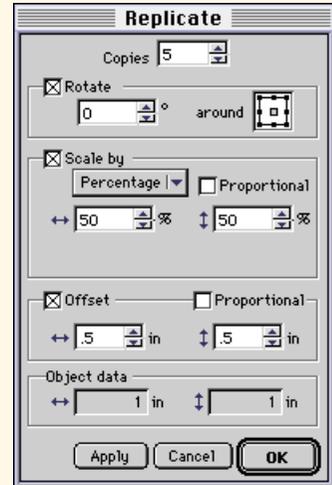
Ratio lets you resize copies by fractional amounts. Canvas scales each copy to ratios of the previous object’s horizontal and vertical dimensions.



Type ratios with whole numbers from 1 to 999. The left number represents the copy; the right number represents the previous object. A 1/1 ratio maintains dimensions; 1/2 halves dimensions; 2/1 doubles dimensions.

Length increases or decreases by a fixed amount each copy of the object using the values in the horizontal and vertical text boxes.

Proportional. If selected, Canvas makes the vertical value in the Scale by or Offset area equal to the horizontal value.



Offset. Check this option to place copies a specified distance from the previous object. In the text boxes, enter the horizontal and vertical offset distance. Positive numbers offset copies up and right; negative numbers offset objects down and left.

Object data. Displays the selection’s height and width. These values can’t be edited.

Grouping and ungrouping objects

✓ Tip

After you group objects, you can select individual objects in the group with the Direct Selection tool.

You can use the Group command to unite objects that you want to keep together as one unit. You can group individual objects as well as already-grouped objects. When you no longer want to keep a group together, you can separate the original objects with the Ungroup command.

◆ **To group objects:** Select the objects that you want to group. Choose Object > Group. Canvas replaces the bounding boxes of the individual objects with a single bounding box.

◆ **To ungroup objects:** Select one or more grouped objects that you want to separate. Choose Object > Ungroup. Canvas separates the group and leaves the individual objects selected. If any of these objects are group objects, you can further ungroup them by choosing Object > Ungroup again.

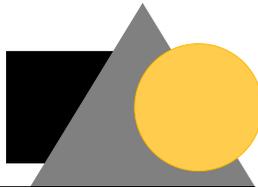
When you apply a command to a group object, the effect in most cases is the same as if you applied the command to each object in the group individually.

Grouping and stacking order

Grouping objects can change the stacking order of the objects relative to objects outside the group.

For example, you have three overlapping objects. If you group the front and back objects, the group moves to the back and the middle (not grouped) object becomes the frontmost object.

The black square is behind the gray triangle, which is behind the orange circle in the stacking order



After selecting the square and circle and grouping them, the group goes behind the triangle in the stacking order



Moving objects

You can move objects by dragging them, by using the keyboard arrow keys, and by using the Transform palette. You can also use the Move command to specify a position change, and the Object Specs palette to specify exact coordinates.

When you drag an object, the Status bar shows the change in the object's x- and y-coordinate position. You can specify the format and precision of this data in the Preferences dialog box.

You can make precise positioning easier by turning on the autogrid so that objects you drag snap to preset ruler increments. You can also place alignment guides that objects will snap to in a document.

◆ **To move an object using the Selection tool:** Position the pointer on the object and drag. If you drag as soon as you press the mouse button, an outline of the object follows the pointer. To see the entire object as you drag, pause after you press the mouse button, and then drag.

You can press modifier keys as you drag objects to constrain movements and perform other functions.

To	Do this
Constrain movement to 45 degree increments	Press Shift while dragging
Copy objects by dragging	Mac: Press Option while dragging Windows: Press Alt while dragging
Leave a trail of object copies	Mac: Press Command + Option while dragging Windows: Press Ctrl + Alt while dragging

◆ **Moving objects using the keyboard:** To move objects left, right, up, or down, press the corresponding arrow key. You can use the modifier keys shown in the following table to move greater distances.

To move objects	Do this
1 pixel to the left, right, up or down	Press left, right, up or down keyboard arrow key
10 pixels to the left, right, up or down	Mac: Press Option and an arrow key Windows: Press Alt and an arrow key
50 pixels to the left, right, up or down	Mac: Press Command and an arrow key Windows: Press Ctrl and an arrow key

You can change the default distances that keyboard keys move objects; see “When moving objects offset” on page 162.

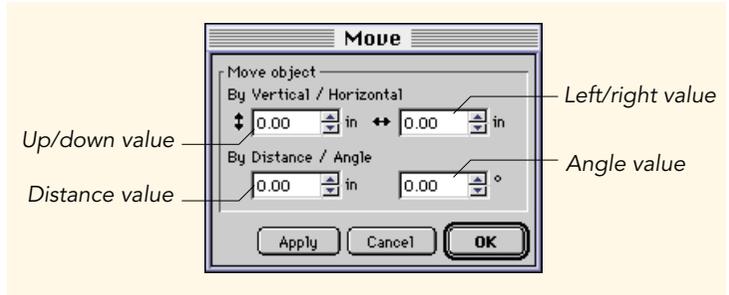
Moving objects a specified distance

Use the Move command to specify distance and direction.

- 1 Select the objects you want to move and then choose Object > Move.
- 2 In the Move dialog box, enter values in the first or second row of text boxes. Use positive numbers to move up and to the right. Use negative numbers (type a minus sign before the numbers) to move down and to the left.
- 3 Click Apply to preview or OK to implement the Move settings.

Tip

You can specify angular movement in 0.01 degree increments. The movement direction depends on the coordinate system setting in the Preferences dialog box; see “Coordinate System” on page 161.



Arranging objects in the stacking order

Each object in a Canvas document is part of a stack of objects on the same layer. Each object has a position in the stack. Unless you rearrange objects, the newest object is in front of the stack and the oldest object is in the back. An object that you create or paste appears at the front of the stack.

Stacking order affects the appearance of objects when you view and print them. Like actual objects placed in a stack, the front object in the stack blocks objects behind it. An object’s position in the stack also is a factor in alignment and combining operations.

Commands in the Arrange submenu in the Object menu let you change an object’s position in the stack. You can move objects to the front or back, and you can move objects one level at a time toward the front or back of the stack.

◆ **To change an object’s position in the stack:** Select the object and choose a command in the Object > Arrange submenu.

Command	Result
Bring to Front	Moves selected objects to the front of the stack
Send to Back	Moves selected objects to the back of the stack
Shuffle Up	Moves selected objects one step toward the front
Shuffle Down	Moves selected objects one step toward the back

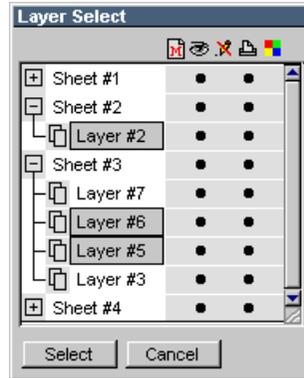
Arranging objects on layers and pages

Commands in the Arrange submenu in the Object menu let you move and copy selected objects to other layers on the same page and to layers on other pages.

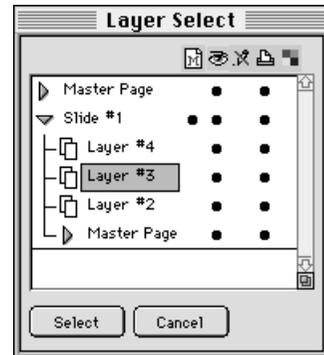
To send or copy objects to another location

- 1 Select the objects, and then do one of the following:
 - Choose Object > Arrange > Send to Layers to move objects to new locations.
 - Choose Object > Arrange > Copy to Layers to copy objects to new locations.
- 2 In the Layer Select dialog box, click one or more layers to designate them as the destination for the selected objects.
- 3 Click Select. Canvas copies or moves the selected objects to the destination layer or layers.

Note: The destination layer for the objects cannot be locked.



Windows



Mac

Locking and unlocking objects

When you want to secure objects from unintentional changes, you can lock them. A locked object can't be moved, edited or deleted, and its attributes can't be changed. If you try to alter a locked object, Canvas alerts you that the selection is locked. However, you can select and copy locked objects and the copies won't be locked.

- ◆ **To lock or unlock objects:** Select the objects that you want to lock or unlock. Choose Object > Lock or Object > Unlock.

How commands affect locked objects

If you apply the Align command to several selected objects, and one object is locked, the other objects align to the locked object.

If you group several objects and one of the objects is locked, all the objects are positioned behind the locked object in the stacking order.

Aligning and distributing objects

You can use the Align palette to quickly and precisely position objects. As the reference point for alignment and distribution, you can choose points on the objects or the document. The Align palette can stay on screen as you work with different selections, making it easy to quickly access these features.

You can apply alignment and distribution options to vector objects, group objects, paint objects, and text objects. You can align and distribute objects in separate or combined operations.

Aligning objects When aligning objects, Canvas lines up key points on the objects in relation to the reference point you choose. You can choose left, right, top, bottom, or center alignment.

Distributing objects When distributing objects, Canvas spreads them out over a specified area and equalizes the space between the key points. You can choose left, right, top, bottom, inside, outside, or center as methods for distribution. For example, if you choose left edges for distribution, the left-most point in each object is an equal distance from the leftmost point in each of its neighbors.

If one of the objects you select for alignment is locked, other objects align relative to it. When distributing objects, Canvas places all objects relative to each other.

Align palette

Choose Object > Align to open the palette. Select the objects you want to arrange. Click Apply to implement the current settings.

A Choose the reference for alignment and distribution:

Each Other: With respect to the other selected objects.

Grid: To the nearest grid increment.

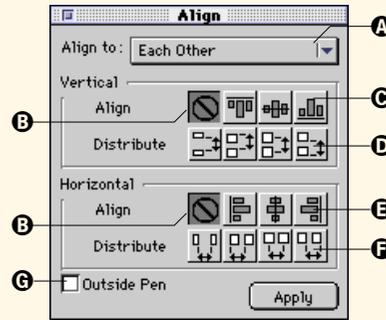
Printable Area: With respect to the printer page or tile.

Document: To a specified location in the document. If you center an object in a multi-page illustration, portions can appear on multiple tiles.

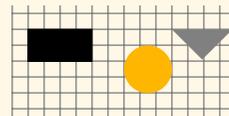
In the Vertical and Horizontal areas, click buttons for alignment and distribution options. Active buttons are recessed.

You can select an alignment or distribution option, but not both, in each area.

B For no change in position,



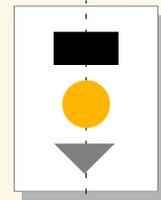
Align to Grid



Align to Each Other



Align to Page



click the first button in either the Vertical or Horizontal area.

C **Vertical Align.** (Left to right) None, top, center, and bottom.

D **Vertical Distribute.** Inside, top, center, and bottom.

E **Horizontal Align.** None,

left, center, and right.

F **Horizontal Distribute.** Inside, left, center, and right.

G **Outside Pen.** Check this option to use the outside edge of objects' strokes when aligning or distributing objects. Otherwise, Canvas uses the center of the stroke.

Rotating, skewing, and flipping objects

You can rotate Canvas objects clockwise or counter-clockwise, flip them on one or both axes, and skew their bounding boxes. You can rotate and skew around an object's center, or move the centerpoint to any location.

When you rotate an object, the object's bounding box also rotates. If you drag a selection handle of a rotated object, the bounding box changes shape in the rotated orientation, so you can resize an object

without distorting its basic shape. If you need to, you can also return the rotated bounding box to its original orientation by choosing Object > Paths > Convert To Paths.

◆ **Removing effects:** After you rotate, skew, or flip objects, you can return them to their original orientation and shape. Select the objects and choose Effects > Remove Effects.

Rotating and skewing in freeform mode

When you put an object in freeform mode, you can rotate and skew it by dragging special handles.

◆ **To put an object in freeform mode:** Select the object and choose Effects > Freeform. Rotation and skewing handles and the object's centerpoint appear.

You can also put a selected object in freeform mode by clicking it. This depends on a setting in the Preferences dialog box; see “General preferences” on page 159.

◆ **To end freeform mode:** Click away from the object, or press Enter (Mac) or Esc (Windows).

Rotating objects in freeform mode

In freeform mode, the circular handles at each corner of the bounding box are rotation handles. The circle and crosshair in the center of the object is the point around which the object rotates.

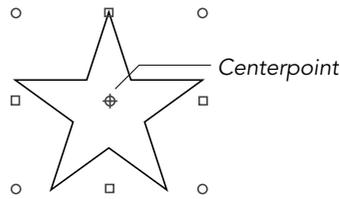
◆ **To rotate an object in freeform mode:** Drag one of the four corner handles. An outline of the object rotates as you drag a handle.

◆ **To set the center of rotation:** Drag the centerpoint to a new location anywhere on the screen. To make the centerpoint snap to one of the handles or the center, press Shift as you drag.

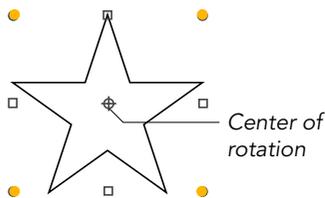
Skewing objects in freeform mode

When an object is in freeform mode, you can slant its shape by dragging the horizontal and vertical skew handles. Skewing an object reshapes it by changing the relationship of the horizontal and vertical axes to the skew centerpoint.

Canvas skews objects around a centerpoint that you can position to achieve the effect you want. You can drag the centerpoint to any position inside or outside the object. The location of the skew centerpoint changes the effect of dragging a skew handle on the object.



Object in freeform mode



Rotation handles (highlighted) in freeform mode

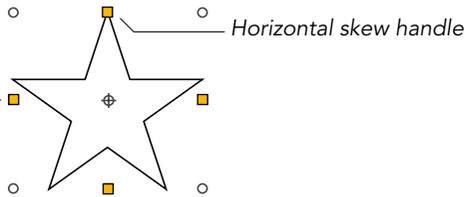
To position the centerpoint on one of the freeform handles or in the center of the object, Shift-drag the centerpoint to place it.

◆ **To skew an object horizontally:** Drag a horizontal skew handle to the left or right.

◆ **To skew vertically:** Drag a vertical skew handle up or down.

Skew handles (highlighted) in freeform mode

Vertical skew handle



Freeform editing of floating image selections

Use the Freeform command to place floating image selections in freeform edit mode. When you put an image selection in freeform mode, you can rotate and skew it by dragging special handles.

To float a copy of a selection

1 With a paint object in edit mode, make a selection with the Marquee or Lasso tool. The selection can encompass the entire paint object.

2 Do one of the following:

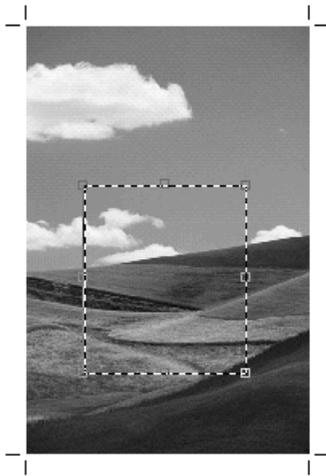
- Choose Image > Select > Float.
- Option-drag (Mac) or Ctrl-drag (Windows) the selection. This moves the selection and puts it in freeform mode.

You can also paste an object into an image in edit mode. The object pastes into the image as a floating selection.

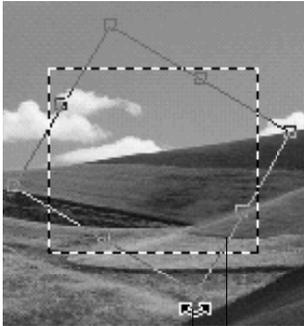
For more information on image selections see, “Working with image selections” on page 552.

◆ **To put a floating image selection in freeform mode:** While a floating image selection is active, choose Effects > Freeform. Handles appear on the corners and sides of the floating selection.

◆ **To move a selection in freeform mode.** Place the pointer inside of the selection. The pointer becomes an arrow head. Drag to move an outline of the selection.



A floating selection in freeform mode in an image



Rotation pointer
Rotation outline



Scale pointer

Rotating selections in freeform mode

In freeform mode, while the pointer is outside of the selection, the pointer is a curved line with an arrow at both ends. This is the rotation pointer.

Drag around the selection in the direction you want it to rotate. An outline of the selection rotates as you drag.

- Press the Shift key to constrain the rotation to 15-degree increments.

Scaling selections in freeform mode

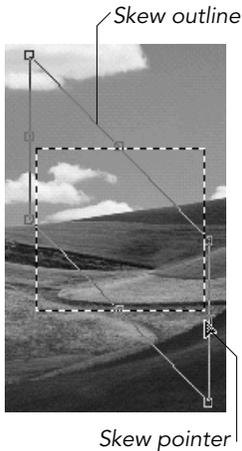
You can scale a floating selection in freeform mode by dragging the corner or side handles.

◆ **To scale a selection:** Point to one of the handles at the edges of the selection. The pointer changes to a straight line with an arrow at each end. Drag any of the handles. The selection scales as you drag.

- If you drag a side handle, the scaling is constrained to the direction of the arrows in the pointer – the direction perpendicular to the handle side.
- If you drag a corner handle, the scaling is unconstrained unless you press the Shift key.
- Press the Command key (Mac) or the Alt key (Windows) to mirror the scale on the opposite side of the selection.

Skewing selections in freeform mode

When a selection is in freeform mode, you can slant its shape by dragging the side handles with the Ctrl key pressed. Skewing a selection reshapes it by changing the relationship of the sides of the selection.



◆ **To skew a selection:** Press the Ctrl key and move the pointer over one of the side handles. The pointer changes to an arrow head. Drag the handle to skew the selection freely.

- Press the Shift key to constrain the skew along the axis of the handle side.
- Press Command (Mac) or Alt (Windows) to have the opposite side of the selection skew to maintain its relationship to the side you are skewing around the center of the selection.

The modifier keys can be combined to produce both skewing effects simultaneously.

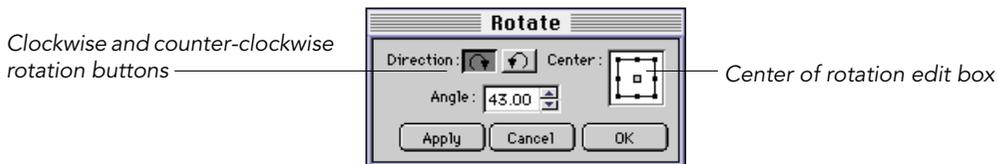
◆ **To end freeform editing:** Double-click inside the selection or press Enter twice. The floating selection is still active. Then double-click outside the paint object or press Enter twice to paste the pixels as defined by the floating selection into the image.

If you do not want to change your original image, press Esc to leave freeform mode. Canvas makes no changes to the image.

Rotating objects with the Rotate command

For precise rotations, you can use the Rotate command to rotate selected objects in 0.01 degree increments around a center of rotation you specify. This command is useful when you need to rotate multiple objects an exact amount.

- 1 Select the object you want to rotate.
- 2 Choose Effects > Rotate.



- 3 In the Rotate dialog box, click the clockwise or counter-clockwise button to choose a rotation direction.
- 4 Enter the rotation angle in degrees in the Angle text box.
- 5 The Center edit box shows the center of rotation as a gray handle. To change it, click one of the black handles on the bounding box; the gray handle snaps to the new location.

6 Click Apply to preview the settings, or click OK to implement the settings and close the dialog box.

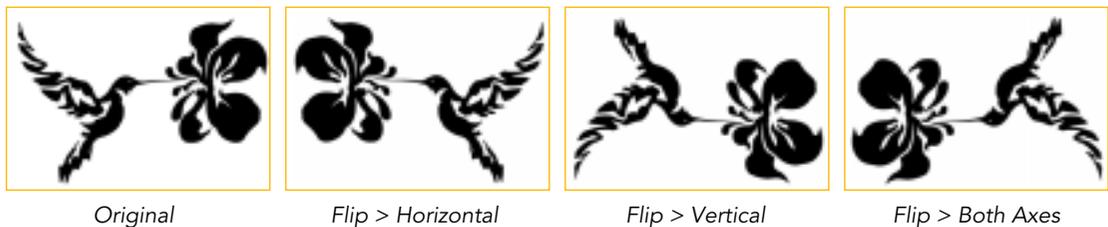
Editing rotated objects

When you rotate an object, the object's bounding box also rotates, so you can reshape and resize the object in rotated space. If you drag a handle, the object's sides keep their rotated orientation. This prevents distortion of the original shape.

Rotated bounding box	Unrotated bounding box
<p>The bounding box of a rotated square has the same orientation as the rotated object...</p>	<p>If you choose Convert to Paths, Canvas re-oriens the bounding box of a rotated object...</p>
<p>... so the object maintains its rectangular shape, shown by the dotted lines, when you drag the bounding box handles.</p>	<p>... so the object's rectangular shape distorts when you drag a handle on the bounding box, as shown by the dotted lines.</p>

Flipping objects

You can flip objects horizontally, vertically, and both horizontally and vertically, with the Flip commands in the Effects menu. You can flip individual objects, multiple selected objects, or grouped objects. When you flip a group object, objects included in the group flip around the axes of the group's bounding box.



- ◆ **To flip a selected object from top to bottom:** Choose Effects > Flip > Vertical. The Vertical command flips the selection's vertical coordinates over its horizontal axis.
- ◆ **To flip a selected object from left to right:** Choose Effects > Flip > Horizontal. The Horizontal command flips the selection's horizontal coordinates over its vertical axis.
- ◆ **To flip a selection around both axes:** Choose Effects > Flip > Both Axes. Canvas flips the selection's horizontal coordinates over its vertical axis and its vertical coordinates over its horizontal axis.

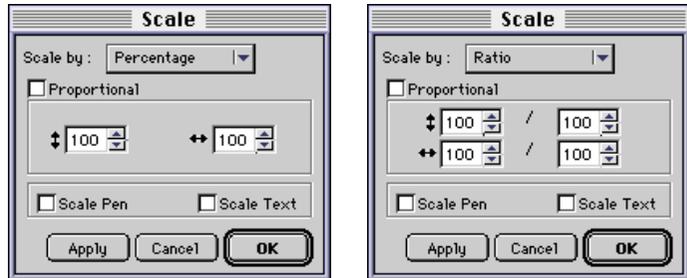
Scaling objects

The Scale command in the Object menu provides several options for enlarging or reducing objects. You can scale by a percentage or ratio, horizontally and vertically. You can also scale text and stroke weights when you scale objects.

To scale an object

- 1 Select one or more objects and choose Object > Scale to open the Scale dialog box.
- 2 Select a scaling method in the Scale By pop-up menu. The configuration of the dialog box depends on which option you choose.

Depending on the Scale by method you choose, the Scale dialog box displays different options.



Percentage You can specify vertical and horizontal percentages. Scaling an object 150 percent is the same as increasing the object's size by a factor of 1.5, for example.

Ratio You can specify horizontal and vertical scaling factors as ratios by entering numbers in each set of two boxes.

 **Tip**

You can also scale an entire document when you print it, without changing the objects in the document, by specifying a scaling factor in the Print dialog box.

For example, to scale an object to one-third its original height, enter “1” in the first text box, and “3” in the second.

- 3** To scale an object vertically and horizontally by the same amount, turn Proportional on.
- 4** To maintain the proportion between an object’s pen size and the overall size of the object, turn Scale Pen on.
- 5** If one of the selected objects contains text, you can turn Scale Text on to change the size of the characters. Otherwise, text remains the same size.
- 6** Click Apply to implement the settings.
- 7** Click OK to scale the object.

Using the Object Specs palette

The Object Specs palette provides several important features for working with objects.

The Object Specs palette displays data for selected objects and lets you modify settings for selected objects. It also lets you create objects by specifying size, position, and object type.

The Object Specs palette contains tabs labeled Data, Options, and Styles.

- The Data tab lets you create objects. You can also use the Data tab to edit the size, position, and other settings of selected objects.
- The Styles tab lets you create, modify, and apply object styles.
- The Options tab lets you set printing options, including overprinting and trapping for color separations.



A Object Type palette

To display the Object Specs palette

Choose Object > Object Specs. The palette can remain open while you work. You can change coordinates, dimensions, or other settings, and then click Apply to implement them.

To create an object

- 1 On the Data tab, choose an object type from the Object Type palette. You can create rectangles, ovals, arcs, polygons, and lines.
- 2 Enter values for the object's size and position in the text boxes. The type of data you can enter depends on the object type.
- 3 Click Create to create the object.

Editing object data

You can use the Data tab to create objects, and to view and edit data for selected objects.

The Data tab displays information for a selected object or group object. If you select a group object, you can change the group's size and coordinates, but not an individual object within the group.

When more than one object is selected, the boxes on the Data tab are not available, because you can't edit the position or dimensions of multiple selected objects.

After you edit the values on the Data tab, click Apply to apply the changes to the selected object.

Data display options

You can choose the type of data to display on the Data tab. You can choose Height/Width or Top/Bottom for all objects except lines. For lines, you can choose Start/End, Delta V/H, or Length/Angle.

Height/Width Type values in the text boxes to specify the vertical and horizontal dimensions of the object.

Top/Bottom Type values in the text boxes to specify the position of the top, bottom, left, and right edges of the object, relative to the document rulers.

Start/End Type values in the text boxes to specify the position of the first and last endpoints of a line.

Delta V/H Type values in the text boxes to specify the position of the first endpoint, and the distance from the first endpoint to the last endpoint of the line.

Length/Angle Type values in the text boxes to specify the position of the first endpoint, and the length and angle of the line.

Position data

The type of data that is displayed on the Data tab depends on whether you choose Height/Width or Top/Bottom, Start/End, Delta V/H, or Length/Angle.

Left Type the horizontal distance from the ruler's zero point to the left edge of the object.

Top Type the vertical distance from the ruler's zero point to the top edge of the object.

Height Type the height of the object, relative to the top edge of the object.

Width Type the width of the object, relative to the left edge of the object.

Bottom Type the vertical distance from ruler's zero point to the bottom edge of the object.

Right Type the horizontal distance from the ruler's zero point to the right edge of the object.

St V Type a value to position the first endpoint of a line, relative to the vertical ruler's zero point.

St H Type a value to position the first endpoint of a line, relative to the horizontal ruler's zero point.

End V Type a value to position the last endpoint of a line, relative to the vertical ruler's zero point.

End H Type a value to position the last endpoint of a line, relative to the horizontal ruler's zero point.

Delta V Type a value to position the last endpoint of a line, relative (vertically) to the first endpoint of the line.

Delta H Type a value to position the last endpoint of a line, relative (horizontally) to the first endpoint of the line.

Length Type a value to specify the length of a line.

Angle Type a value to specify the angle of a line.

X Type a value to position a handle of a polygon, relative to the horizontal ruler's zero point.

Y Type a value to position a handle of a polygon, relative to the vertical ruler's zero point.

Start Type a value to specify the starting point of an arc in degrees.

Delta Type a value to specify the length of an arc segment in degrees.

Diag Type a value to specify the roundness of the corners of a rounded rectangle.

Data tab settings

The Data tab includes object size and position data and related options. The tab displays additional options when you select text. The text options let you change the shape of a text object or change the way text wraps in its bounding box.

- A** For a selected object, shows the object type, usually an icon of the tool that created the object. To create an object, select oval, rectangle, arc, line, or polygon.
- B** Select the type of data to display. You can choose Height/Width or Top/Bottom for all objects except lines. For a line, you can choose Start/End, Delta V/H, or Length/Angle.

When an object is selected, you can change the values in the text boxes to resize or reposition the selected object. If Keep Proportions is checked, Canvas maintains the proportion of the object if you change either the height or width (on Mac, the calculation occurs when you press the Tab key or click Apply).

- C** Displays the document's measurement units.
- D Position data.** The type of data that appears in the boxes, and their labels, depends on whether you choose Height/Width or Top/Bottom, Start/End, Delta V/H, or Length/Angle.

Area. Shown when Canvas can calculate the area occupied by a selected object's bounding box. When you select text, the horizontal insets text box replaces the Area text box.

Perim. Shown when Canvas can calculate the perimeter, or distance around, a selected object's bounding box. When you select text, the vertical insets text box replaces the Perim text box.

Object name.
Type a name for the object.

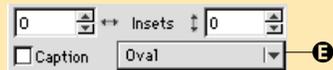
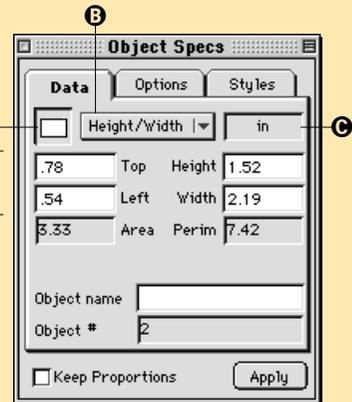
Object #. The object number assigned by Canvas.

Keep Proportions. Select this option to keep an object's height and width proportional when you are editing the object's dimensions.

Apply. Click to apply the current settings. The Apply button changes to Create when no object is selected and you choose an object type to create.

Text object settings

Insets. Change the proportions of a text object's back-



Text object settings

ground. Type values, in pixels, in the text boxes to specify the horizontal and vertical size of the text object's background.

E Change the shape of the text object's background to a rectangle, round rectangle, oval, or diamond.

Caption. Select or deselect to change the way text wraps in its bounding box. Text that is not captioned wraps to the next line based on the boundaries of the text's bounding box.

You cannot use the Caption or Insets options with text that you created using the Path Text tool, or text that you converted to paths.

Working with object styles

An object style is a set of attributes you can save and then apply to objects. Object styles help you maintain consistency and make applying attributes easier. You can edit and reapply styles to objects, rather than editing each attribute.

To create an object style

- 1 Display the Object Specs palette and select the Styles tab.
- 2 Select an object on which you want to base a style.
- 3 Click the Create button in the Object Specs palette.
- 4 In the dialog box, type a style name in the Name text box.
- 5 Select the check boxes for attributes you want to include in the object style and click OK to save the style.



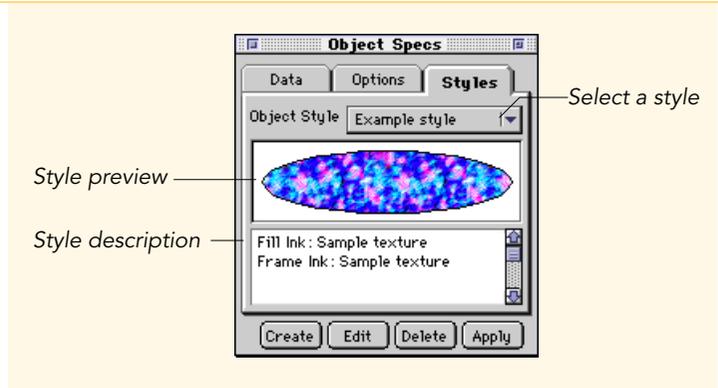
Object styles

The Styles tab in the Object Specs palette lets you create, apply, and edit object styles.

Object style. This pop-up menu contains the names of object styles saved in the document. To apply a style to selected objects, choose the style from the pop-up menu.

Previews of selected styles appear in the area under the Object Style menu.

Style descriptions are listed in the area under the style example. The scrolling list describes the fill, stroke, pen size, miter, dash, arrow, and arrowhead settings for the selected style.



Create. To create an object style with the attributes of the selected object, click Create. Use the Create Object Style dialog box to name the new style and specify which attributes to include.

Note: creating a style does not apply it to the selected object.

Edit. To change attributes of the current style, click Edit.

Delete. To delete the current style, Click Delete.

Apply. To apply the current style to selected objects, Click Apply.

The following attributes of a selected object can be saved as a style.

Fill Ink The fill ink of the object in the style. The name of the fill ink appears to the right of the check box.

Pen Ink The pen ink of the object in the style. The name of the pen ink appears to the right of the check box.

Stroke The stroke attributes of the object, such as pen size and miter, in the style.

Dash The dash pattern of the object in the object style.

Arrow The arrowhead style of the object in the style.

To delete an object style

- 1 Display the Object Specs palette and select the Styles tab.
- 2 Choose the Object Style to delete from the pop-up menu. A preview and the style's description appear on the tab.

3 Click the Delete button. Canvas removes the style's preview and description, and removes the style's name from the Object Style pop-up menu.

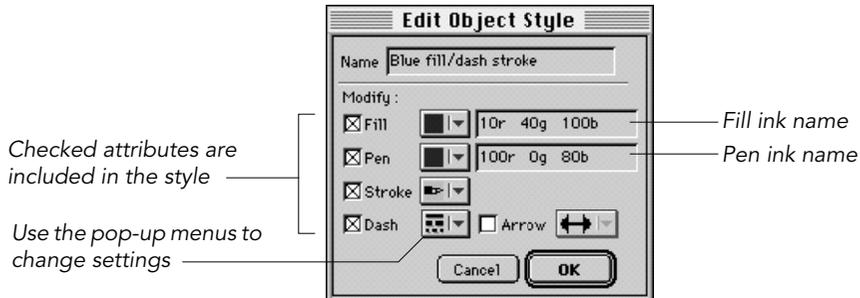
To edit a saved object style

After you create an object style, you can modify it at any time.

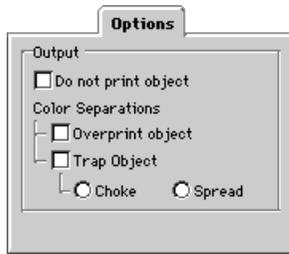
1 To edit an object style, choose the style to edit in the Object Style pop-up menu.

2 Click the Edit button to open the Edit Object Style dialog box, which shows the selected style settings. You can change which attributes are part of the style, and the attributes' settings:

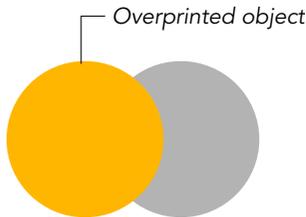
- To add or remove attributes from the style, select or deselect the Fill, Stroke, Pen, Dash, or Arrow checkboxes.
- To change attribute settings, use the Fill, Stroke, Pen, Dash, or Arrow pop-up menus.
- To prevent creation of a new object style while you edit an existing one, the Name text can't be changed.



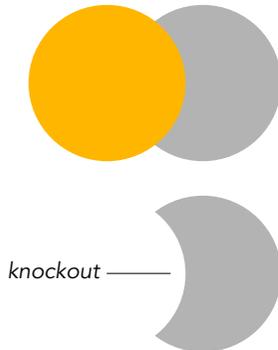
Setting print properties for objects



The Options tab in the Object Specs palette



Overprinting produces a color mixture where the orange circle overlaps the gray circle. This effect isn't visible on screen.



Without overprinting, the orange circle knocks out part of the gray circle.

You can tell Canvas to treat specific objects differently when printing a document. The Options tab in the Object Specs palette lets you designate selected objects as non-printing, or makes them overprinted or trapped in color separations.

Overprinting in color separations

When you output color separations in Canvas, you can specify that an object should overprint, rather than knock out, objects behind it.

In color separations designed for commercial printing, a front object usually “knocks out” a hole where it overlaps other objects. However, you can apply the Overprint Object option to an object to prevent it from creating knockouts in objects behind it. This can compensate for registration problems on some printing presses.

For example, if you draw a cyan circle on a yellow background, Canvas knocks the circle out of the background in color separations so cyan and yellow do not mix in the circle. If you select the circle and use the Overprint Object option, the circle will print over a solid yellow background, and the cyan in the circle will mix with the background yellow, resulting in a green circle.

The effect of the Overprint Object option is not visible on screen. This effect is visible only in the printed output when you produce color separations. You can verify the settings for a particular object by viewing the Options tab in the Object Specs palette and then selecting the object.

Color mixing as described in the previous example is not the primary reason for overprinting. It's more common for designers to overprint dark objects on lighter backgrounds as a way to prevent a gap from appearing between the colors if the press registration (alignment) isn't perfect.

To specify overprinting for objects

- 1 Select the vector or text objects to be overprinted.
- 2 Select the Overprint Object checkbox on the Options tab in the Object Specs palette.
- 3 Click Apply. The appearance of the selected objects does not change on screen, but the objects will be overprinted in color separations.

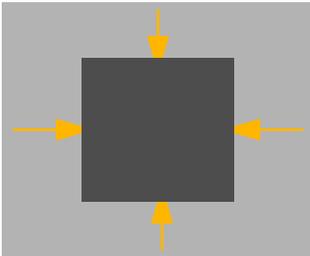
◆ **To remove overprinting:** Select the objects, clear the Overprint Object checkbox on the Options tab, and then click Apply.

Trapping in color separations

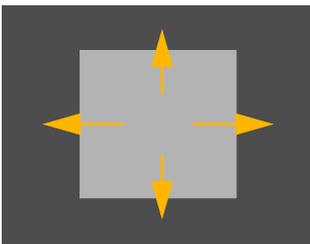
When objects of different colors touch, there is the potential for an unsightly gap to appear between the colors if the piece isn't printed precisely aligned, or "in register."

Trapping is a technique that purposely distorts the shapes of objects in color separations where different colors meet. The slight distortion creates tiny areas called "traps" where colors overlap. The trap areas can help avoid the appearance of gaps if the page is printed slightly out of register.

Before you use trapping in color separations, you should determine how likely it is that the piece will not be printed in register. You should consider how beneficial it will be to distort the shape of some objects to compensate for possible misregistration. For example, trapping type can ruin the appearance of the text, and probably isn't necessary.



Choke trapping reduces the background knockout slightly to trap into a dark foreground object.



Spread trapping enlarges the stroke of a foreground object slightly to trap into a dark background object.

Trapping choices

Canvas lets you specify two types of trapping, Choke and Spread.

Choke trapping is used to make light background colors trap to dark foreground objects. Canvas creates a choke trap by slightly reducing, ("choking") the knockout area in the light background object.

For example, if a dark blue "A" is printed on a pale yellow background with choke trapping applied to the "A," the "A" remains exactly the same, but the knockout area in the yellow background becomes a slightly smaller "A" shape. The result is that some of the yellow overlaps the edges of the dark blue "A."

Spread trapping is used to make light foreground objects trap into dark backgrounds. The trap is created by slightly enlarging the foreground object without changing the knockout in the background color. For example, if a light circle is printed on a dark background with spread trapping applied to the circle, the circle expands slightly to overlap, or trap into, the circle knockout in the dark background.

Trapping limitations

Whenever possible, you should design illustrations to avoid certain trapping problems, and always discuss trapping with your service bureau and printer to avoid unnecessary expense and inferior results.

In Canvas, trapping is best applied to vector objects that use a solid pen stroke and solid pen ink color. The following limitations apply to trapping:

- Canvas will not create a choke trap for text.
- Canvas will not create a choke trap for a vector object that has no stroke or has a stroke that is not a solid pen stroke.
- Canvas will not create a choke trap for an object that has a gradient pen ink.
- Canvas will not create a spread trap for a paint object.

To specify trapping for objects

- 1 Select the object you want to trap. In most cases, this will be a foreground object that touches a highly contrasting color.
- 2 Choose Object > Object Specs to open the Object Specs palette and click the Options tab, if necessary.
- 3 Click the Trap Object check box, and then select the Choke or Spread option button, depending on the type of trap to create.
- 4 Click Apply to set the trapping option for the selected object. No change is apparent in the object on screen, because the trap is created only when you print color separations.

◆ **To apply trapping to selected text:** You can apply trapping options to text that you select within a text object using the Overprint and Spread options in the Style submenu.

To adjust the trap amount

Before printing color separations, you can specify the size of traps using the Options tab in the Separations Setup dialog box.

- 1 To open the Separations Setup dialog box, choose File > Print. The Print dialog box appears. In the Print dialog box, choose Separations in the “Print As” pop-up menu, and then click the Setup button. The Separations Setup dialog box appears.
- 2 In the Separation Setup dialog box, click the Options tab.
- 3 Type the trap size, in points, in the Trap Size box.
- 4 Click OK to implement the new setting. The Separations Setup dialog box closes and you return to the Print dialog box.



Attaching comments to objects



J. Doe [JD]
Check overprint setting on
this object.

Comments example

You can attach written notes called *comments* to any object in a Canvas document. This can be useful for individuals and workers in groups who share documents. Anyone who works on a document can attach one or more comments to any object.

You can attach comments to any type of object, including paint objects, vector objects, and text objects.

When you open a document, you can view all comments attached to objects. You can edit comments that you create, but you can't change comments made by others.

When you select an object that has one or more comments attached to it, the object displays yellow selection handles (Windows) or gray selection handles (Mac).

You can view comments by pointing to objects. When the pointer is on an object, the object's comments appear in a pop-up window. If comments do not appear when you point to commented objects, be sure that "Specific information tooltip" is selected on the General tab in the Preferences dialog box.

To attach comments

- 1 To attach a comment to an object, select the object.
- 2 Choose Object > Comments to display the Comments palette. In the Comments palette, click New.
- 3 In the New Comment dialog box, type the comment text. When you finish, click OK to attach the comment to the selected object. The comment appears in the Comments palette.

You can click New in the Comments palette to attach additional comments to the selected object.

A comment can contain up to 64 kilobytes of text (about 65,500 characters). The text appears in a fixed size and typeface.

When you create comments, you can select, copy, cut, and paste text using the standard keyboard shortcuts. Spell checking, text formatting, and text colors can not be applied to the text of comments.





Viewing and editing comments

You use the Comments palette to view, edit, and delete comments.

- 1 Choose **Object > Comments** to display the Comments palette. All comments attached to objects in a document appear in the Comments palette.
- 2 Select an author's name in the pop-up menu to display only that author's comments in the list. To show all comments, choose **All Reviewers**.

The scrolling list displays the first lines and the author's initials for each comment. The initials preceding comments are from the user name entered during Canvas installation. You can edit the initials on the **User Info** tab in the Preferences dialog box.

- 3 Click a comment to select it. When you select a comment, Canvas selects the commented object in the document. Yellow (Windows) or gray (Mac) selection handles appear around the object to indicate that the object has one or more comments.

- 4 To view, edit, or remove a selected comment, choose one of the following options:

View To view a selected comment, click **View**. The comment text appears in the **View Comments** dialog box. You can select text and copy it to the Clipboard using standard keyboard shortcuts. You can edit your own comments in the **View Comments** dialog box, but you can't edit or remove comments made by others.



The pencil icon at the bottom-left corner of the dialog box indicates that you can edit a comment. When you view a comment that you can't edit, a slash appears on the pencil icon and the dialog box background is shaded.

When you finish viewing a comment, click **OK** or **Cancel** to close the dialog box. If you have made changes to a comment, click **OK** to save the changes or click **Cancel** to discard them and close the dialog box.

Remove Select a comment you created. Click **Remove** to delete the comment from the object and the Comments palette.

Preserving comments

Comments remain attached to objects until you remove the comments from them. However, some operations you can perform on objects do not preserve the original objects or their comments.

In general, comments are not preserved by operations that convert objects to different forms or types of objects. Operations that do not preserve comments of the original objects include Knife, Combine, Extrude, Fractalize, Join, Make Composite, Convert to Paths, and Insert Picture.

Comments are preserved when you perform basic editing or change an object's attributes. For example, comments are preserved when you change inks and strokes, edit anchor points, rotate, flip, skew, and duplicate vector objects. Commands that do not affect comments include Envelope, Group/Ungroup, Smooth, Resolution, Attach Mask and Detach Mask, and Lock/Unlock.

MACRO OBJECTS AND CLIP ART

You can speed up many graphic projects by taking advantage of reusable macro objects and ready-made illustrations. This chapter describes how to use the Gallery palette to work with macro objects and the Canvas clip art collection.

About macro objects and clip art

The Gallery palette gives you access to macros and Canvas clip art. Press the Gallery tool in the Object toolbar to open the Gallery palette. To make the palette floating, drag it away from the toolbar.

Clip art is a name for ready-made illustrations. The Canvas clip art collection contains thousands of high-quality illustrations that you can use in any Illustration, Publication, or Presentation. You can easily resize, change colors, edit, and apply special effects to the illustrations in the Canvas clip art collection, the same as you would any vector drawing or image.

The clip art illustrations provided with Canvas are stored in Canvas documents. Each document contains one or several small illustrations. You can locate specific items and preview the illustrations using the Art tab of the Gallery palette.

Macro objects are illustrations that you store in the Macros tab of the Gallery palette. You can create a macro object from any vector, text, group, or paint object. After making an illustration a macro object, you can use the Gallery tool to place macro copies of the illustration. The copies are linked to the original macro object; if you change the original, the copies also change.

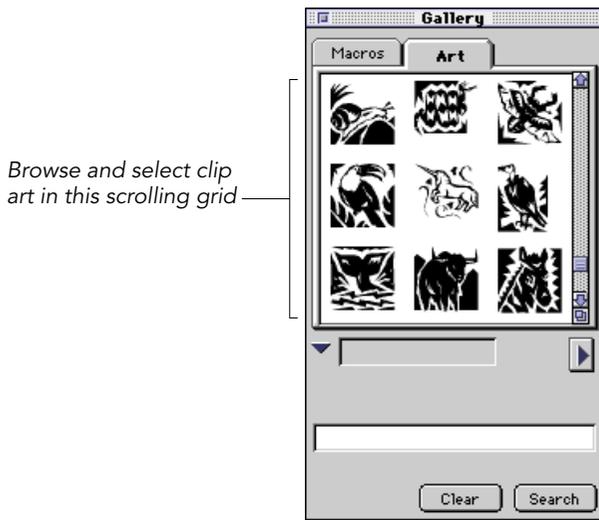
Macro objects make it easy to place and change frequently used illustrations. You can save time by creating macro objects from elements you intend to use repeatedly, such as logos, symbols, and floor plans. For example, after designing a logo, you can make the illustration a macro object and use the Gallery tool to place copies in your document. If you decide to change the logo, you can change all the copies at once by replacing the original macro object in the Gallery palette.

Adding clip art to Canvas documents

The Canvas software package includes an extensive collection of clip art ranging in topic from animals and plants to business and technical symbols. The clip art files are distributed among the CD-ROMs in the Canvas software package and are in Canvas file format.

The Art tab in the Gallery palette lets you browse Canvas clip art files, then choose an illustration and place it in a document. In addition, because Canvas clip art files are indexed, you can perform keyword searches to locate all clip art files pertaining to a particular topic, regardless of which CD-ROM a clip art file is on.

Note: If you're running Mac OS and your computer has trouble recognizing the clip art CD-ROMs in the Canvas software package, make sure you have the Foreign File Access and ISO 9660 File Access extensions installed and active on your system.



To browse clip art in a folder

Gallery tool



1 Press the Gallery tool in the Object toolbar to open the Gallery palette. Drag the palette away from the toolbox and click the Art tab to bring it to the front, if necessary.

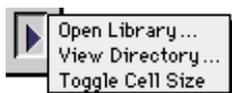
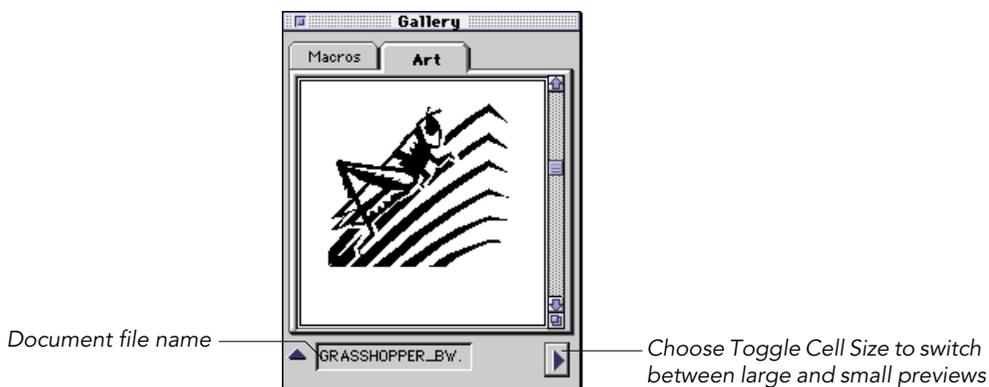
✓ **Tip**

To save Canvas documents with previews, in the Save As dialog box, select “Create Preview” (Mac) or “Save Preview” (Windows).

2 On the Art tab of the Gallery palette, press the right-arrow button and choose View Directory in the pop-up menu.

3 In the dialog box, select any Canvas file in the directory or folder you want to browse and click Open. Thumbnail previews of the Canvas documents in the folder appear on the Art tab.

◆ **To toggle between large and small previews:** On the Art tab in the Gallery palette, press the right-arrow button and choose Toggle Cell Size in the pop-up menu.



Art tab pop-up menu

To find clip art by name in a folder

When you're browsing clip art on the Art tab, and you know the file name of an illustration you want to find, rather than scrolling through the tab or using View Directory to locate the file, you can use the search feature in the Gallery palette to find and select the illustration.

- 1** If necessary, follow the steps under “To browse clip art in a folder” on page 232.
- 2** On the Art tab, click the triangle button at the lower-left of the palette to show the search options.
- 3** In the text box, type the text you want to search for. When you perform the search, Canvas will find the clip art file in the folder or directory you're browsing that starts with the text you type.
- 4** To begin searching, click Search. Canvas selects the file whose name matches the text you typed. If more than one file matches the text, Canvas selects the first file it finds.

5 To remove the current search criteria so you can enter new criteria, click Clear.

To search the clip art index using keywords

This type of search is useful when you want to search the entire Canvas clip art collection, rather than a folder or directory, to find clip art by subject.

1 On the Art tab of the Gallery palette, press the right-arrow button and choose Open Library in the pop-up menu.

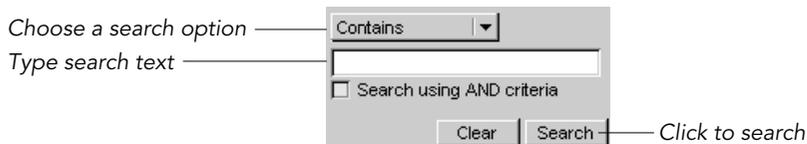
2 In the dialog box, locate the Canvas clip art index file you want to search and click Open; index files have the extension “.ndx” in the file name. After you locate the index file and click Open, previews of the clip art in the index appear on the Art tab and the Gallery palette changes to show the index search options.

3 Choose a search option in the pop-up menu.

Choose	To find
Matches	Exact matches of the name you type
Contains	Any name with the text you type
Starts With	Any name that begins with the text you type
Ends With	Any name that ends with the text you type

4 In the text box, type keywords to search for. You can type multiple keywords, separated by spaces, to find illustrations that match one or more keywords.

- You can tell Canvas to find art with *all* or *any* of the keywords by changing the “Search using AND criteria” setting. For example, you can type “car tree.” With this setting off, Canvas searches for either cars *or* trees. With this setting on, Canvas searches for clip art of both cars *and* trees.



5 To begin searching, click Search. Canvas displays thumbnail previews of all clip art that meets the search criteria.

6 To remove the current search criteria so you can enter new criteria, click Clear. When you click Clear after performing a search, Canvas redisplay all of the clip art previews. This is the same as performing a search for all clip art.

Placing clip art

After finding an illustration you want to insert, you can place the illustration at its original size, or scale it as you place it.

- ◆ **To place clip art:** Click a thumbnail preview in the Art tab to select the illustration you want to place.
 - To place the illustration at its original size, click in the document where you want to place the upper-left corner of the illustration.
 - To scale the illustration as you place it, drag the pointer to set the bounding box size. Canvas fits the illustration to the bounding box.

Note: When you select clip art from the index, the Art tab shows clip art by subject, regardless of which CD-ROM an illustration is on. If you try to place clip art that isn't on the current CD-ROM, Canvas asks you to insert the CD-ROM containing the illustration.

Using commercial clip art packages

You can purchase many commercial clip art packages of illustrations and raster images. Commercial packages use standard and proprietary file formats. If you want to use third-party clip art, ask the manufacturer about the file format and verify that Canvas can successfully open the files. For more information, refer to the chapter "File and data exchange" on page 81.

Using macro objects

Macro objects can help you create illustrations quickly, uniformly, and precisely. Macro objects are especially useful for technical drawings, diagrams, and other frequently used illustrations. For example, a landscape designer can create sets of macros for trees, shrubs, and structures. An electrical engineer can create macros for gates, resistors, and other circuit components. Project managers can build organizational charts with macros for shadowed text boxes.

You can create, delete, and modify individual macro objects, and also save them as macro sets. You can store sets for specific projects, and load sets as you need them.

Macros are document-level objects. In other words, if you switch between two open document windows, each using a different macro set, you will see the thumbnails in the Gallery palette switch between the two macro sets.

To create a macro object

You can convert nearly any Canvas object into a macro object by dragging it to the Macros tab of the Gallery palette.

Note: If the Gallery palette is docked on the Docking bar, you can't drag objects to the Macro tab to create macros.

- 1 Create the illustration that you want to use as a macro.
 - 2 If necessary, press the Gallery tool in the Object toolbar to open the Gallery palette. Drag the palette away from the toolbox and select the Macros tab.
 - 3 Drag the object into the window on the Macros tab. In the dialog box, type a name for the macro and click OK. A preview of the macro appears in the Gallery palette.
- ◆ **To delete a macro:** On the Macros tab in the Gallery palette, select the macro you want to delete. Press the arrow button on the bottom-right of the tab and choose Delete in the pop-up menu. The macro is removed from the palette, but copies in the document aren't affected.
 - ◆ **To toggle between large and small macro previews:** On the Macros tab in the Gallery palette, press the right-arrow button and choose Toggle Cell Size in the pop-up menu.

Placing macro objects

After you create a macro, you can place it in a Canvas document. You can insert a macro at its original size, or scale the macro as you place it.

- ◆ **To place a macro object:** Click a preview in the Macros tab to select the macro you want to place.
 - To place the macro at its original size, click in the document where you want the top-left corner of the macro to appear.
 - To scale the macro as you place it, drag the pointer to set the size of the bounding box of the object you are placing. Canvas scales the object to fit the bounding box.



To find a macro in the palette, type the text you want to search for in the text box and click Search

To find a macro in the Gallery palette

- 1 On the Macros tab of the Gallery palette, click the triangle button at the lower-left of the palette to show the search options.
- 2 In the text box, type the text you want to search for. When you perform the search, Canvas will find the macro in the palette that starts with the text you type.
- 3 To begin searching, click Search. Canvas selects the macro in the palette that meets the criteria. If more than one macro meets the criteria, Canvas selects the first macro it finds.
- 4 To remove the current search criteria so you can enter new criteria, click Clear.

Editing macro objects

If you want to update all copies of a macro in a document, you can replace the original in the Macros tab. If you want to replace a macro with a copy based on that macro, you must first unlink the copy from the original. See “Unlinking macros,” next.

To edit the path of a macro copy, first select the copy and then choose Object > Path > Convert to Paths, or unlink the object (see “Unlinking macros,” next); both methods let you edit the object as a path, but they also unlink the object from the original macro.

To replace a macro in the Gallery palette

- 1 Create the object you want to use to replace a macro.
- 2 Drag the object to the Macros tab and drop it on the macro you want to change.
- 3 When Canvas asks if you want to replace the existing macro, click Yes to change all copies of the macro to the new object.

Unlinking macros

By unlinking placed macros, you can prevent them from changing when the macro in the Gallery palette is modified. You also make it possible to use a placed macro to modify its parent macro and to use path-editing techniques.

- ◆ **To unlink a macro copy:** In the document, select the macro copies you want to unlink from the original. In the Gallery palette, choose Unlink in the pop-up menu.

Using macro sets

You can save macros in named sets for use with specific projects or types of illustrations. Using this feature, you can load only the macros that you need at the time.

- ◆ **To save all macros in the palette as a set:** On the Macros tab of the Gallery palette, press the right-arrow button and choose Save Set in the pop-up menu. In the dialog box that appears, type a name for the set, specify a location to save the set, and click Save.
- ◆ **To load a macro set into the palette:** On the Macros tab of the Gallery palette, press the right-arrow button and choose Append Set in the pop-up menu. In the dialog box that appears, specify the file name and location of the macro set you want to load, and click Open. The macro set is added to any macros already in the palette.

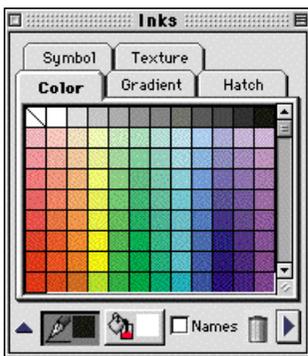
Note: You can load macro sets that were saved in Canvas 5 into the Macros tab in Canvas 6. However, if you save a macro set in Canvas 6, you will not be able to open the set again in Canvas 5.

INKS: COLORS AND PATTERNS

Solid colors and multi-colored patterns that you apply to objects are called *inks* in Canvas. You can apply inks to the interiors and outlines of vector objects and text.

This chapter describes how to create and apply inks, from basic solid color inks to custom multicolored inks. It also explains how to use various color systems to define inks.

The Inks palette



Inks palette with Color tab selected

You use the Inks palette to apply inks to objects, select the current inks for new objects, and create new inks. To open the Inks palette, press the pen or fill ink icon at the bottom of the toolbox. For details, see “Applying preset inks” on page 244.

The Inks palette contains five types of inks on separate tabs. Each tab has inks and a manager you can use to customize inks.

Color inks Color inks (on the Color tab) are solid colors. You can use CMYK, RGB, and commercial color reference systems to define color inks.

Gradient inks Gradient inks (on the Gradient tab) are smooth blends between two or more colors.

Hatch inks Hatch inks (on the Hatch tab) are patterns of lines. Hatch inks can incorporate other pen and fill inks.

Symbol inks Symbol inks (on the Symbol tab) are patterns of vector objects. Symbol inks can include any other ink as a background.

Texture inks Texture inks (on the Texture tab) are patterns of raster images. Texture inks can include other inks as backgrounds.

How inks apply to objects

You can apply inks to two areas of vector objects and text: *fill inks* cover the interior of objects and text characters; *pen inks* cover the outline stroke of objects and text characters. You can apply one fill ink and one pen ink to an object and to a text character.

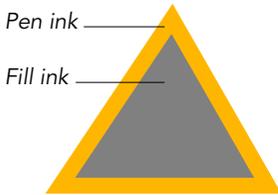
You can apply different types of inks to an object — a gradient fill ink and a texture pen ink, for example. If an object has neither a pen ink nor a fill ink, the object is not visible.

In addition, you can apply inks to the backgrounds and outlines of text objects.

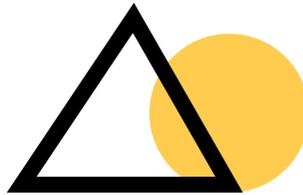
Remember that you don't apply inks to paint objects. Instead, you use painting tools to paint in a paint object and give it color.

Applying fill inks to open and closed paths

Whether a vector object path is open or closed affects the appearance of its fill ink. In a closed path, the ink completely fills the object's interior; in an open path, the ink fills inside the path as if the path were closed by a straight segment between its endpoints.



This object has a pen ink and a fill ink; both are basic color inks.



The triangle has a pen ink but no fill ink, so the circle in back is visible through it.



This path has a pen ink and no fill ink.



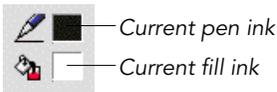
The path above has a pen ink and a fill ink.

Default and current inks

By default, Canvas applies white fill ink, black pen ink, and a 1-point pen stroke to new vector objects. For new text, Canvas applies black fill ink, no pen ink, and no stroke to the text characters.

The *current inks* are the inks that Canvas applies to new vector objects you draw. The squares in the pen ink and fill ink icons in the toolbox display the current inks. When you apply inks to existing objects, the current inks do not change.

◆ **To change the current pen or fill ink:** Make sure no objects are selected in the document, then press the pen ink or fill ink icon to select a current ink in the Inks palette.



Using the Color Dropper

Color Dropper tool



You can use the Color Dropper tool to select and apply colors. The Color Dropper tool is located in the toolbar containing Effects tools in the toolbox.

The Color Dropper can select colors from any object in a document and from anywhere on screen, even outside of the Canvas application window.

Colors you select with the Color Dropper become the current foreground or background colors for painting and the current pen inks and fill inks for new vector objects.

The Color Dropper helps you use colors consistently throughout a document. It can also help you identify colors from documents that you import into Canvas. By letting you match colors, the Color Dropper can be useful for photo retouching.

The Color Dropper has two modes: Object Ink and Pixel Color. The tool selects the actual color at the point you click, taking into account transparency effects. Or, it selects the ink (in vector and text objects) or the paint color (in images). See “Color Dropper modes” on page 243.

To select an ink

In vector objects and text, the Color Dropper can pick up texture, gradient, hatch, and symbol inks; in paint objects, the Color Dropper selects the original color applied to the pixel you click.

- 1** Double-click the Color Dropper icon. In the dialog box, select Object Ink and click OK.

- 2** Select the Color Dropper tool.

To set the fill ink, click an ink to make it the current fill ink. You can click a pen ink or a fill ink; in either case, the ink you click becomes the current fill ink.

To set the pen ink, Option-click (Mac) or right-click (Windows) an ink to make it the current pen ink. You can click a pen ink or a fill ink; in either case, the ink you click becomes the current pen ink.

When you click a vector object or text, you get the actual ink, not the color at the point where you click. For example, if the object contains a symbol ink of white stars on a blue background, this becomes the current ink, whether you click a white or blue area.

✓ **Tip**

While editing an image with a painting tool, you can quickly switch to the Color Dropper. Press Option (Mac) or Alt (Windows) to display the Color Dropper, and click to select a foreground color for painting.

To select a color

In all objects, the Color Dropper can pick up the color at the tip of the pointer. In this mode, the tool selects apparent colors, which is the color you actually see.

- 1** Double-click the Color Dropper icon. In the dialog box, select Pixel Color and click OK.
- 2** Select the Color Dropper tool. Click a color to set the current fill ink color and background color. Option-click (Mac) or right-click (Windows) to set the current pen ink color and foreground color.

To select colors outside Canvas

With the Color Dropper selected, you can drag from the Canvas window to anywhere on screen. As long as you press the mouse button, the Color Dropper remains active; the ink icons in the toolbox show you the colors the tool can select. Release the mouse button to select the color under the tip of the pointer.

The color you select becomes the current fill ink and background color. You can't use this method to select the pen color.

To apply colors to objects

You can apply the current inks to vector objects and text with the Color Dropper. This makes it easy to quickly transfer inks from one object to another.

Mac Control-click a vector or text object to apply the current fill ink to the object. Control+Option-click to apply the current pen ink to the object.

Windows Ctrl-click a vector or text object to apply the current fill ink to the object. Ctrl-right-click to apply the current pen ink to the object.

Note: The Color Dropper mode does not affect the application of colors. Also, you cannot apply colors to paint objects using the Color Dropper tool.



Color Dropper modes

The Color Dropper selects either actual colors where you click, or it selects the inks applied to vector or text objects. To set the mode of the Color Dropper, double-click the Color Dropper tool icon. In the dialog box, select an option and click OK. The mode remains set unless you use the dialog box to change it.

Object Ink

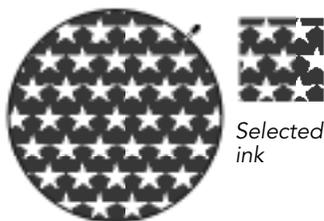
Selects inks and actual colors, not the apparent color that you click.

In vector or text objects, the Color Dropper selects object inks — color, gradient, symbol, texture, and hatch inks. It does not take into account transfer modes or transparency effects.

If you click an object's stroke, you select its pen ink; if you click an object's interior, you select its fill ink. In the case of paint objects, which do not have inks, the color you click is selected as a color ink.

For example, if you click a gradient ink with the Color Dropper, it selects the gradient ink, not the color under the pointer. If you click a dotted symbol ink, the tool selects the symbol ink, not the color where you click.

In paint objects, the Color Dropper selects applied paint colors, not colors you see because of transfer modes, channel masks, or other transparency effects. For example, if you click a black area that is 50% transparent against a white background, you select solid black, not the 50% gray that you see.



Object Ink mode



Pixel Color mode

Pixel Color

Selects the apparent color that you click at the tip of the Color Dropper pointer. This mode works the same whether you click a paint, vector, or text object.

For example, if you click a gradient ink in a vector object, you select the exact color you click, not the gradient ink. If you click in an object that has transparency and transfer mode effects, you select the exact color you see.

Selecting a color in Pixel Color mode lets you identify the color's values. When you click a pixel, the Color manager in the Inks palette shows the color values.

Color mode

When you select Pixel Color in the Dropper dialog box, you can choose a color system in the pop-up menu. You can select RGB, CMYK, or Grayscale.

The Color Dropper converts any color you click to the selected color system.

For best performance, choose the color system that matches the colors you are sampling. For example, if you sample colors in complex RGB images with CMYK selected, slight delays can occur because Canvas must convert the image's RGB values to CMYK values.

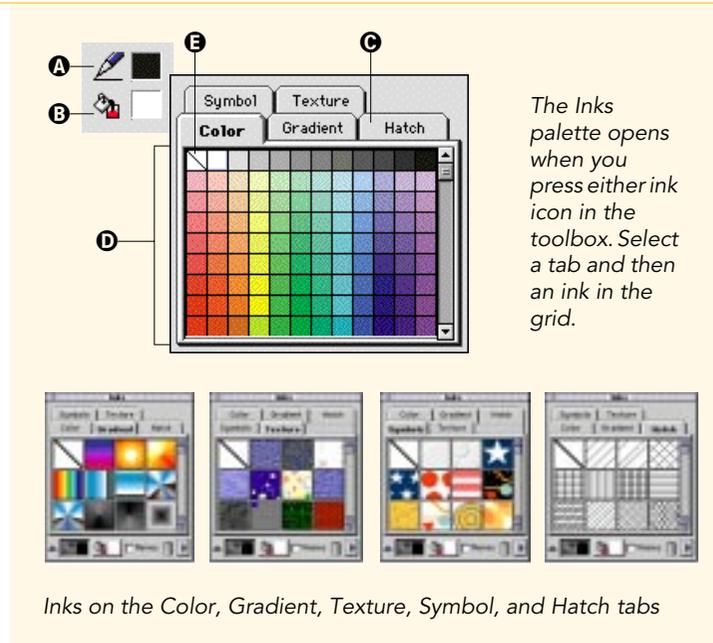
However, you might want to select a color system that differs from an image. You might do this to see the effect of a color conversion, such as RGB to CMYK for printing, for example.

Applying preset inks

Each tab in the Inks palette holds inks that you can apply as pen or fill inks.

- A Pen ink icon.** Press to select pen inks for object outlines.
- B Fill ink icon.** Press to select fill inks for the insides of objects.
- C Ink tabs.** Select the type of ink you want to apply.
- D Preset inks.** Select an ink in the grid. Use the scroll bars if all the preset inks aren't visible.
- E No ink.** Click this tile to apply no inks, or to make the current ink for new objects "no ink."

- To apply inks to existing objects, select the objects and then choose pen and fill inks.
- To change the inks that Canvas applies to new vector and text objects, deselect all objects, then choose pen and



Inks on the Color, Gradient, Texture, Symbol, and Hatch tabs

fill inks. The ink icons in the toolbox show the current inks.

Because pen inks are applied to the strokes of objects, the appearance of an object's pen

ink is affected by the shape of the object's stroke. For more information, see "How inks affect strokes" on page 265.

Using the Inks palette in a floating window

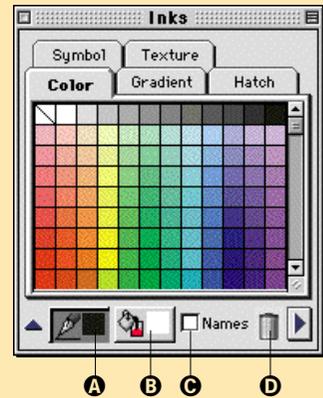
To keep the Inks palette open, press either ink icon in the toolbox and drag the palette away. The palette remains open in a floating window.

To apply inks to selected objects: Click the pen ink (A) or fill ink (B) icon, then click an ink. If you click an ink with no objects selected, the ink becomes the current ink applied to new objects.

To drag and drop inks: Drag an ink from the grid to an object's outline (for a pen ink) or the inside of the object (for a fill ink).

Names: Check this box (C) to show the names of inks in the grid.

To remove an ink from the palette: Drag it to the trash can (D).



Creating and customizing inks

You can use the Inks configuration managers to create your own inks. Managers are sets of controls at the bottom of the tabs in the Inks palette. You can flip open the managers to create inks, adjust inks in objects, and change the palette's inks.

Described next are ways to change the Inks palette and use Inks managers in general. The rest of the chapter explains how to customize color inks, gradient inks, hatch inks, symbol inks, and texture inks.

Changing the Inks palette

You can do the following to customize the Inks palette:

- Delete inks you no longer want to use.
- Add new inks to the palette.
- Save the inks on each tab in an inks file.
- Load inks from a file to replace the current inks.
- Append inks from a file to add them to the palette.

When you add or delete inks in the palette, the changes are recorded in a Canvas Settings file, not in the Canvas document, so the palette contents remain the same the next time you use Canvas.



◆ **To save, load, or clear inks:** Press the button at the bottom-right corner of the palette and choose a command in the pop-up

menu. The commands include the name of the current ink tab, so the command on the Color tab is Load Colors, for example.

You can save, load, and append inks on one tab at a time in the Inks palette. When you load or append inks, if you select a file that doesn't contain inks from the current tab, Canvas won't load the inks.

Load... Loads inks from a palette file, replacing the tab's inks. In the dialog box, select a file and click Open.

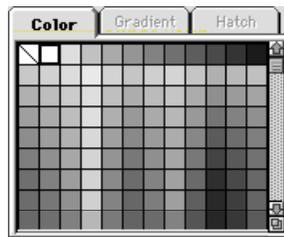
Append... Adds inks from a palette file to the inks on the current tab. In the dialog box, select a palette file and click Open.

Save... Saves the current tab's inks in a palette file. In the dialog box, select a location, type a file name, and then click Save.

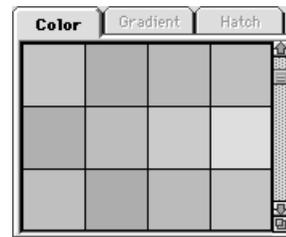
Clear... Removes the inks (except "no ink") from the current tab. On the Color tab, Canvas restores black and white (CMYK) inks after clearing all the inks.

Setting the size of tiles

You can choose two sizes of tiles for the preset colors in the Inks palette. To change the tile size, choose Large Tiles or Small Tiles in the palette's pop-up menu. The size setting affects the Color tab, but not the other tabs in the Inks palette.



Small color tiles



Large color tiles

Arranging ink tiles

To rearrange tiles in the Inks palette, drag an ink tile on any inks tab and drop it where you want to place it.

You can also move multiple ink tiles to a new location in the palette. Click an ink tile, and then Shift-click another color tile. Canvas highlights all tiles between the colors you click. To select non-contiguous tiles, Ctrl-click the tiles you want to select. Drag the selected tiles to a new location in the palette.

Using Inks managers

Open the Inks managers when you want to create inks or change the preset inks on the tabs in the Inks palette.

A Click to flip the managers open or closed. If the Inks palette isn't open, first press either of the ink icons in the toolbox and drag the palette away.

B Preview. This box shows the current ink. The preview changes as you modify the ink. When you click the Apply button, Canvas applies this ink. You can also drag the ink from the preview box to objects and into the grid of preset inks.

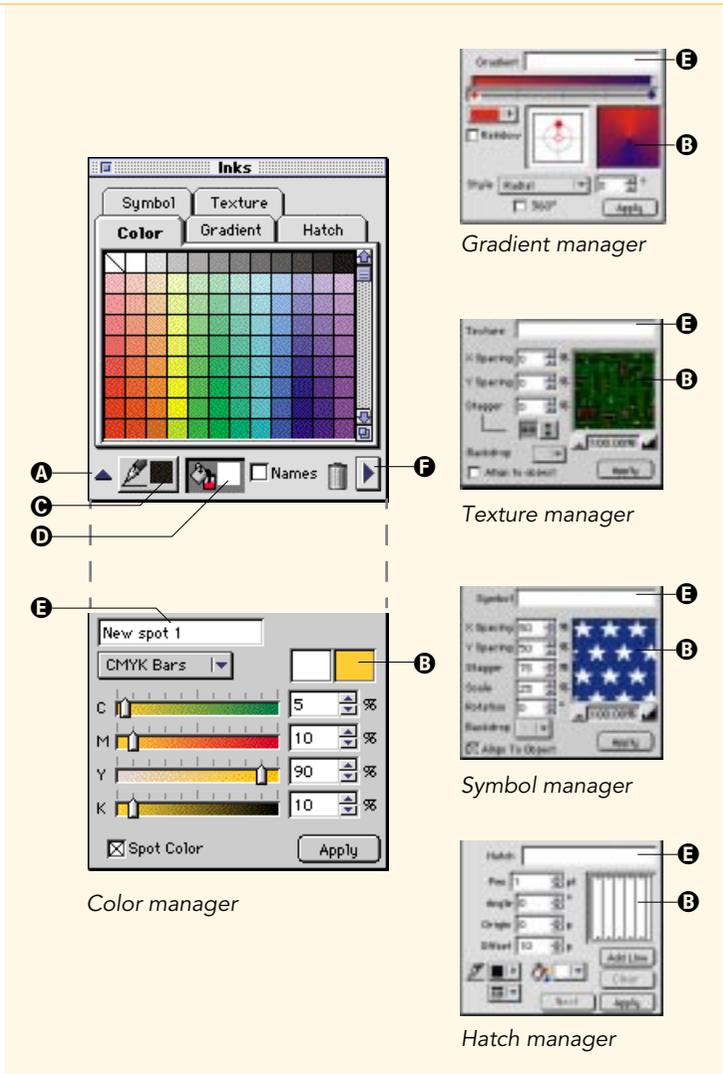
To edit an object's ink:

Click the pen (C) or fill icon (D), then select an object; its ink becomes the current ink in the manager. Modify the ink, then click Apply to apply the modified ink to the object.

To make a new ink:

Use the manager to customize the current ink. To name it, type in the text box (E). Then do any of the following:

- To add the ink to the palette, drag from the preview box (B) to the grid of preset inks.
- To make the ink the current ink, click the pen (C) or fill (D) icon, then click Apply when no objects are selected.
- To apply the ink to a non-selected object, drag from the



preview box (B) to the inside or outline of the object.

When you create a new ink, be sure to add it to the palette or drag it to an object before selecting anything. Otherwise, the selection's ink replaces the

new ink in the manager.

A pop-up menu (F) contains commands that let you save inks and load inks on the current tab. You can also clear the current tab's inks to start with an empty palette.

Getting inks from vector and text objects

Canvas lets you add inks from vector objects and text objects to the Inks palette. If a text object contains more than one fill or pen ink, all colors will be added to the palette. You can also add the inks of multiple selected objects; however, the inks from group objects and macro objects cannot be added.

◆ **To add inks to the Inks palette:** In the Inks palette, select the Pen Ink or Fill Ink icon, depending on the type of ink you want to add. Then, drag the vector or text object onto the preset inks area of the appropriate tab in the Inks palette.

For example, to add an object's gradient fill ink to the Gradient tab, click the Gradient tab to bring it to the front. Next, click the Fill Ink icon, and then drag the object onto the gradient tiles.

Creating color inks

You can create new inks to expand the inks selection and convert inks from one color system to another.

- 1** If necessary, select the Color tab and open the Color manager in the Inks palette. The current ink appears in the preview box.
- 2** Choose a color system and model in the pop-up menu. See “Color systems” on page 249.
- 3** Use the Color manager controls to change the ink's color values. To restore the original ink, click the left preview box.
- 4** To name the ink, type the name in the text box. To define it as a spot color, check the Spot Color box.
- 5** To apply the ink to non-selected objects, drag it from the preview box to the objects. To add the ink to the palette, drag it from the preview box to the grid at the top of the tab. Canvas adds the color at the end of the inks grid.

✓ **Tip**

Colors displayed on a monitor can only approximate the appearance of printed colors. Be sure to discuss color reproduction with your commercial printer and obtain accurate proofs for color projects.

Color systems

When you define colors in Canvas, you can use CMYK, RGB, and Grayscale color systems. Or, you can use a color matching system to select colors for commercial printing.

CMYK colors

The CMYK color system is used in four-color process printing. In this system, you define colors as mixtures of Cyan (C), Magenta (M), Yellow (Y), and Black (K) printing inks.

For example, to create green, you mix cyan and yellow.

The CMYK system is appropriate for illustrations that will be separated for commercial printing.

RGB colors

The RGB color system is used in computer monitors. In this system, you define colors as mixtures of Red (R), Green (G), and Blue (B) light.

For example, to create purple, you mix red and blue.

The RGB system is appropriate for graphics displayed on a monitor, such as presentations and web pages.

You should avoid RGB colors in documents intended for commercial printing. Canvas will convert RGB colors to CMYK colors if you output color separations.

The HSL models in the Color manager let you define RGB colors using Hue (H), Saturation (S), and Lightness (L) values. This way of defining colors is familiar to artists. HSL models let you adjust saturation and lightness, without changing a basic hue, such as red or green.

Grayscale colors

The Grayscale model lets you define shades of gray. Grayscale colors are neutral when used with RGB or CMYK colors. For example, in RGB Color images, grayscale colors are equal amounts of red, green, and blue. In image channels, Grayscale colors are pure gray. In vector objects, text, or CMYK Color images, Grayscale colors are percentages of black. In color separations, Grayscale colors appear as percentages of black.

Specifying tints

You can specify a tint color and amount in the CMYK or RGB system. Tinting with white screens the original color. The screen percentage is 100 minus the tint value. For example, 80 percent white tint results in 20 percent of the original color.

For other tint colors, Canvas multiplies the tint values by the difference between the original and tint color values, and then adds the result to the original color values.

Commercial color reference systems

You can use commercial reference system colors for process and spot colors. You can choose PANTONE, Toyo, and Trumatch color systems in the pop-up menu in the Color manager. See “Color reference systems” on page 252.

Remember that the appearance of a commercial color on screen can differ from its appearance when printed. To view the printed appearance of a commercial color, consult your manufacturer’s reference documentation. For more information on process and spot color printing, see the *Color Printing Guide*.

PANTONE The PANTONE System includes hundreds of spot colors designed to be printed with special inks. You should select the correct color group for the paper stock on which the colors will be printed. For example, the PANTONE CVC colors are calibrated for printing on coated paper stock. The PANTONE Pro-Sim colors are not spot colors. These colors are designed to be printed with standard process inks.

Toyo The Toyo Ink system provides more than 1,000 colors in nine sets for process-color printing on various paper stocks.

Trumatch Trumatch is a four-color process matching system, which means that its colors are not spot colors that must be printed with special inks. Trumatch lets you select more than 2,000 colors based on 50 hues and tints and shades of each hue, in addition to four-color grays.

Color manager controls

The Color manager controls depend on the selected color system and model. Some controls are common among the different color models.

A Current ink.

B Last-applied ink.

C Bars. Use the sliders, or enter values in the text boxes, to specify color values.

- RGB values go from 0 to 255.
- CMYK values go from 0 to 100 percent.

- HSL values go from 0 to 360 degrees (hue) and 0 to 100 percent (saturation and lightness).

D Spot Color. Select to set up a spot color. Type a color name in the text box. Spot colors print on separate plates when you make color separations.

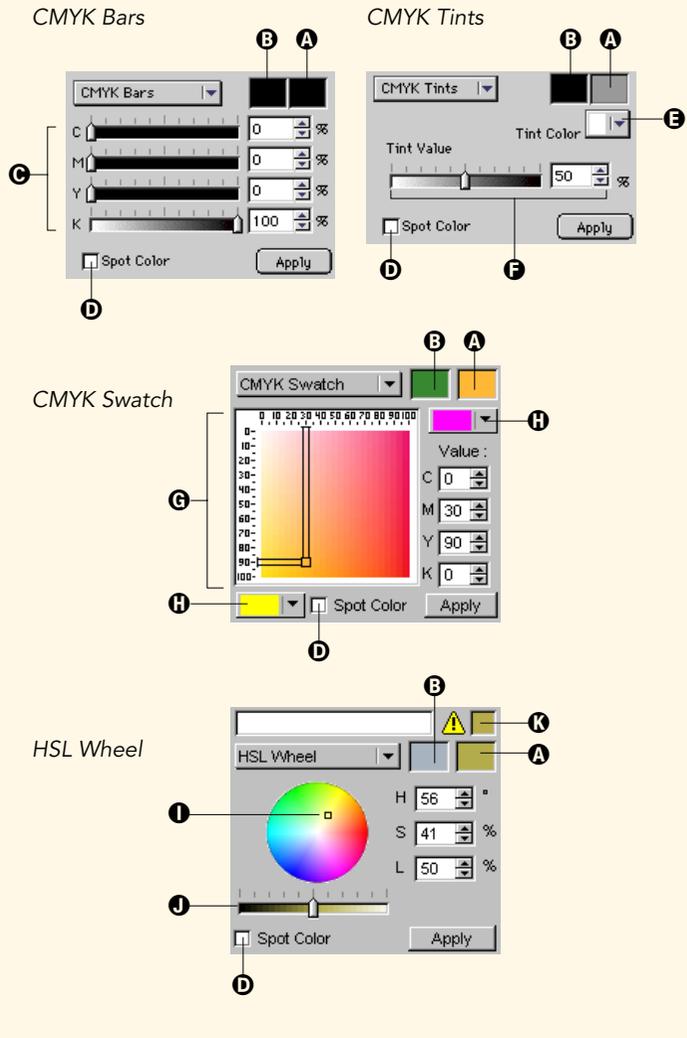
E Tint Color. Select the color to apply to the current color.

F Tint value. Enter the percentage of tint to be applied.

G Swatchbook. Shows colors made from 0-100% mixtures of two CMYK colors. To select a color, click in the swatchbook; the color values appear in the text boxes.

H Select the two colors for the swatchbook. To add a third or fourth color, enter percentages in the C M Y K text boxes.

I Color wheel. Click in the wheel or drag the selector to pick a color, or enter values in the H S L text boxes.



J Lightness. Drag the slider, or enter a number in the L text box, to set the lightness for the entire color wheel.

K Gamut warning. When the current color can't be printed with CMYK inks, a warning sym-

bol and color box appear. Click the color box to replace the current color with the closest color that is within the CMYK gamut.

Gamut warnings appear only in RGB and HSL systems.

Color reference systems

When you choose a PANTONE, Toyo, or TRUMATCH reference system color set in the Color manager, you can search for and select colors by name.

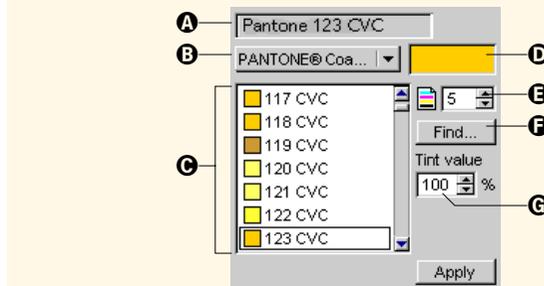
A Color name. The selected color's name. Names of reference colors can't be changed.

B Color system. Choose the reference system you want to use in the pop-up menu.

C Color list. Click a color in the list to select it. Use the scroll bar to scroll the list.

D Current color preview.

E Page. The page number of colors shown in the color list. Type a number to go to the page.



F Find. Click to select a color by name. In the Find dialog box, type the color name or number and click OK. Canvas selects the color (if found) in the color list.

G Tint Value. For PANTONE colors (except process colors), enter a screen percentage to apply to the selected color. Use 100% for solid color and lower

values for screens of the solid color.

Spot Color option. Available with some color systems, this option lets you specify colors to use as spot colors in separations.

Identifying colors

You can display symbols that identify the color inks that are stored on the Color tab in the Inks palette. To identify color inks, choose Show Color Icons in the palette's pop-up menu. To hide the symbols, choose Hide Color Icons in the pop-up menu.

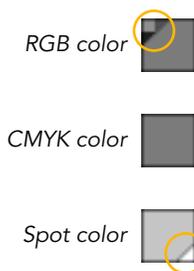
Note: If the Color tab contains only CMYK colors, no symbols appear when you choose Show Color Icons.

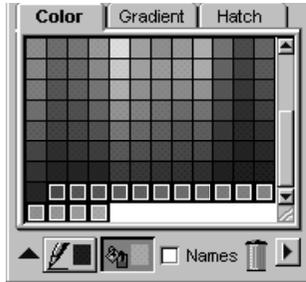
The Color tab can contain color inks defined with RGB, CMYK, grayscale, and spot colors.

The symbol that identifies RGB color inks has tiny red and blue triangles and a green square. The symbol appears at the upper-left of RGB color tiles.

The symbol that identifies spot color inks is a white triangle. The symbol appears at the lower-right of spot color tiles.

No symbol appears on CMYK or Grayscale ink tiles.





Blended colors



Color icon

✓ **Tip**

Mac OS only: To open the Color Editor, you can Option-click a color palette icon.

Creating blends of color inks

You can select two color tiles and create a blend of colors to add to the Inks palette.

To blend colors

- 1 In the Inks palette, click the Color tab to bring it to the front.
- 2 Click the tile you want to start the blend, then Ctrl-click the tile you want to end the blend.
- 3 Choose Blend in the pop-up menu. A dialog box appears. Enter the number of steps you want in the blend, and then click OK. Canvas creates the blend and adds the new tiles to the Color tab.

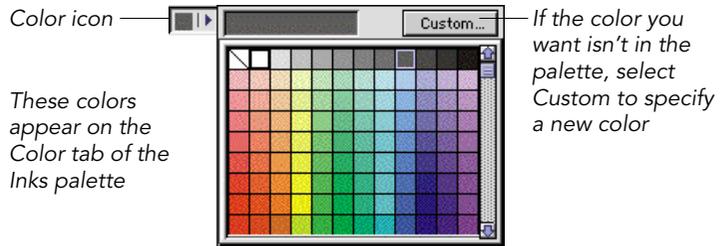
Creating custom colors in pop-up palettes

In Canvas, dialog boxes and palettes that let you choose colors have a color icon that opens a pop-up palette. This color icon appears throughout the program, including the Channel Options dialog box, the Extrude palette, and the Gradient manager.

When you press (Mac) or click (Windows) the color icon to open the palette, you see the colors currently on the Color tab of the Inks palette. If the color you want isn't in the pop-up palette, you can specify a new color in two ways:

- Use the Color manager in the Inks palette to create a new color, then add it to the colors in the palette (see “Using Inks managers” on page 247 for instructions). The new color will appear in the pop-up color palette throughout the program. This is the method you should use if you want to use the color more than once.
- In the pop-up color palette, drag to (Mac) or click (Windows) the Custom box to open the Color Editor dialog box, where you can create a new color without adding it to the palette. Use this method if you don't need to use the color again.

This is how the color icon appears when you use it to open the palette



The Custom box lets you use new colors immediately, without having to switch back and forth between a dialog box and the Inks palette. It's also useful when you want to use a color for a specific purpose, but don't want to clutter the color palette with colors you'll use once.

The Custom box appears in pop-up color palettes in the following dialog boxes and palettes:

Inks	Gradient manager Hatch manager (pen color pop-up only)
Strokes	Neon manager Parallel manager
Layers	Layer Options dialog box
Color calibration	Gamut Warning dialog box
Image editing	Duotone Options dialog box New Channel dialog box Channel Options dialog box Create Image dialog box
Effects	Extrude palette

✓ Important

If you plan to export a document to another application in EPS format and make spot color separations, be sure the spot color names match exactly in both applications. Any variation will cause problems.

To create a custom color in a pop-up palette

- 1 In the pop-up color palette, choose the Custom option to open the Color Editor dialog box. This dialog box is almost identical to the Color tab in the Inks palette.
- 2 To use a different color model or color system, choose an option in the pop-up menu. Depending on which option you choose, the dialog box shows a different set of controls; see “Color manager controls” on page 251 for more information.
- 3 Use the color controls to create a custom color.

- 4 To specify that you want the color you define to be a spot color, make sure the color is named in the text box at the top, then select Spot Color.
- 5 When you have the color you want, click OK. The color appears in the palette icon.

Color Editor dialog box

You can choose the Custom button in a pop-up color palette to open the Color Editor dialog box.

- A Type a name for the color in this text box.
- B Choose a color model or reference system in this pop-up menu.
- C Use the controls to specify a color. The available controls depend on the option you choose in the pop-up menu (B).



- D Current selected color that appears in the color palette icon. Click to revert the settings in the dialog box to this color.
 - E Preview of the custom color that you are defining.
- Spot Color.** Select this option to define the custom color as a spot color.

Gradient inks

A gradient is a gradual blending of colors. A Canvas gradient ink can blend two or more colors in a variety of styles. Like other inks, gradient inks can be applied as fill inks or pen inks to vector objects and text.

To create, customize, and apply gradient inks, you use the Gradient tab in the Inks palette.

The appearance of a gradient ink depends on several factors. Gradients appear smooth on monitors that display millions of colors, but can appear coarse and dithered on monitors that display only 256 colors. The more extreme the difference in colors, the coarser a gradient can appear.

When a gradient has large color transitions, it appears smoother in an object that is large enough to show all the transitions.

Gradient manager

To create a gradient ink, you choose a gradient style, colors, and other options using the controls in the Gradient manager.

A The gradient color sequence appears in the bar. Each pointer below the bar represents a color and shows the color's relative position in the gradient. One pointer is always selected, and the pointer's color appears in the color icon (**D**). A gradient can have two or more colors.

B The pointers at the ends of the bar represent the start and end colors of the gradient. These pointers can't be moved or deleted, but you can change their colors.

C Click a pointer to select it; a selected pointer appears highlighted. To add an intermediate color, double-click in the bar and a new pointer appears that represents the color of the gradient where you clicked.

To adjust color spacing, drag an intermediate pointer. To delete a color, drag its pointer to either end of the bar.

D Choose a color for the selected pointer from the pop-up palette. To select a custom color, see "Creating custom col-

ors in pop-up palettes" on page 253.

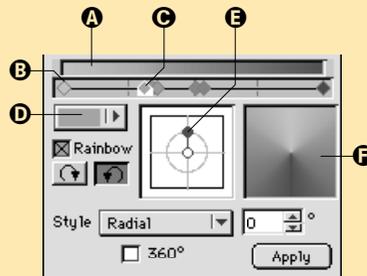
Style. Choose a gradient style from the pop-up menu. See the table (next) for shape and editing information.

E You can drag handles in the box to adjust settings such as gradient shape, angle and center. See the table, next, for additional information.

F **Gradient preview.** Shows the current gradient. The appearance of the gradient varies, depending on the gradient style. The preview changes as you edit the gradient.

When you click the Apply button, Canvas applies this gradient. You can also drag the gradient from the preview box to objects and into the grid of inks.

Angle. For Radial and Directional styles, enter the angle of



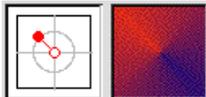
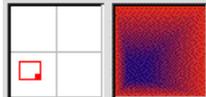
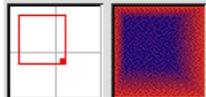
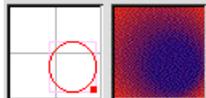
the gradient axis, or drag the solid dot in the edit box to set the angle.

360°. When Radial style is selected, select this checkbox to blend the gradient through 360 degrees around the center. If this option isn't selected, the blend runs through 180 degrees in both directions, creating a mirror image around the blend axis.

In addition, when the 360-degree option is selected, a button appears. Click the button to reverse the gradient direction.

Rainbow. Select this to add all hues on the color wheel between the colors you set in the gradient. Click a direction button to select a clockwise or counter-clockwise path around the HSL color wheel, which sets the sequence of hues.

Gradient styles and editing features

Style	Appearance and edit controls	Edit box
Radial	Colors sweep in a circle around the center. To move the center point, drag the open dot. To set the starting angle, drag the solid dot or enter the angle (0 to 360 degrees) in the text box.	
Directional	Linear gradient in which colors blend in the direction you specify. To set the gradient orientation, drag the solid dot, or enter an angle from 0 to 360 degrees in the text box.	
Shape	Gradient conforms to basic object shapes. To move the gradient center, drag the rectangle. To resize the center area that contains the end color, drag the solid handle and resize the rectangle.	
Rectangular	Rectangular-shaped gradient. To move the gradient center, drag the rectangle. To resize the center area that contains the end color, drag the solid handle and resize the rectangle.	
Elliptical	Elliptical-shaped gradient. To move the gradient center, drag the oval. To resize the center area that contains the end color, drag the solid dot and resize the oval.	

Applying gradients interactively

Gradient Vector tool



The Gradient Vector tool lets you drag in a document to set the shape, angle, and center of a gradient. You can use the tool to apply gradient inks interactively to selected vector objects and text.

The Gradient Vector tool is located in the Effects toolbar.

The Gradient Vector tool applies gradients based on the settings in the Gradient manager in the Inks palette. You can select gradient colors and styles in the Gradient manager. The Gradient Vector tool applies the gradient as a fill ink or a pen ink according to which icon is selected on the Gradient tab in the Inks palette.

The Gradient Vector tool applies gradient inks to selected objects. If more than one object is selected, the gradient flows across the selected objects as if they were one object.

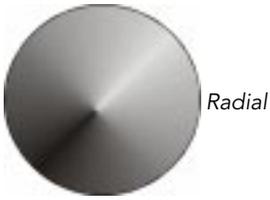
To use the Gradient Vector tool

- 1 Select the objects that you want to apply a gradient ink to.
- 2 On the Gradient tab in the Inks palette, select the pen ink or fill ink icon to specify which ink to apply.
- 3 Use the Gradient manager to configure the gradient.

Note: You can apply the current settings without opening the Gradient manager.

- 4 Select the Gradient Vector tool, and then drag in the document to position the gradient. As you drag, a vector indicates the gradient style and position, and the gradient appears on the selected objects.

You can drag inside or outside selected objects. For example, if you are applying a directional gradient, you can “stretch” the gradient by dragging across the object, starting and finishing outside the object. This places the start and end colors farther apart than if you drag a shorter distance within the object only.



Radial



Directional



Shape



Rectangular



Elliptical

Modifying gradients

To modify a gradient after you apply it with the Gradient Vector tool, leave the object selected while you change the Gradient manager settings, and then use the tool to apply the new gradient to the object.

If you configure settings in the Gradient manager and then select an object that has a gradient ink, the object's gradient appears in the Gradient manager, replacing the current settings.

If you use the Retain Selected Tool option in the Preferences dialog box, be sure to select another tool when you finish applying a gradient to avoid accidentally changing the gradient.

Gradient styles

The shape of a gradient ink vector and the visual indicators you see when you drag the Gradient Vector tool depend on the ink's style. You can select the following gradient styles in the Style pop-up menu in the Gradient manager.

Radial The gradient vector is a line that sets the center and angle of the gradient. The place where you begin to drag is the center point of the gradient. The vector extends from and rotates around the center point. The angle of the line establishes the angle of the gradient. The length of the line does not effect the gradient.

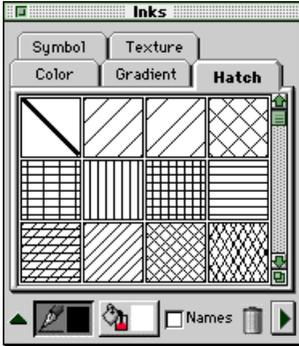
Directional The gradient vector is a line that sets the angle and length of the gradient. The place where you begin to drag has the start color of the gradient. The vector line extends from and rotates around the start point as you drag away from it. The angle of the line establishes the angle. The place where you stop dragging sets the end color of the gradient.

Shape The gradient vector is a rectangle that sets the size and location of the end color of the gradient. The rectangle contains the end color. Drag diagonally from one corner of the rectangle to another. The rectangle expands or contracts as you drag away from or toward the starting point. When you finish dragging, the gradient conforms to the object's shape.

Rectangular The gradient vector is a rectangle that sets the size and shape of the gradient. The rectangle contains the end color of the gradient. Drag diagonally from one corner of the rectangle to another. The rectangle expands or contracts as you drag away from or toward the starting point.

Elliptical The gradient vector is an ellipse that sets the size and shape of the gradient. The ellipse contains the end color of the gradient. Drag diagonally from one corner of the ellipse's bounding box to another. The ellipse expands or contracts as you drag away from or toward the starting point.

Hatch inks



Hatch tab in the Inks palette

You use the Hatch tab in the Inks palette to apply hatch inks. The Hatch manager lets you customize hatch inks. For general instructions, see “Using Inks managers” on page 247.

Hatch inks are patterns made of groups of lines. You can specify the number of line groups and the angle, offset, and origin of each group. You can assign a pen size, color, and dash to each line group, and you can select a fill ink to be the background of the hatch ink.

Hatch inks are often used in illustrations to distinguish different materials in cross sections, machine diagrams, and maps.

To select a line group for editing

When you create a hatch ink in the Hatch manager, click a line in the edit box to select the line group. Selection handles appear where the selected line group intersects the edit box.

Hatch manager

When you create a hatch ink, you can set the number of line groups and other attributes.

A Preview. Click a line group in the preview box to select it. Tiny handles appear where the selected group meets the edge.

B Pen color. Choose a color for the selected line group in the pop-up menu. You can choose a preset color or define a custom color; see “Creating

custom colors in pop-up palettes” on page 253.

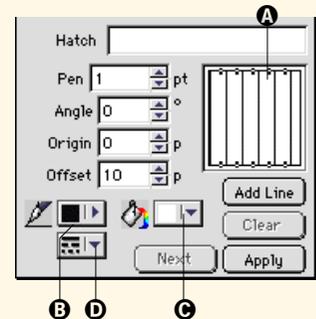
C Fill ink. Select an ink to use as the hatch ink background.

D Dash. Choose a dash pattern for the selected line group.

Add Line. Click to add a new line group to the preview box.

Clear. Click to delete the selected line group (unless only one group is present).

See the next section for infor-



mation on setting Pen, Angle, Offset, and Origin.

✓ Tip

If a hatch pattern overlaps the edges of an object, change the Pen value in the Hatch manager to make the width of the hatch lines smaller than the pen size of the object's stroke.

Line group attributes

You can set the following attributes for each line group in a hatch ink. To change an attribute, select the line group you want to change by clicking it in the preview box in the Hatch manager, and then enter a new value in the appropriate text box.

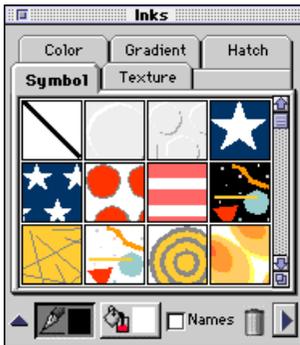
Pen The width in points (1/72 inch) of each line in the selected line group.

Angle The angle in degrees of the selected line group relative to vertical. When you add a line group, the angle is initially 0 degrees.

Offset The horizontal starting position of the line group, measured in points from the left edge of the preview box. Increasing this value moves the line group to the right.

Origin The vertical starting position of the line group, measured in points from the top of the preview box. Increasing this value moves the line group downward.

Symbol inks



Symbol tab in the Inks palette

You use the Symbol tab in the Inks palette to apply symbol inks. The Symbol manager lets you customize symbol inks. For general instructions, see "Using Inks managers" on page 247.

A symbol ink is a pattern of vector objects. You can control the spacing and position of the objects in a symbol ink.

Creating symbol inks

You can create a symbol ink from any vector objects, as well as text objects, in a Canvas document. You can use any of the Canvas drawing tools to create vector objects for a symbol ink. You can apply inks and strokes to the objects before bringing them into the Symbol manager to create a new symbol ink.

- 1 Select the vector or text objects you want to use in a symbol ink. You can select more than one object, including group objects.
- 2 Drag the selected objects from the document into the preview box in the Symbol manager.
- 3 Adjust the settings for the symbol ink in the Symbol manager.
- 4 To store the new symbol ink in the palette, drag the ink from the preview box to the grid area at the top of the Symbol tab.

Symbol manager

When you create a symbol ink, you can adjust the position and spacing of the objects and apply a backdrop ink.

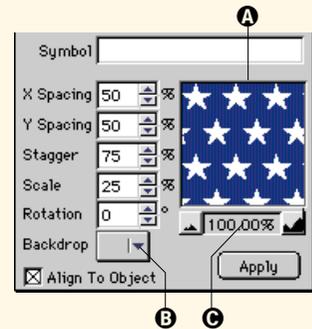
A Preview box. To create a new ink, drag vector or text objects to the preview box. Objects you drag to the box replace the current contents.

B Backdrop. Select a background ink in the pop-up menu. You can select any ink, including a color, gradient, hatch, texture,

and symbol ink. The ink you select appears behind the objects in the symbol ink.

C Preview zoom. Click the left button to reduce or the right button to enlarge the preview.

Align To Object. Turn on this option to keep a symbol ink in the same position if the object moves. Turn it off to let overlapping objects share a symbol ink without a gap.



Symbol spacing and position settings

In the Symbol manager, you can adjust the following settings to fine-tune a symbol ink.

Spacing These values set the distance between objects in the symbol pattern as a percentage of the size of the original objects. For example, a spacing value of 100 percent makes the distance between the objects equal to their size.

X Spacing is the horizontal distance between objects.

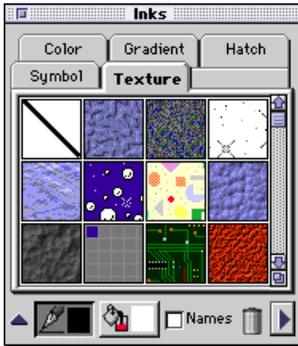
Y Spacing is the vertical distance between objects.

Stagger A positive value offsets the even-numbered rows of objects horizontally relative to the odd-numbered rows. To keep all objects aligned, set Stagger to zero. To align alternating rows of objects, enter a higher Stagger value. To create a pattern in which the objects are spread out and objects in alternating rows are aligned with the gaps in the rows above, set the X Spacing and Stagger values to 100 percent.

Scale The percentage of the original object size for the symbol ink. A value of 100 percent maintains the original object size. To reduce the objects, enter a value smaller than 100 percent. To enlarge the objects, enter a value greater than 100 percent.

Rotation The amount of rotation, specified in degrees, that Canvas applies to the original objects.

Texture inks



Texture tab in the Inks palette

You use the Texture tab in the Inks palette to apply texture inks. The Texture manager lets you customize texture inks. For general instructions, see “Using Inks managers” on page 247.

A texture ink is a pattern of raster images. You can control the spacing, scaling, rotation, and offset of the images in a texture ink.

Canvas assembles a texture ink by repeating an image in rows and columns, as if it were a grid of rectangular tiles. If you enter spacing values that spread the images apart, you create gaps between the image tiles; you can also include a background ink that will show through the gaps.

Creating texture inks

You can create a texture ink from any raster image object.

- 1 Drag an image from the document into the preview box in the Texture manager in the Inks palette.
- 2 Adjust the settings for the texture ink in the Texture manager.
- 3 To store the new texture ink in the palette, drag the ink from the preview box to the grid area at the top of the Texture tab.

Texture manager

When creating a texture ink, you can set the spacing and offset of image tiles and choose a background ink.

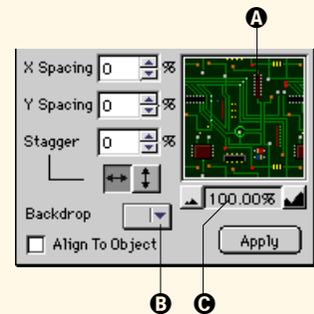
- A Preview box.** To create a new ink, drag an image to the preview box. The image replaces the current contents.
- B Backdrop.** You can choose a background ink in the pop-up menu. The ink appears only in gaps between the image tiles.
- C Preview zoom.** Click the left button to reduce or the right

button to enlarge the preview.

Spacing. Enter the amount of space between tiles as a percentage of the tile size. X Spacing is the space between columns; Y Spacing is the space between the rows of tiles.

Stagger. Select the horizontal button (left) or vertical button (right) and enter the distance (as a percentage of tile size) to shift the tiles.

Align To Object. Turn on this option to keep a texture in the



same position if the object moves. Turn it off to let overlapping objects share a texture without a gap.

STROKES: OUTLINE EFFECTS

When you create objects with drawing tools, Canvas applies a stroke to the objects according to attributes set in the Strokes palette. A *stroke* is a line centered on the path of vector objects and the outlines of type. You can shape a stroke with standard and calligraphic pens, parallel lines, even neon tubes. You can also add dashes and arrowheads to strokes.

This chapter explains basic stroke settings, how to customize strokes, and how to apply strokes to objects and text.

Types of strokes



Pen



Parallel



Neon



Arrow



Dash

Canvas has three basic types of strokes plus arrows and dashes, which you can use to create unlimited variations. The following types of strokes appear on tabs in the Strokes palette.

Pen Strokes made of a single line. You can specify the width, shape (standard or calligraphic), type of line joins, and shape of end caps.

Parallel Strokes made of two or more lines. You can specify width, dashes, colors, and spacing.

Neon Strokes shaded like glowing tubes. You can specify width, colors, tube shape, line joins, and end caps.

Arrows and dashes can be applied to strokes for additional effects. Two tabs in the Strokes palette contain settings for these attributes.

Arrow You can use preset or custom arrowheads that appear at the endpoints of each path segment.

Dash You can apply preset or custom dash sequences that divide solid strokes into solid and blank segments.

How inks affect strokes

You define the colors that apply to strokes separately from the stroke settings. The pen ink (specified in the Inks palette) and the stroke settings together produce the appearance of an object's outline. The pen ink is the color (or pattern) that "paints" the object's stroke. Therefore, the object must have a visible pen ink for the stroke to be visi-

ble. Conversely, the object must have a stroke for the pen ink to be visible.

Some inks can make strokes invisible. If the pen ink is set to “no ink,” the stroke won’t be visible. Also, if the pen ink is set to white or a color that matches the background, the stroke could disappear against the background.

Applying strokes

The Strokes palette is the control center for all aspects of strokes. You can use the Strokes palette to apply strokes to objects, create custom strokes, add strokes to the palette, and save strokes in files that you can later load into the palette.

Preset strokes and controls for customizing strokes are on the Pen, Parallel, and Neon tabs in the Strokes palette. Presets and controls for customizing arrows and dashes are on the Arrow and Dash tabs.

Current stroke

The strokes icon in the toolbox shows a sample of the *current stroke*, the stroke that Canvas applies to new vector objects you create. For example, if the current pen stroke is 3 points wide, new objects you draw will have a 3-point pen stroke. Canvas does not apply the current stroke to text; see “Applying strokes to text,” next.

To change the current stroke, deselect all objects and apply the stroke you want; the stroke icon in the toolbox shows the new current stroke. If you select an object and change its stroke, however, the current stroke for new objects does not change.

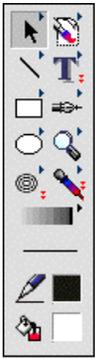
When you first install Canvas, the current stroke defaults to a 1-point pen stroke without dashes or arrowheads.

Applying strokes to text

You can apply strokes to text the same as to vector objects, in most cases. For information about selecting text objects and text characters, refer to the Text and Typography chapters.

When you first type or import text into a document, Canvas applies a 1-point pen stroke to the text, but does not assign a pen ink, so the text is not visible.

◆ **To make text strokes visible:** Select the text or text objects and apply a visible pen ink using the Inks palette. If you select a text object, Canvas applies a stroke to all the text it contains. If you select



Strokes icon

specific characters within a text object, Canvas applies the stroke to those characters only.

You can apply pen, parallel, and neon strokes to text. You can also apply dashes to text that has a pen or neon stroke.



Calligraphic pen stroke



Neon stroke

Note: The appearance of a parallel stroke applied to text might not appear as you expect, especially on characters with hollow centers (such as “O” and “P”) and characters with tight corners or paths that meet or cross (including “G” and “X”).

Removing a neon or parallel stroke from text (by choosing “no stroke” on the Neon or Parallel tab) does not remove the stroke entirely. Instead, the stroke reverts to a 1-point pen stroke.

Using preset strokes

The Strokes palette contains preset strokes and properties that you can apply to objects and to the current stroke. Using presets can help you save time and ensure graphic consistency.

Presets for pens, parallel lines, neon strokes, arrows, and dashes are displayed in scrolling lists on the associated tabs in the Strokes palette. You can use the Strokes icon in the toolbox to apply preset strokes.

You can also create custom strokes, arrows, or dashes and add them to the presets on the appropriate palette tab so you can use them again. For information about creating and storing strokes, see “Customizing strokes” on page 272.

✓ Tip

You can drag a stroke from the Strokes palette to an object to apply the stroke without first selecting the object.

To apply preset strokes to objects

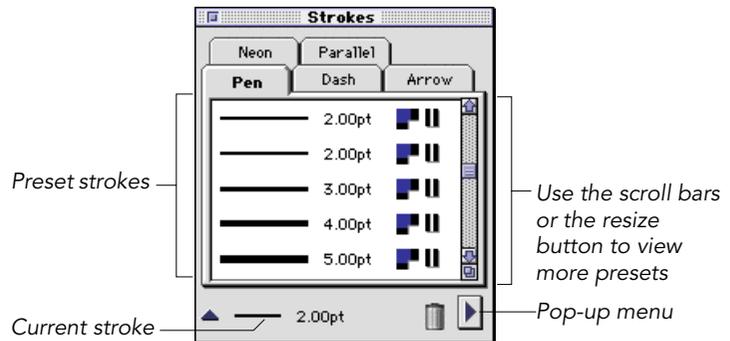
Use the following general procedure to apply a preset stroke to one or more objects.

- 1 Select the objects for which you want to change strokes.

- 2 Press the Strokes icon in the toolbox to open the Strokes palette. You can use the palette when it's attached to the toolbox, or you can drag the palette away from the toolbox to keep it open while you work. You can dock the palette on the Docking bar.
- 3 Depending on the type of stroke you want, choose the Pen, Parallel, or Neon tab.
- 4 Choose a stroke in the preset strokes list. If necessary, use the scroll bar or window resize button to view additional strokes. Canvas applies the stroke you choose to selected objects.

Floating Strokes palette

The palette appears slightly different when attached to the toolbox; the title bar and the items below the scroll list are not displayed.



To make a preset stroke the current stroke

You can choose a preset stroke as the current stroke to apply to new objects you create.

- 1 Deselect all objects in the current document. To deselect all objects, press Enter (Mac) or Esc (Windows) a few times, or until no bounding boxes are visible.
- 2 Press the Strokes icon in the toolbox and choose the Pen, Parallel, or Neon tab, depending on the type of stroke you want.
- 3 Choose a stroke in the preset strokes list. Use the scroll bar to view additional strokes. The Strokes icon in the toolbox shows the current stroke.

Using standard pen strokes

The most common type of stroke is a standard pen stroke, a solid line of uniform width (unless you select the Calligraphic option). This type of stroke is used for many situations, such as technical illustrations, flowcharts, callout lines, arrows, and dashes.

By default, the width of pen strokes is measured in points (one point is 1/72 of an inch). Pen stroke widths from 1 to 20 points appear in the Pen tab's presets list.

- ◆ **To change the current pen width:** Deselect all objects, then select a new stroke on the Pen tab of the Strokes palette.
- ◆ **To change the stroke width of specific objects:** Select one or more objects, then select a new stroke on the Pen tab.

To change the color of a pen stroke

The color of a pen stroke comes from the object's pen ink color. The pen ink can be a complex multi-color pattern or gradient, or a solid color.

- 1 Select one or more objects whose pen ink you want to change.
- 2 Press the Pen Ink icon in the toolbox. The Inks palette opens from the toolbox; you can drag this palette away from the toolbox to keep it open as you work.
- 3 On one of the tabs in the Inks palette, choose a color, gradient, hatch, symbol, or texture; see "Inks: colors and patterns" on page 239.

'Invisible' inks

A pen ink is one or more colors that Canvas uses to apply color to pen strokes. The pen ink can be set to "no ink," or to a color that blends into the background, which renders a pen stroke invisible.

In some situations, you might want to set an object's pen ink to "no ink," rather than remove the object's stroke. This can be useful to temporarily hide the stroke without removing the dash, arrow, and other stroke settings, for example.

To set an object's pen ink to "no ink"

This procedure removes the pen ink and makes the stroke invisible.

- 1 Select the object and press the Pen Ink icon to open the Inks palette.
- 2 On the Color tab of the Inks palette, choose the first item, a box crossed by a diagonal line. If colors are listed by name, select "no ink" at the top of the list.



Pen ink color changed from black to Pantone 123



"No ink" setting

Adding preset arrows to strokes

You can use preset arrowheads to create pen, parallel, and neon strokes with arrows. You can apply strokes with arrows to lines and open paths, such as those created with the Curve tool. Arrowheads can appear at one or both endpoints of a path.

You can also create custom arrowheads that you can add to the preset arrowheads; see “Customizing arrows” on page 278.

To add arrows to strokes

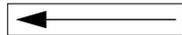
Use the following procedure to apply preset arrows to objects or the current stroke:

1 Depending on how you want arrows to apply, do one of the following:

- To add an arrow to the current stroke, deselect all objects.
- To add arrows to specific objects’ strokes, select the objects.

2 Press the Strokes icon in the toolbox to open the Strokes palette; select the Arrow tab.

3 The buttons at the top of the tab let you choose between starting, ending, and double-sided arrowheads. To select a placement click a button; the chosen button appears recessed. The arrows in the scroll list preview the selected arrowhead.



Starting arrow



Ending arrow



Double-sided

4 In the scroll list, choose the arrow that you want to apply. The arrow applies to selected objects or to the current stroke.

Adding dashes to strokes

You can add a variety of preset dash sequences to pen and neon strokes. You can apply a stroke with dashes to most objects, including lines, open and closed Bézier curves, polygons, rectangles, ovals, and stars.

Parallel line strokes can also include dashes. However, you select dashes for parallel lines when you customize the stroke on the Parallel tab. For details, see “Customizing parallel line strokes” on page 281.

To add dashes to pen and neon strokes

1 Depending on how you want dashes to apply, do one of the following:

- To apply dashes to the current stroke, deselect all objects.
- To apply dashes to an object that has a pen or neon stroke, select the object.

2 Press the Strokes icon in the toolbox to open the Strokes palette. Choose the Dash tab.

3 Choose the dash sequence that you want in the list of presets.

Removing arrows, dashes, and strokes

You can remove a selected object's stroke, or set the current stroke to "no stroke," so you can create objects that have no stroke. An object that has no stroke has no visible outline. Objects drawn with the Line tool become invisible without a stroke; other objects are still visible if they have a visible fill ink.

You can also remove dashes and arrows from a stroke. Because arrows and dashes are attributes of strokes, you can remove them without removing the entire stroke.

Removing arrows, dashes, and strokes involves the same procedure as changing from one preset stroke to another.

To remove arrows or dashes

You can use the following procedure to remove arrows from pen, parallel, and neon strokes, and to remove dashes from pen and neon strokes. For details about removing dashes from parallel strokes, see "Customizing parallel line strokes" on page 281.

1 Depending on how you want to remove arrows or dashes, do one of the following:

- To remove stroke attributes from an object, select the object.
- To remove stroke attributes from the current stroke, deselect all objects.

2 Press the Strokes icon in the toolbox to open the Strokes palette. Choose the Dash or Arrow tab, depending on the attribute you want to remove.

3 Choose “no arrow” on the Arrow tab to remove arrows from a stroke. Choose “no dash” on the Dash tab to remove dashes.

To use “no stroke” settings

You can remove strokes entirely from objects, or use “no stroke” as the current setting for new objects.

- 1** Depending on how you want to remove strokes, do one of the following:
 - To remove the stroke from an object, select the object.
 - To make “no stroke” the current setting, deselect all objects.
- 2** Press the Strokes icon in the toolbox and choose “no stroke” on the Pen, Neon, or Parallel tabs.

Customizing strokes

Each tab in the Strokes palette has a *configuration manager*, an area that can be rolled down at the bottom of the palette to reveal options for customizing strokes.

You can use the configuration managers to

- display the strokes settings of selected objects
- create custom pen, parallel, and neon strokes
- create custom arrowheads and dash sequences
- apply custom settings to objects or the current stroke
- store custom strokes as presets in the palette
- save preset strokes in files on disk
- load preset strokes that have been saved in disk files

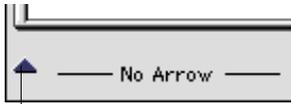
To use the configuration managers

You must tear off the Strokes palette from the toolbox to use the configuration managers, delete presets from the palette, and load, save, or delete strokes saved to disk.

- 1** To open the Strokes palette, press the Strokes icon and drag the palette away from the toolbox.

The Strokes palette opens as a floating palette. You can drag the palette by its title bar to move it.

- 2** Click the tab you want to use to bring it to the front, if necessary.



Configuration manager button

3 Click the triangle button at the bottom left corner of the palette to open the configuration manager for the front tab.

The configuration manager stays open as you click other tabs in the palette, and the display changes to reflect the available options for the tab.

◆ **To roll up the configuration manager:** When the configuration manager is open, click the down-facing triangle button at the left of the palette.

Choosing settings to customize

You can use the configuration managers to customize the settings of an object's stroke, the current stroke, or one of the preset strokes or stroke attributes. You can also create custom strokes.

- To customize an object's stroke, select the object and open the appropriate manager in the Strokes palette.
- To use a preset stroke as the basis for a custom setting, apply the preset to an object and then select the object. This displays the settings in the manager on the appropriate tab. You can also simply choose the preset in the scroll list; however, this also changes the current stroke or the stroke of any selected objects.

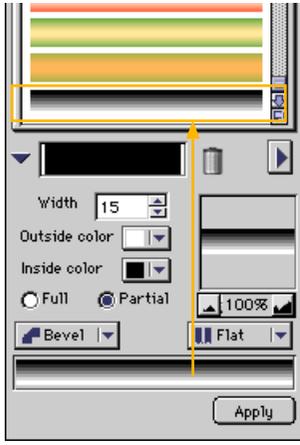
To apply custom settings to objects

You can apply custom settings from the Strokes palette to an object in two ways:

- Select one or more objects before you begin adjusting the settings in the configuration manager. To apply the settings to the selected objects, click Apply.
- If you customize the settings before selecting any objects, you can apply the settings to objects by dragging from the sample window at the bottom of the palette to an object.

✓ Important

If you adjust the settings in a configuration manager, and then select an object, the settings will change to reflect the object's settings. If you don't want to lose custom settings when no objects are selected, add them to the palette, or apply them to an object; see "Adding custom settings to the palette," next.



Drag from the sample window to the scroll list, as highlighted

Adding custom settings to the palette

You can add custom strokes, arrows, and dashes to the Strokes palette. When you add custom items, they become presets that you can use the same as default preset items. You can apply a customized preset to objects or make it the current stroke.

- ◆ **To add custom settings from the configuration manager to the palette:** Drag from the sample window at the bottom of the palette to the presets list at the top. The settings become a preset, with a graphic representation or description added to the end of the list.
- ◆ **To add settings from an object to the palette:** Select the object. Its settings appear in the appropriate configuration manager of the Strokes palette. Drag from the sample window at the bottom of the tab to the presets list at the top.

When you end a Canvas session, the program stores each tab's presets with the program. Because Canvas stores the preset strokes and inks, the same presets can always be available, whether you work with new documents, documents you created, or documents created by another Canvas user.

If you create a custom stroke and want to apply it to more than one object, and especially if you want to use it in a later work session, you should store the custom settings in the presets area of the palette.

Deleting presets from the palette

You can remove default and custom presets from the Strokes palette. When you delete a preset, Canvas permanently removes it from the palette, unless you save it to disk and load it again; see "Saving and loading strokes settings," next.

- ◆ **To remove a preset from the palette:** Drag the preset to the trash can icon below the presets scroll list. The trash can appears only when the Strokes palette is floating or docked on the Docking bar.
- ◆ **To remove all preset strokes from the tab:** Choose "Clear Palette Strokes" in the pop-up menu.

Note: If you delete all arrowheads from the palette, dimension objects will not have arrows.

Saving and loading strokes settings

You can save preset strokes, arrows, and dashes in files on disk, and load the presets into the Strokes palette. You can use these strokes files to customize the Strokes palette for particular projects or types

of documents, and to exchange custom settings with other Canvas users.

Commands for saving and loading strokes files are in a pop-up menu on the Strokes palette. The menu icon appears only when the Strokes palette is separated from the toolbox.



*Right-triangle button
pop-up menu*

To save strokes in a file

Use the following procedure to save the presets from one tab in the Strokes palette to a file on disk.

- 1** To open the Strokes palette, press the Strokes icon and drag the palette away from the toolbox. The Strokes palette opens as a floating palette.
- 2** Click the tab you want to use to bring it to the front.
- 3** Adjust the settings in the palette, if necessary, until you have the presets you want to save.
- 4** Press the right-triangle button on the right of the palette and choose Save Strokes in the pop-up menu. A directory dialog box opens.
- 5** Type a name for the palette file, select a location on a disk, and click Save.

To load strokes from a file

Use the following procedure to load presets from a strokes file on disk to a tab in the Strokes palette. When you load a strokes file, you can replace a tab's presets with the file's presets or add the presets saved in the strokes file to those currently in the palette.

- 1** To open the Strokes palette, press the Strokes icon and drag the palette away from the toolbox. The Strokes palette opens as a floating palette.
- 2** Click the tab you want to use to bring it to the front.
- 3** Press the right-triangle button on the right of the palette and do one of the following, depending on whether you want to replace the current presets:
 - To replace the tab's presets with those in the strokes file, choose Load Strokes.
 - To add the presets in the strokes file to those currently in the palette, choose Append Strokes.

4 A directory dialog box opens. Locate the strokes file you want to open and click Open.

Customizing pens

In the Pen manager, you can choose from the following options:

- standard or calligraphic pen styles, also known as “nibs.” Standard pens have a uniform width. Calligraphic pens have a separate width, weight, and angle setting.
- bevel, miter, or round line joins
- flat, round, or square end caps

For basic information about setting pen size, see “Using standard pen strokes” on page 268.

✓ Tip

You can choose millimeters, inches, or picas instead of points as the pen size unit using the Preferences command in the File menu.

◆ **To create a custom pen width:** In the Pen manager, choose Standard in the pop-up menu, and set the width in the Width text box. The sample window at the bottom of the manager shows the current settings; drag from this window to the scroll list to add the pen stroke to the presets.

To create a calligraphic pen

The calligraphic option lets you create a pen stroke with a custom weight, width, and angle. The shape of a calligraphic stroke varies depending on the stroke’s path.

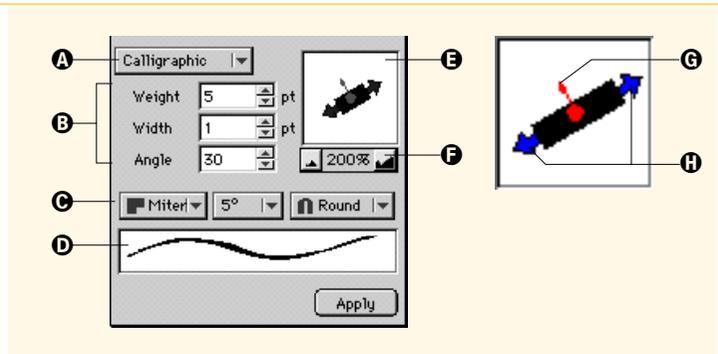
- 1** In the Pen manager, choose Calligraphic in the pop-up menu. Weight, Width, and Angle text boxes and an editing box appear in the configuration manager.
- 2** To set the width of the pen, enter a value in the Width text box, or drag the thin red arrow in the edit window. The width is the maximum thickness of the stroke when it is perpendicular to the pen angle.
- 3** To set the weight of the pen, enter a value in the Weight text box, or drag the thick blue arrows in the edit window. The weight is the maximum thickness of the stroke when it is parallel to the pen angle.
- 4** To set the pen angle, enter a value in the Angle text box or drag an arrow in the edit window.

For the most calligraphic effect, the weight and width values should be dissimilar (at least by a factor of three or four) and the angle set to approximately 45 degrees.

Pen manager

These settings let you create Calligraphic pen types.

- A** Choose Calligraphic in the pop-up menu.
- B** Specify weight, width, and angle of the pen nib. You can set the units of measure for these settings using the Preferences command in the File menu.
- C** Configure line joins and end caps using the pop-up menus; see the next section for information on these settings.
- D** Sample window of the current pen settings.



- E** Edit the size and angle of the nib interactively in this edit window (see inset).
- F** Use the zoom buttons to increase or reduce the size of the nib in the edit window. This does not affect the actual pen size.

In the edit window, you can drag control points to adjust the pen nib.

- G** Drag to change the width and angle of the nib.
- H** Drag to change the weight and angle of the nib.

Choosing line joins and end caps

Pop-up menus in the Pen manager let you specify the type of line joins and end caps. Line joins determine appearance of two path segments that meet at a corner. End caps specify the shape of the endpoints of an open path.

Line joins

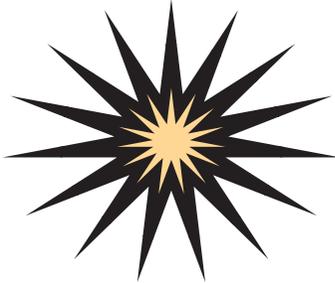
Canvas has three types of line joins: miter, round, and bevel. For pre-set pen strokes, Canvas indicates the type of line join in the scroll list on the Pen tab.

Miter Joins path segments with sharp corners that extend to a single point. When you choose miter joins, an additional pop-up menu lets you set the miter limit in degrees (5, 10, 30, 60, or 90 degrees).

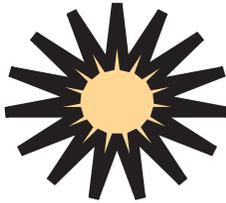
The miter limit setting tells Canvas which corners are too tight to miter; Canvas bevels these corners instead. In other words, if the miter limit is set to 10 degrees, and two path segments join at an angle of 9 degrees, Canvas bevels the corner rather than creating a miter join. The miter limit lets you prevent long, spiked corners that might result as a combination of a wide pen size and a small angle.

Round Smooths corners, so the joint is rounded instead of pointed or flat.

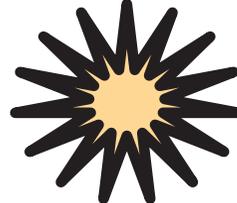
Bevel Squares off path segment corners, so that the joint appears flat rather than rounded or pointed.



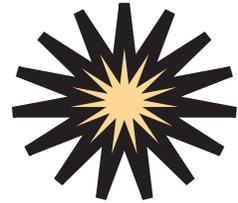
Miter join, miter limit = 2°



Bevel join



Round join



Miter join, miter limit = 10°

End caps

Canvas has three types of end caps. For preset pen strokes, Canvas indicates the type of end cap in the scroll list on the Pen tab.



Flush with endpoint



Rounded at endpoint



Square at endpoint

Flat The end of the stroke is flush and square with the end of an open path or dash. By default, end caps use this setting.

Round A semi-circular cap extends half the pen width beyond the endpoint of an open path or dash.

Square The stroke tip is square, similar to the Flat option, but extends half the line width beyond the endpoint, like the Round option.

Customizing arrows

You can create starting, ending, or double-sided arrowheads using the Arrow manager. You can create double-sided arrowheads that are identical or entirely different. Canvas has several preset arrowhead styles that you can use and edit, or you can use any vector, paint, or text object as an arrowhead.

To create a custom arrowhead

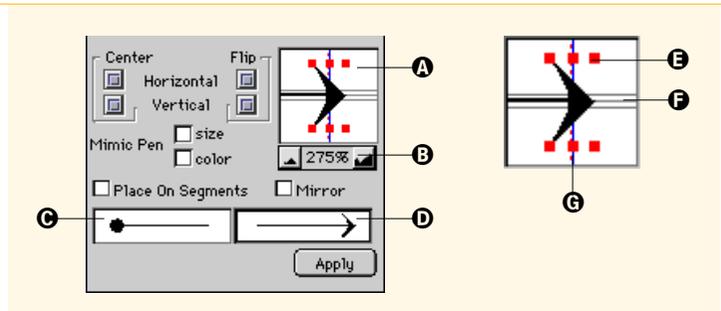
- 1 Create a vector, text, or paint object to use as an arrowhead. You can also edit a preset arrowhead or an arrowhead style of an existing object by selecting the preset or object.

- 2 With the Strokes palette floating, select the Arrow tab and roll down the Arrow manager, if necessary.
- 3 To choose whether you want to create a starting or ending arrowhead, or both, click a button at the top of the tab. The sample windows at the bottom of the configuration manager show or hide, depending on the button you click.
- 4 For double-sided arrowhead styles, click a sample window to choose which arrowhead you want to work with. To edit both sides simultaneously, select Mirror.
- 5 Drag the object you want to use as an arrowhead to the edit window in the configuration manager.
- 6 Configure the arrowhead settings described below.

Arrow manager

Use these options to create a custom arrowhead or edit a preset arrowhead.

- A** You can drag objects to this edit window to use them as arrowheads. A preview of selected presets or objects also appears here.
- B** Use these zoom buttons to magnify the edit window view. Changing views does not change the arrowhead's actual size.
- C** Shows the starting arrowhead, and isn't visible when using only ending arrowheads. When working with double-sided arrowheads, click this window to select the starting arrow.
- D** Previews the ending arrowhead and isn't visible when using only starting arrowheads. When working with double-sided arrowheads, click this window to select the ending arrow.



Arrow edit window

You can move and resize the object in the edit window to fine-tune the arrowhead.

- E** Drag these control points to resize the arrowhead.
- F** Indicates the horizontal axis of the path's endpoint.
- G** Indicates the vertical axis of the path's endpoint.
- Center.** Click the buttons to align the center of the arrowhead horizontally and vertically on the path's endpoint.

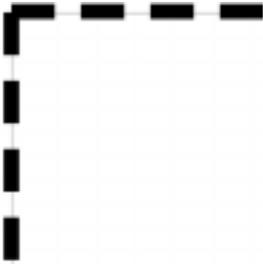
Flip. Click the buttons to flip the arrowhead horizontally and vertically.

Mimic Pen. Turn Size and Color on to apply the pen width and ink of the path to the arrowhead.

Place on Segments. Turn this option on to add arrows to each segment of an object.

Mirror. Turn on to make double-sided arrowheads mirror images of each other.

Customizing dashes



Dash stroke

Dashes are composed of alternating solid and blank segments. Using the Dash manager, you can customize the length of up to 13 segments to create new, complex dash sequences.

You can design dashes interactively using the edit window. To precisely set the length of each dash segment, you can also specify an exact length. The ruler in the Dash manager displays inches; however, you can enter dash lengths in inches, points, millimeters, or picas; see “Measurement units preferences” on page 175 for details.

Dashes in the Strokes palette always appear as 1-point wide, black and white segments. However, when you apply these dashes to an object’s pen, the black segments adopt the color and size of the pen, and the white segments become transparent.

◆ **To create a custom dash sequence:** With the Strokes palette floating, select the Dash tab and open the Dash manager, if needed. Use the edit window and Length text box to design the sequence, as described next.

Dash manager

Use these controls to create custom dashes.

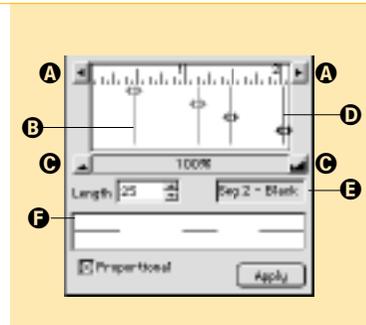
- A** Click to move the edit window view left or right.
- B** To change the length of a segment, drag a segment editor. You can type a number in the **Length** box. When you select or drag a segment, it highlights.
- C** To zoom in, click the right button. To zoom out, click the left button. You can change magnification in steps from 100% to 1000%.

D To add a segment, drag to the left from the segment editor. The segment editor remains at the right of the window until you create the maximum 13 segments.

E The segment’s number (its order in the sequence) and its color. “Black” indicates it will appear in the color of the pen ink, and “White” indicates it will be transparent.

F Displays a sample of the current settings.

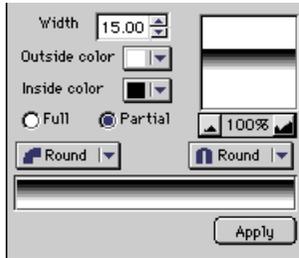
Proportional. Tells Canvas to scale the length of the segments to match the pen width



of the object. The length of segments in the Dash manager are based on a 1-point line. Therefore, if the pen width is 6 points and Proportional is selected, Canvas multiplies the lengths by six.

Customizing neon strokes

You can create custom neon strokes using the Neon manager in the Strokes palette. You can specify the width, colors, line joins, and end caps for neon strokes.



To create custom neon strokes

- 1 With the Strokes palette floating, select the Neon tab and open the Neon manager, if necessary.
- 2 To specify the width of the neon stroke, enter a value in the Width text box. The preview windows reflect the current settings. You can use the magnification buttons below the preview window to get a close look at the neon effect. Keep in mind that low width settings might make it difficult to see the neon effect.
- 3 To specify colors for the neon stroke, use the Inside color and Outside color pop-up menus; see “Creating custom colors in pop-up palettes” on page 253 for more information. Canvas blends these colors together to create the neon effect. To make the stroke appear round, experiment with lighter inside colors and darker outside colors. The placement of the colors depend on the Full/Partial setting.
- 4 To place the inside color in the center of the stroke and the outside color on the edges, choose Full. To place the inside color on one side of the stroke, choose Partial.
- 5 To choose line join and end cap styles, use the pop-up menus above the sample window at the bottom of the manager; see “Choosing line joins and end caps” on page 277 for more information on these options.

Customizing parallel line strokes

You can create custom parallel line strokes using the Parallel manager in the Strokes palette. You can specify the number of lines, the color, dash pattern, and pen size of each line, and the spacing of lines.

- ◆ **To create custom parallel line strokes:** With the Strokes palette floating, click the Parallel tab to bring it to the front and open the Parallel manager, if necessary. Configure the settings in the manager, described below.

Parallel manager

Use these controls to create custom parallel line strokes.

A Enter the number of parallel lines you want.

B Choose a number in the pop-up menu to select a line to edit ("1" is the bottom line). You can also click a line in the preview window (**C**) to select it.

C Previews the current settings and indicates which line is selected by displaying handles.

D Use these pop-up menus to apply pen width (Pen), pen color (Color), and dashes (Dash) to the selected line. The pop-up menus contain preset strokes and colors. You can also specify

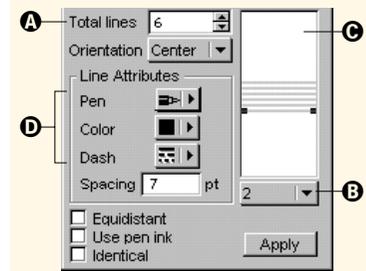
custom pen colors; see "Creating custom colors in pop-up palettes" on page 253.

Spacing. Enter a number to specify the distance between the selected line and the one below it. For Line #1, this setting defines the space between this line and Line #2.

Use pen ink. Turn on this option to apply a color to the spaces between the parallel lines.

Equidistant. Turn on this option to apply the spacing setting for the selected line to all lines.

Identical. Turn this option on to give all parallel lines the



same pen size, color, and dash as the selected line.

Orientation. Choose Center, Outside, or Inside to specify the placement of parallel lines relative to the path of the object.

TRANSPARENCY EFFECTS

You can save time and create complex illustrations with the powerful and easy-to-use transparency features in Canvas. These features let you apply transparency effects to anything in your Canvas documents, including vector objects, images, and text.

Transparency effects can help you express artistic visions, but they're also useful for non-artists who need to create functional illustrations. For example, collages, layered images, “ghosted” text, vignettes, overlays, and texturing are just a few things that transparency can help you achieve with more control and less effort than before.

This chapter describes how to use transparency, beginning with an overview of transparency features and terminology.

Transparency effects work with all objects, including images, text, vector objects, and groups



Overview of transparency

Transparency features in Canvas go far beyond simple opacity settings. In addition to adjusting opacity, you can use image- and vector-based transparency masks, clipping paths, and transfer modes. You can also create paint objects with transparent backgrounds.

Opacity, transparency masks, transfer modes, and clipping paths can be applied to any type of object (vector, paint, text, and group). Some specialized effects can be applied to certain types of objects.

Opacity

The Opacity slider lets you create basic transparency effects easily. Drag the Opacity slider in the toolbox or the Transparency palette to set opacity from 1% to 100% for a selected object. The opacity setting can augment other transparency effects. See “Opacity effects” on page 288.



Reduced opacity

Transparency masks

Two types of masks, *vector masks* and *channel masks*, can create transparency, such as fades, collages, texturing, vignettes, and other effects. See “Transparency masks” on page 292.

Transfer modes

Transfer modes are like digital filters that can modify the appearance of overlapping colors. You can apply transfer modes to any objects, alone or in combination with other transparency effects. See “Using transfer modes” on page 305.



Transfer modes

Clipping paths

A *clipping path* hides, or “clips,” parts of objects. The parts outside the clipping path are completely transparent. You can use simple shapes, complex paths, and text characters as clipping paths. See “Using clipping paths” on page 362.



Text and vector objects



Text as clipping path

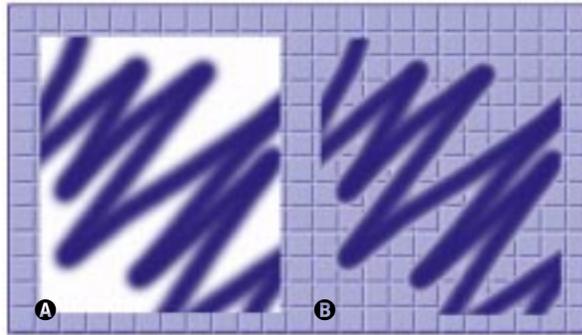
Other transparency features

Several features that are related to transparency — Visibility masks, GIF transparency, and overprinting — can be used in specific situations.

Visibility masks Paint objects can have opaque or transparent backgrounds. If a paint object has a transparent background, it has a *visibility mask*. A visibility mask stores the transparency of each pixel,

independent of other transparency effects. The mask automatically adjusts itself to conform to editing of the image by filters and painting tools.

- A** A paint object with an opaque background
- B** A paint object with a transparent background has a visibility mask



GIF images You can create transparency in a GIF file by designating a color or channel to be transparent. Web browsers and some other applications display transparency in GIF files. See “GIF export options” on page 99.

Overprinting A technique used in commercial printing, overprinting means printing an object on top of other colors. Overprinting simulates transparency by mixing an object’s color with underlying colors on a printing press. See the Canvas *Color Printing Guide* for information on overprinting and other printing techniques.

Defining transparency

In the real world, an object is considered to be transparent if light can pass through it. The quality of transparency lets you see through materials such as glass and clear plastic.

In the virtual world of Canvas, you can simulate any scene of real-world transparency. For example, you can create the appearance of objects seen through colored glass, or images reflected by polished marble.

To use transparency effectively, it helps to understand how graphic objects appear in various situations.

Objects you create in most graphics programs are not transparent. For example, in most cases, you can’t see through a filled vector object, or a line of text, or a photographic image.

In Canvas, some parts of objects are normally “transparent,” meaning they do not block other objects in the background. Text characters are opaque, but the text object that contains text is not visible unless you apply a color to its background or outline. You can place text labels on a map illustration, for example, and the text objects do not obscure the lines of the map.

The space around text in a text object is normally transparent. If you apply a background color, the whole text object is opaque

Anum 2000

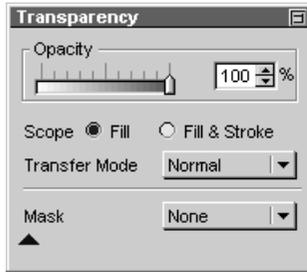
Anum 2000

The following table describes which parts of objects are normally transparent and opaque, before you apply any transparency effects.

Object type	Opaque parts	Transparent parts
Vector	Area covered by inks inside the object’s path and on its stroke	Space outside the object’s path Interior of the object if it has no fill ink
Text	Area covered by fill ink inside the characters and pen ink on the character strokes	Interior of characters that have no fill ink Hollow parts of letters such as “O” and “P” Space around characters, except when text object has a background color
Paint	All pixels in an opaque paint object	Any part of a transparent paint object that has not been painted in or filled with pixels
Group	Same as the separate objects that make up the group	Same as the separate objects that make up the group, plus the space between objects is transparent

Note: Inks have various opaque elements. Color and gradient inks are uniformly opaque. Symbol and texture inks are opaque but can have transparent spaces between their tiles, or an opaque backdrop color. Hatch inks are transparent between the opaque hatch lines.

Using the Transparency palette



The Transparency palette is a control center for transparency effects. It is a floating palette that can stay open on screen and can be docked on the Docking bar.

The Transparency palette includes controls and options for opacity, masks, transparency scope, and transfer modes.

You can use the Opacity slider in the Transparency palette to set the opacity of a selected object. The effect is the same as using the Opacity slider in the toolbox. See “Opacity effects” on page 288.

You can use the Scope options to apply transparency effects to an entire object or only its fill ink. See “Controlling the scope of transparency effects” on page 291.

You can apply channel masks and vector masks using the Mask menu. See “Transparency masks” on page 292.

You can change the transfer mode of a selected object by selecting from the transfer mode menu. See “Using transfer modes” on page 305.

The Transparency palette works with a single selected object. The controls in the palette are not available when more than one object is selected.

- ◆ **To open the Transparency palette:** Press the Opacity icon in the toolbox. When the Opacity slider pops open, drag it away from the toolbox. The Transparency palette appears when you release the mouse button.
- ◆ **Using commands:** To display the Transparency palette, you can choose Window > Palettes > Show Transparency. To remove the palette, choose Window > Palettes > Hide Transparency.

You can also choose Object > Transparency > Transparency to display the Transparency palette.

Transparency palette options

Options for opacity, transfer mode, scope, and masks appear in the Transparency palette. When an object is selected, the Transparency palette displays the object's opacity and transfer mode.

Opacity. Drag the slider or enter a percentage to set the opacity of a selected object.

Scope. Set the transparency scope for a selected vector object.

A Click to show or hide the mask options.

B Choose Channel to create a channel mask. Choose a vector mask style to create a vector mask. If the object has a mask, the menu shows the type of mask. Choose None to remove the object's mask.

Edit. When a selected object has a channel mask or vector mask, click Edit to edit the mask.

C When a masked object is selected, mask options appear in this area.



Opacity effects



Opacity is a feature that lets you easily apply a transparency effect to any object.

When an object's opacity is less than 100%, the object appears partly transparent. You can reduce the opacity of a text object, for example, so a background image is visible through the type.

Setting the opacity of objects

You use the Opacity slider to set the opacity of objects. The Opacity slider is available in the toolbox and in the Transparency palette.

The Opacity slider in the toolbox will set opacity for one or more selected objects. The Opacity slider in the Transparency palette is available only when a single object is selected.

Opacity affects the overall transparency of an object, so the Opacity slider is a master control for all transparency effects applied to an object.

For example, you can use a channel mask to make an oval vignette from a photograph. At the edge of the oval, the photograph becomes

completely transparent. If you then reduce the object's opacity, the visible part of the image becomes partly transparent.

When an object's opacity is less than 100%, anything in the background, including the white illustration area, can affect the object's appearance. The illustration area has the same effect as a solid white object in the background. If you reduce the opacity of a blue object, for example, the white illustration area appearing through the object can make it appear to be light blue.

The appearance of colors in an object can also be affected by the object's transfer mode. See "Using transfer modes" on page 305.

Defining opacity

"Transparency" and "opacity" are opposite terms that describe the ability to see through an object.

Greater transparency means it is easier to see through something; greater opacity means it is harder to see through it.

In percentages, 100% opacity equals 0% transparency. Those values describe objects you can't see through. 1% opacity equals 99% transparency.

Those values describe almost completely clear objects.

All Canvas objects have an opacity. You can set opacity from 1% to 100% in 1% increments. The opacity of a new object is 100%. When you copy an object, the copies have the same opacity as the original object.

To avoid confusion, the word "transparency" is used in this manual as a general term for several

related effects. The word "opacity" is used to refer to a specific effect and a specific property of objects.

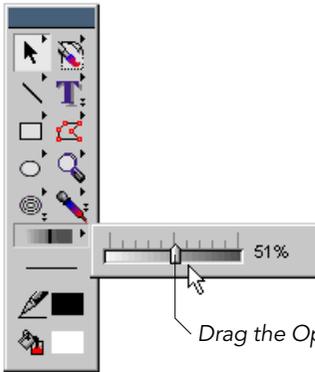
In other words, an object's "transparency" can result from various factors, including ink settings, the transfer mode, a channel mask, or another effect. An object's "opacity," on the other hand, is a specific setting controlled by the Opacity slider.



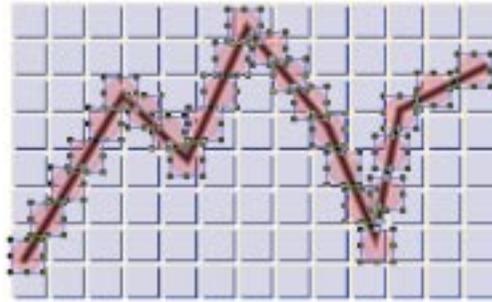
To set the opacity of objects

- 1 Select the objects whose opacity you want to change.
- 2 Do one of the following to use the Opacity slider:
 - *Windows:* Click the Opacity icon in the toolbox and the Opacity slider appears. Drag the slider or click in the scale to adjust the opacity setting.
 - *Mac:* Press the Opacity icon in the toolbox and the Opacity slider appears. Drag in the scale to adjust the opacity setting.

3 Drag the Opacity slider to the left to decrease opacity; drag to the right to increase opacity. The opacity percentage appears at the right of the slider.



Drag the Opacity slider to set the opacity of selected objects



✓ Tip

You can set opacity quickly by Tab-clicking the opacity scale in the toolbox. A line in the scale shows the setting. Click the middle of the scale to set opacity to about 50%.

If no objects are selected when you press the Opacity icon, the Opacity slider isn't available.

The Opacity icon in the toolbox displays an opacity scale. When an object is selected, a line in the scale indicates the object's opacity setting. The left end of the scale represents 1% opacity and the right end represents 100% opacity.

In the Transparency palette you can adjust the opacity of a single selected object. To set a selected object's opacity, drag the Opacity slider or enter a percentage from 1% to 100% in the text box.

The Transparency palette also lets you specify the scope of an object's opacity setting. See "Controlling the scope of transparency effects," next, and "Using the Transparency palette" on page 287.

Setting opacity for multiple objects

You can use the Opacity slider in the toolbox to set the opacity for more than one object. In contrast, the Opacity slider in the Transparency palette is not available when more than one object is selected.

Using the Opacity slider in the toolbox when multiple objects are selected will apply the same opacity setting to each selected object.

To adjust the opacity of a group object, you can use the Opacity slider in the toolbox or in the Transparency palette, because a selected group object is considered one object.

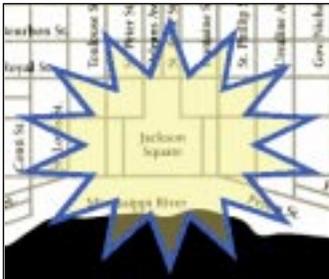
Opacity applies to a group object as if it were a single object. This is different than changing the opacity of multiple selected objects that aren't grouped.

When a group object is selected, changing the opacity applies to the group as a whole. Objects that were opaque do not become transparent to other objects in the group if you reduce the opacity of the group object.

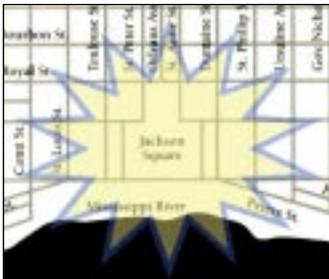
If you ungroup an object, the group opacity setting is removed and the opacity of each separate object is restored.

Consider a group of three objects whose opacities are 30%, 60%, and 100%. If you set the opacity of the group object to 50%, the opacities of the individual objects will appear to be 15%, 30%, and 50% relative to the background. If you ungroup the objects, their opacities will be restored to 30%, 60%, and 100%.

Controlling the scope of transparency effects



Fill



Fill & Stroke

All vector objects have scope settings that control what parts of the objects are affected by transparency.

The scope setting can limit transparency to an object's fill ink only. Or, it can apply transparency to the fill ink and the pen ink on the object's stroke.

The scope setting controls all transparency effects applied to vector objects, including opacity, channel masks, vector masks, and transfer modes.

Each vector object has a scope setting. Scope settings do not affect text objects, paint objects, or group objects.

You can change the scope setting of a selected vector object using the Transparency palette. An object's scope setting remains the same unless you use the Transparency palette to change it. See "Using the Transparency palette" on page 287.

The scope setting can affect the time needed to print an object. When an object has a reduced opacity setting (but no other transparency effects) and the scope is Fill, Canvas can print the object on PostScript printers without rendering. If the scope is Fill & Stroke, Canvas renders the object and prints it as an image. An image usually contains more data than a vector object, so this can increase the time required to print an object.

To set an object's transparency scope

- 1 Select a vector object.
- 2 In the Transparency palette, select a Scope option:
 - To apply transparency effects to the entire object, select Fill & Stroke.
 - To apply transparency effects to the object's fill ink only, select Fill.

Transparency masks



Paint object with a channel mask

Transparency masks let you create complex transparency effects. You can use transparency masks with vector, paint, text, and group objects.

Channel masks and *vector masks* are the two types of transparency masks available. You can apply either mask type to vector, text, paint, and group objects. An object can have only one mask, but it can have a mask along with other effects such as opacity and transfer mode.

A channel mask creates transparency based on a grayscale image. A channel mask is part of an object, the same way an image channel is part of a paint object. You can use painting tools and image-editing techniques in a channel mask. For example, you can make a vignette by painting an oval in a channel mask.

A vector mask creates transparency based on a vector gradient or the colors of a vector object. Vector masks can produce gradual transparency changes the same way that gradient inks produce gradual color changes. You can drag a tool to create radial, linear, elliptical, and rectangular vector masks, or you can use an object as a vector mask.

The following sections describe methods for using channel masks and vector masks.

Changing the transparency preview

When you edit paint objects or channel masks, Canvas previews transparency effects according to a preference setting. You can temporarily change the preview when you are in channel mask edit mode.

When you edit a channel mask with no preview, a checkerboard pattern lets you focus on the transparent object. The checkerboard hides

objects behind the transparent object, while showing the transparent areas in the object you are editing.

Note: In Total Preview mode, Canvas shows objects that are in front and in back of a paint object or channel mask you are editing.

- ◆ **To turn off the transparency preview:** Press the Asterisk (*) key, or choose Hide Transparency Preview in the context menu.
- ◆ **To restore the transparency preview:** Choose Show Transparency Preview in the context menu. If you don't choose the command, Canvas restores the preview setting each time you leave edit mode.
- ◆ **To set the Transparency preview:** Choose File > Preferences. Click the Display tab in the Preferences dialog box and select an option in the Transparency area. Click Background Preview to preview background objects only. Click Total Preview to preview background and foreground objects. Click No Preview to display transparent objects against a checkerboard pattern for editing.



Note: If you select the No Preview preference, you can't use the context menu to change the preview while you edit an object.

When you edit a channel mask, you can display the background, or a checkerboard pattern behind the object



Total preview



No preview

The preview preference affects what you see when you paint in a transparent paint object or edit any paint object. If objects are in front of the paint object, you can see the objects while editing if you select Total Preview. If you select Background Preview or No Preview, foreground objects are not displayed when you edit a paint object or a channel mask.

Channel masks

A channel mask is a special channel that defines transparency in an object. While channels are typically associated with paint objects, you can apply a channel mask to any type of object.



Object with symbol ink



Channel mask



Transparency effect

Like an alpha channel in a paint object, a channel mask is basically a grayscale image. Channel masks can be edited using image-editing tools and techniques, similar to alpha channels.

You can think of a channel mask as a template for transparency. The channel mask is the same size as the masked object and is aligned with it. In the case of a paint object, the channel mask has the same resolution and number of pixels as the paint object.

Channel masks, like grayscale images, contain pixels that are assigned 256 possible lightness levels, or luminance values. Luminance values in a channel can range from 0 (black) to 255 (white).

In an alpha channel, luminance corresponds to selection intensity. In a channel mask, luminance values correspond to 256 levels of transparency, from 100% to 0% transparency, in the masked object. Black pixels (0 luminance) produce 100% transparency, while white pixels (255 luminance) produce 0% transparency.

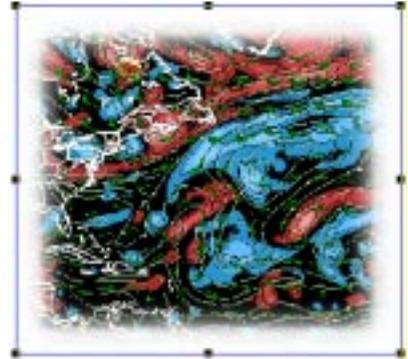
Therefore, when you paint in a channel mask, painting with black produces clear areas and painting with white produces opaque areas in the masked object. Painting with gray produce partial transparency relative to the gray value, with darker grays producing greater transparency than lighter grays.



Channel mask and paint object

Black in a channel mask (left) produces 100% transparency

A feathered edge produces partial transparency



Masked object

Keep in mind that an object's appearance can be affected by its transfer mode, scope setting, and opacity, in addition to a channel mask. Changing the transfer mode can completely change the appearance of an object that has a channel mask. See "Using transfer modes" on page 305.

Note: In Canvas 5, a channel mask was defined as a 1-bit (black-and-white) channel. This type of channel produces either 100% transparent or 100% opaque areas. A channel mask in a Canvas 5 document will be converted to the current channel mask format if you open the document in the current version of Canvas.

Creating channel masks

You can create a blank channel mask, or create a channel mask from a paint object. You create a channel mask when you render objects, you can use the Render command; see "Rendering objects and images" on page 491.

You can use the Transparency palette or the Channels palette to create blank channel masks. In the Channels palette, an object's channel mask is selected in the channel mask slot when the object is in channel mask edit mode. In the Transparency palette, the Mask menu shows "Channel" when a selected object has a channel mask.

To create a channel mask

This procedure creates a blank channel mask for an object.

- 1 Select a text, paint, vector, or group object to mask.
- 2 Press Option (Mac) or Ctrl (Windows) and double-click the object. Or, choose Object > Transparency > New Channel Mask.

- If the object to be masked is not a paint object, a dialog box asks you to set the resolution of the mask. Enter a resolution from 1 to 2,540 ppi and click OK.
 - If the object is a paint object, the channel mask's resolution will be the same as the paint object's resolution.
- 3** The object appears in channel mask edit mode, with the object visible and the channel mask selected. You can edit the channel mask with painting tools. See “Editing channel masks” on page 297.
 - 4** When you finish, press Esc to leave edit mode.

When you create a new channel mask, the channel is filled with white pixels. At this point, the channel mask produces no transparency because white pixels in the channel mask produce 0% transparency in the masked object. As you edit the channel, painting with gray produces partial transparency, and painting with black produces 100% transparency.

To use the Transparency palette

You can use the Transparency palette to create a blank channel mask. To open the Transparency palette, see “Using the Transparency palette” on page 287.

- 1** Select an object to mask.
- 2** In the Transparency palette, choose Channel in the Mask pop-up menu.
 - If the object to be masked is not a paint object, a dialog box asks you to set the resolution of the mask. Enter a resolution from 1 to 2,540 ppi and click OK.
 - If the object is a paint object, the channel mask's resolution will be the same as the paint object's resolution.
- 3** The object appears in channel mask edit mode, with the object visible and the channel mask selected. You can edit the channel mask with painting tools. “Editing channel masks” on page 297.
- 4** When you finish, press Esc to leave edit mode.

Setting the channel mask scope

When you apply a channel mask to a vector object, the channel mask affects the vector object's fill ink or its fill ink and stroke (pen ink). To change the effect, change the Scope setting in the Transparency

palette. See “Controlling the scope of transparency effects” on page 291.

Masking with a paint object

You can create a channel mask by attaching a paint object to another object. If you have an existing paint object that you want to use as a channel mask, it’s quicker to use this procedure than to use the Channels palette to place the paint object in a channel mask.

To attach a channel mask

- 1 Place a paint object to use as a mask in front of the object to be masked. The two objects do not have to overlap or touch, but the paint object must be in front of the other object in the stacking order.
- 2 Select both objects.
- 3 Choose Object > Transparency > Attach Mask. Canvas creates a channel mask and both objects remain selected. The original paint object is not changed.

If the paint object and the object to be masked aren’t the same size, Canvas scales the image of the paint object to fit the masked object.

A channel mask created from a paint object is the same as any channel mask. You can edit it the same as if you created a blank channel mask.

Like any other channel mask, a channel mask created from a paint object produces transparency relative to its gray values. If the channel mask is solid white, it creates no transparency; if it is solid black, it creates 100% transparency and makes the masked object invisible.

Editing channel masks

You can use painting tools, filters, and image-editing commands to modify the effect of a channel mask. To edit a channel mask, the masked object must be in channel mask edit mode.

Editing a channel mask is similar to editing a channel in a paint object. You can paint in the channel mask with shades of gray. You can make selections with selection tools, commands, and alpha channels. You can apply image-adjustment commands and filters to the entire channel mask or to just the selected areas.

To edit a channel mask

- 1 Select the masked object.

2 Choose Object > Transparency > Edit Channel Mask. The masked object appears in channel mask edit mode.

In this mode, the channel mask is active and the object is also visible. You can paint in the channel or modify it to change the transparency of the underlying object.

3 When you finish editing, press Esc to leave edit mode. The object remains selected.

◆ **Options for channel mask editing:** You can enter channel mask edit mode using any of the following methods.

With the mouse: Press Option (Mac) or Ctrl (Windows) and double-click a masked object.

Note: If the object doesn't have a channel mask, this creates a channel mask and puts the object in channel mask edit mode.

In the Transparency palette: Click the Edit button when a masked object is selected. This places an object with a channel mask in channel mask edit mode. If the object has a vector mask, it places the vector mask in edit mode.

In the Channels palette: When a paint object is in edit mode, click the channel mask to select it for editing. When any other object is in channel mask edit mode, the channel mask is the only channel that can be selected.

Selecting views for channel mask editing

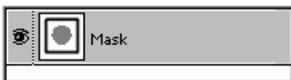
You have a choice of view when you edit an object's channel mask. You can display the object and the channel mask together, which shows you the overall effect of the mask as you edit it. Or, you can hide the object to concentrate on the channel mask alone.

Selecting views in the Channels palette

An eye symbol in the Channels palette appears to the left of a channel that is visible. The eye symbol disappears if a channel is hidden.

When you edit a channel mask, the top channel in the palette represents the object itself. For a typical paint object this channel is labeled with the image mode, such as RGB or CMYK. For other objects, the first channel is labeled "Object."

The channel mask of an object in edit mode is shown in the Channel Mask slot, which is below the channel list.



◆ **To view the channel mask only:** Click the eye symbol next to the object or composite channel at the top of the channel list. This hides the object channel so only the channel mask is visible.

◆ **To hide the channel mask:** Click the eye symbol next to the channel mask. This hides the effect of the channel mask on the object.

At least one channel, either the composite/object channel or the channel mask, must be visible. If only one is visible, you can't hide it by clicking its eye symbol.

◆ **To display a hidden channel:** Click to the left of the channel to restore the eye symbol.

Note: When you edit paint objects you can edit pixels in the images by selecting channels in the Channels palette. However, when you edit other objects, you can't select the "object" channel. You can show or hide the object channel, but you can edit pixels only in the channel mask.

Selecting views in the Transparency palette

You can use the Transparency palette to change your view when you edit a channel mask. In channel mask edit mode, two buttons let you select editing views. Click the triangle at the lower left to expand the palette if necessary to display the buttons.

◆ **To view the channel mask only:** Click "Channel Mask Only" in the Transparency palette. This is the same as hiding the "object channel" in the Channels palette.

◆ **To view the object and channel mask:** Click "Image and Channel Mask." This is the same as making the "object channel" and the channel mask visible in the channels palette.

You can use the Transparency and Channels palettes to change your view when you edit a channel mask

Click to show options

A Click to show the mask effect on the object

B Click to show the channel mask alone



Click the eye symbol to hide the object or channel mask in the Channels palette

To remove a channel mask

Removing a channel mask from an object removes the transparency effect produced by the channel mask.

- 1 Select the masked object.
- 2 Choose Object > Transparency > Detach Mask. Canvas removes the channel mask from the selected object.

When you detach a channel mask, Canvas converts the channel mask to a paint object and places it in the document. The paint object includes the alpha channels from the masked object if it had alpha channels.

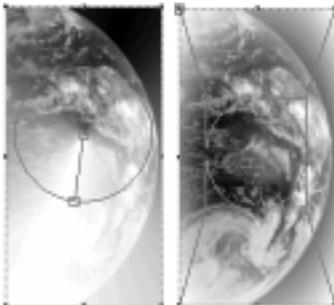
Vector masks

A vector mask creates a transparency effect based on a style of gradient ink, such as radial or rectangular. You can choose the style when you apply a vector mask, or you can apply an existing vector object as a vector mask.

A vector mask can be applied to any type of objects, including vector, paint, text, and group objects.

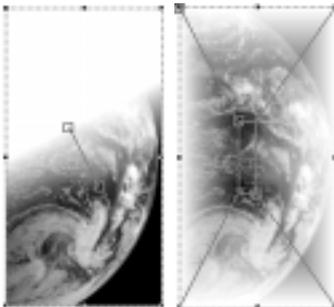
It's easy to apply vector masks. You can drag a vector transparency tool to apply radial, directional, elliptical, or rectangular style masks.

If you want to use precise values for position and transparency levels, you can enter numbers in the Transparency palette.



Radial

Elliptical



Directional

Rectangular

The styles of vector masks applied by the Vector Transparency tools are related to vector gradient styles. You can think of these tools as applying a hidden gradient to a masked object. The transparency effect is based on the hidden gradient; the transparency level is relative to the lightness of the gradient shading.

For example, a linear vector gradient blends colors along a straight axis. A directional vector mask fades from opaque to transparent along a linear axis. For linear vector gradients and directional vector masks, you can specify the length and angle of the axis.

The relationship between vector gradients and vector transparency masks can be seen if you detach a vector transparency mask. With a masked object selected, choose **Object > Transparency > Detach Mask**. Canvas removes the vector mask and places it in the document as a separate vector object. If you examine this object, you see that it has a vector gradient. The gradient style is similar to the vector mask style. The vector gradient fades from black to white in the same way that the vector mask caused the masked object to fade from opaque to transparent.

The relationship between vector masks and vector gradients also works in reverse: You use a vector gradient-filled object as a vector mask; see “Masking with a vector object” on page 303.

A vector mask is related to a vector gradient

If you detach a vector mask, you get an object with a gradient. The grays in the gradient correspond to transparency levels in a masked object.



Detached mask



Masked object



Original object

Applying vector masks

You can apply a vector mask using the Vector Transparency tools. When an object is selected, you can drag one of these tools near or over the object to apply a transparency effect.

The Vector Transparency tools provide the easiest way to create transparency effects such as vignettes (image that appear in ovals and other shapes) as well as linear, radial, or rectangular fades.

You can use the Transparency palette to apply vector transparency effects. When you use the Transparency palette, you can specify values for the position and intensity of the effect.

In the Transparency palette, the Mask menu shows the vector mask style when a selected object has a vector mask.

To create a vector mask

- 1 Select a text, paint, vector, or group object to mask.
- 2 Select a Vector Transparency tool. These tools are in the Effects toolbar. Select the tool for the style of vector mask you want to apply: Radial, Directional, Rectangular, or Elliptical.
- 3 Drag the tool near or over the selected object. As you drag, a vector line or shape appears. This represents the position of the vector transparency effect.
- 4 To adjust the effect, drag a handle to reposition the transparency vector. When you finish, press Esc to leave edit mode.

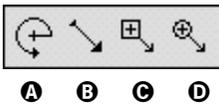
To use the Transparency palette

You can use the Transparency palette to apply a vector mask. To open the Transparency palette, see “Using the Transparency palette” on page 287.

- 1 Select an object to mask.
- 2 In the Transparency palette, choose a mask style —Directional, Radial, Rectangular, or Elliptical — in the Mask pop-up menu.

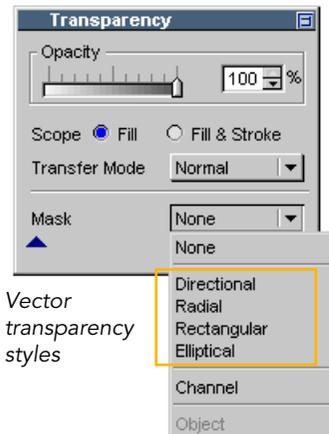
Note: You can't select “Object” in the pop-up menu. To use an object as a vector mask, see “Masking with a vector object” on page 303.

- 3 To adjust the effect, drag the handles to reposition the transparency vector. When you finish, press Esc to leave edit mode.



Vector Transparency tools

- A Radial
- B Directional
- C Rectangular
- D Elliptical



Vector transparency styles

Setting the vector mask scope

When you apply a vector mask to a vector object, the mask affects the vector object's fill ink or its fill ink and stroke (pen ink). To change the effect, change the Scope setting in the Transparency palette. See "Controlling the scope of transparency effects" on page 291.

Masking with a vector object

You can create a vector mask by attaching a vector object to another object. Like other vector masks, a vector mask created from a vector object produces transparency relative to its color values. For example, if the vector object that you attach is solid white, it creates no transparency; if it is solid black, it creates 100% transparency, making the masked object invisible.

To attach a vector mask

- 1 Place a vector object to use as a mask in front of the object to be masked. The two objects do not have to overlap or touch, but the vector object must be in front of the other object in the stacking order.
- 2 Select both objects.
- 3 Choose Object > Transparency > Attach Mask. Canvas creates a vector mask and both objects remain selected. The original vector object is not changed.

If the vector object and the object to be masked aren't the same size, Canvas scales the vector object to fit the masked object.

Editing vector masks

You can edit vector masks that have been applied with the Vector Transparency tools, and masks created by attaching gradient-filled vector objects. Editing lets you change the boundary of the opaque and transparent areas of a mask.

To edit a vector mask

To put a masked object in edit mode, select the object and click Edit in the Transparency palette (see "Using the Transparency palette" on page 287). Or, select the Vector Transparency tool that was used to apply the mask.

When the vector mask editing handles appear, you can drag the handles to adjust the position and boundaries of the vector mask. The handles correspond to the values in the Mask area in the Transpar-

ency palette. When you drag a handle, the values in the Transparency palette are updated to match the new position. When you finish editing, press Esc.

Vector mask settings

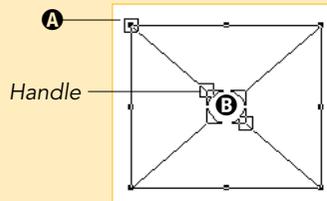
You can change values in the Transparency palette to make precise changes to a vector mask. When you change the mask settings, Canvas updates the mask handles to match the current position values.



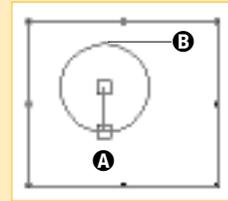
Vector mask in edit mode

To use the Transparency palette for editing, select the masked object and click Edit in the Transparency palette. You can change the following values to modify the effect of the vector mask.

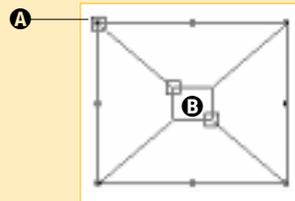
Transparency Start. The transparency percentage at the edge of the vector effect. If this value is 100%, the object appears completely transparent beyond this point. When you



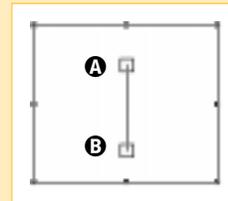
Elliptical



Radial



Rectangular



Directional

first apply a mask in rectangular or elliptical style, this point is represented by the handle at the edge of the object (A).

Transparency End. The transparency percentage at the end of the vector effect. If this value is 0%, for example, the object is not transparent at this point. When you first apply a mask in the rectangular or elliptical style, this percentage corresponds to the area enclosed near the center of the object, (B), which is 0% transparent. For radial style, the start point is the handle on the perimeter of the circle. The end is at an opposite point on the circle.

Left. The distance of the first handle from the left edge of the object, measured as a percentage of the object's width.

Top. The distance of the first handle from the top edge of the object, measured as a percentage of the object's height.

Width. The horizontal distance to the second handle from the first handle, measured as a percentage of the object's width.

Height. The vertical distance to the mask's second handle from the first handle, measured as a percentage of the object's height.

To remove a vector mask

Removing a vector mask from an object removes the transparency effect produced by the mask.

- 1 Select the masked object.
- 2 Choose Object > Transparency > Detach Mask. Canvas removes the vector mask from the selected object.

When you detach a vector mask, the former mask appears in the document as a separate vector object filled with a grayscale gradient.

Vector masks in paint edit mode

If a paint object has a vector mask, Canvas temporarily represents the vector mask as a channel mask if you edit the paint object.

In paint edit mode, a temporary channel mask that represents the object's vector mask appears in the Channel Mask slot in the Channels palette. The temporary mask lets you see the effect of the vector mask as you edit the paint object.

If you click in the Channel Mask slot to try to select the temporary channel mask for editing, Canvas asks if you want to convert the vector mask to a channel mask. Click Cancel to return to editing the paint object without destroying the vector mask. Click Yes if you want Canvas to convert the vector mask to a channel mask that can be edited with painting tools.

Using transfer modes

All objects — vector objects, text objects, paint objects, and group objects — have a *transfer mode*. Transfer modes are like invisible filters that affect the appearance of colors. When objects overlap, the transfer mode of the front object can change the appearance of the back object.

Transfer modes work with transparency effects, including opacity and transparency masks. However, transfer modes can make objects appear to be transparent without reduced opacity or transparency masks. For example, Multiply mode lets underlying colors show through an object.

To apply transfer modes, you select objects and choose modes from the Transfer Mode menu in the Transparency palette. For vector objects, you can apply transfer modes to fill inks alone or to fill inks and strokes together.

The default transfer mode is Normal. In Normal mode, the colors of overlapping objects do not mix unless the front object is partially transparent.

In addition to interacting with background objects, transfer modes can interact with the document's white background. When an object's transfer mode is Screen, for example, anything white replaces the object's color, so the document's white background can make the object seem to be invisible.

To change an object's transfer mode

- 1 Open the Transparency palette. See “Using the Transparency palette” on page 287.
- 2 Select an object and choose a transfer mode in the Transfer Mode pop-up menu in the Transparency palette.
- 3 For vector objects, select a Scope option. Select Fill to apply the transfer mode to the fill ink; select Fill & Stroke to apply the transfer mode to both the object's fill ink and stroke.

Selecting transfer modes

The transfer modes available in the Transfer Mode menu in the Transparency palette are listed here. The following descriptions are based on objects with RGB colors with no other transparency effects. Each mode is described in terms of the front object when the back object's transfer mode is Normal.

Normal In Normal mode, colors do not blend; the color of a front object hides the colors of all objects behind it.

Multiply In Multiply mode, overlapping colors become darker. Black produces black. White has no effect, the same as if a white object were not visible. White text, for example, reveals the background.

Screen The Screen mode lightens overlapping colors. Objects with lighter colors increase the effect. White produces white. Black has no effect, the same as if a black object were not visible. Black text, for example, reveals the background.

Overlay In Overlay mode, a front object's color overlays colors in the background, while preserving highlights and shadows. White and black in the background are not affected.

Soft Light The Soft Light mode lightens or darkens underlying colors depending on the brightness of the front color. Colors in front

that are lighter than 50% gray lighten the underlying object. Colors in front that are darker than 50% gray darken the underlying object.

Hard Light The Hard Light mode lightens or darkens underlying colors depending on the brightness value of the front color. Hard Light mode is similar to Soft Light. However, black in the front object produces black; white in the front object produces white.

Darken In Darken mode, the color values of the front color replace the underlying color values if the front color value is darker than the back color value. Black in the background appears unchanged; the front color appears in place of white in the background.

Lighten In Lighten mode, the color values of the front color replace the underlying color values if the front color value is lighter than the back color value. White in the background appears unchanged; the front color appears in place of black in the background.

Difference The Difference mode compares the color values of the front and back colors and subtracts the darker value from the lighter value. If the front and back colors are identical, the result is black. If the front or back color is black, the other color does not change. If the front or back color is white, the other color is inverted.

Color space and transfer modes

Canvas calculates transfer mode effects by applying formulas to color values. Canvas performs these calculations in RGB or CMYK color space. In other words, Canvas uses RGB color values or CMYK color values in its calculations.

For example, the formula for Multiply mode is Color 1 multiplied by Color 2. Canvas applies the formula separately to each value that defines a color. In the case of RGB colors, Canvas applies the formula separately to the red, green, and blue values. For CMYK colors, Canvas calculates the effect on cyan, magenta, yellow, and black values.

The significance of the color space calculation is that the effect you see on screen could appear completely different if the effect is printed in a different color space.

In particular, you must display transfer mode effects in CMYK if the document will be separated for printing with process (CMYK) colors. Otherwise, the color separations could produce colors that are completely different from the colors you see on screen.

For an example of this effect, draw several overlapping objects with different colors. Set the transfer mode of the front object to Difference. Choose File > Preferences. On the Display tab in the Preferences dialog box, change the Screen Compositing setting from RGB to CMYK. Click OK to close the dialog box. To refresh the screen, press Command+K (Mac) or F5 (Windows). You will probably see a significant change in colors when you switch from RGB to CMYK compositing.



To set the color space for screen compositing

- 1 Choose File > Preferences.
- 2 Click the Display tab.
- 3 Select RGB or CMYK in the Screen Compositing menu on the Display tab. Be sure to choose RGB for effects that will be displayed in RGB colors. Choose CMYK if you are using CMYK colors in a document that will be printed with process colors.

Transparency and printing

You can use transparency effects to create stunning images and complex illustrations. As with any graphic effects, however, images that appear perfect on screen can cause problems or produce unexpected results when you print a document. This section discusses some issues you should keep in mind to help ensure that your documents print successfully.

Canvas uses special techniques to print some transparency effects. Canvas can send an instruction to print an opaque rectangle, for example, to most printers. However, to print a transparent rectangle, Canvas usually converts the object to an image. This process is called *rasterizing* or *rendering*. Canvas then sends the image data to the printer.

In the Print dialog box, you can select options for printing objects and colors. The options can affect the time required to print a document, and how well colors match among objects. See “Rendering options” on page 51.

Spot colors and transparency

Canvas can output a document as color separations for commercial printing with process color and spot colors.

Process colors are cyan, magenta, yellow, and black. These inks are used in nearly all full-color printing. Spot colors are specific color inks. Spot color inks are usually specified according to a color matching system such as the Pantone Matching System, several models of which are included in Canvas.

The four process colors are almost always printed in combination to produce full-color images. Spot colors, in contrast, are designed to reproduce specific colors. Spot color inks are not usually combined to produce new colors.

If you use spot colors in a document, you want to be sure that the spot colors are not converted to process colors when you output color separations for commercial printing.

Canvas rasterizes objects that are transparent for printing, and sends the rasterized image of the object to the output device. If you print color separations, rasterized objects are always separated as process color (CMYK) images. Therefore, if you apply a spot color to an object and make the object transparent, the object will not separate as a spot color; the object will be output and separated as a process color image.

In some cases, even though an object with a spot color is not transparent, the object will be output with process colors. This can happen if a transparent object overlaps an object with a spot color. For example, if a transparent object overlaps a rectangle, the transparent object and some or all of the rectangle will be rasterized for printing. If the rectangle has a spot color, the rasterized area of the rectangle will be separated into process colors.

Output resolution of transparency effects

You can specify an output resolution for a transparent object. If you don't specify the resolution for Canvas to use, it selects the resolution based on the following guidelines:

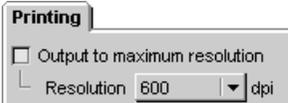
- If a transparent paint object overlaps other paint objects, Canvas rasterizes all the objects at the same resolution as the paint object that has the highest resolution.
- If a vector object is transparent or is behind a transparent object, Canvas rasterizes the vector object at the resolution specified for printing. You can set the resolution for printing on the Printing tab in the Preferences dialog box.

To set the output resolution of an object

- 1 Select the object whose resolution you want to specify.
- 2 Choose Object > Transparency > Output Resolution.
- 3 Do one of the following in the dialog box, and then click OK:
 - Select the Maximum Resolution checkbox to specify that the object should be rendered at the maximum resolution of the output device.
 - Deselect the Maximum Resolution checkbox and enter the resolution you want Canvas to use. You can set the resolution from 1 to 2,540 dpi.

To set the maximum output resolution

You can specify a maximum resolution for Canvas output. The resolution you specify in the Preferences dialog box affects output of all objects and rasterizing of transparency effects. This setting overrides settings you apply to objects with the Output Resolution command.



- 1 Choose File > Preferences.
- 2 Click the Printing tab.
- 3 Do one of the following:
 - Select the “Output to maximum resolution” checkbox to specify that Canvas should output objects at the maximum resolution of the output device.
 - Deselect the “Output to maximum resolution” option if you want to specify an output resolution. Select an output resolution from the pop-up menu.
- 4 Click OK.



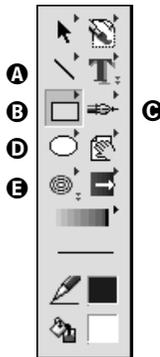
DRAWING & VECTOR EFFECTS

DRAWING BASICS

This chapter describes how to draw and resize vector objects. The Canvas drawing tools let you easily draw basic shapes — lines, rectangles, ovals, and arcs — and create precise squares, circles, and straight lines. Specialized tools let you draw grids, stars, polygons, concentric circles, cubes, spirals, and “smart” lines that link objects and stay connected even when you move the linked objects.

Drawing basic shapes

You can use the same basic technique with most Canvas drawing tools. See the table titled “Basic drawing procedures” on page 314 for the procedures you use to draw basic shapes. Instructions for the tools that let you draw grids, stars, polygons, concentric circles, cubes, spirals, and Smart Lines appear later in the chapter.



- A** Lines
- B** Rectangles
- C** Paths
- D** Ovals and arcs
- E** Object tools

Applying inks and strokes

When you draw a vector object, Canvas applies the current ink and stroke settings to the objects you draw. The inks and stroke icons in the toolbox show a preview of the current settings. You can change these attributes before or after you draw an object. Refer to the chapters titled “Inks: colors and patterns” on page 239, and “Strokes: outline effects” on page 265, for more information.

Selecting tools in the toolbox

Tools for drawing lines, rectangles, ovals, and arcs are grouped in toolbars that pop out from the toolbox. The current tool is visible in the toolbox. To open a toolbar to select another tool, press the current tool icon. To keep a toolbar open while you work, drag it away from the toolbox.

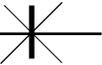
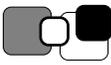
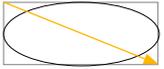
Drawing objects from the center

You can draw many vector objects starting from the object’s center by pressing a modifier key as you draw. Position the pointer where you want the object’s center to be, press Option (Mac) or Ctrl (Windows) and drag away from the center to draw the object.

When you draw an object from the center, you can press Shift at the same time if you want to also constrain the object’s bounding box to

a square. You can use this technique to draw a perfect square or circle from the center outward.

Basic drawing procedures

Object	Tool	Procedure	
 Lines	Line tool	Drag from the starting point to the end point in any direction	
 Lines at a 45° angle (horizontal, vertical, or diagonal)	Line tool	Press Shift and drag from the starting point to the end point	
 Rectangles	Rectangle tool	Drag from one corner to the opposite corner	
 Squares	Rectangle tool	Press Shift and drag from one corner to the opposite corner	
 Rounded rectangles	Rounded Rectangle tool	Drag from one corner to the opposite corner	
 Rounded squares	Rounded Rectangle tool	Press Shift and drag from one corner to the opposite corner	
 Ovals	Oval tool	Drag from one corner to the opposite corner of the oval's bounding box	
 Circles	Oval tool	Press Shift and drag from one corner to the opposite corner of the circle's bounding box	
 Arcs	Arc tool	Drag from one corner to the opposite corner of the arc's bounding box	
 Circle-segment arcs	Arc tool	Press Shift and drag from one corner to the opposite corner of the arc's bounding box	

Drawing arcs by radius and by 3 points

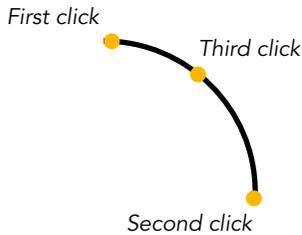
The Arc Radius tool draws an arc based on a center point and radius that you set. The Arc 3 Points tool draws an arc through three points that you set. Both tools draw arcs with the current fill ink, pen ink, and stroke.

To edit arcs, see “To change the length of an arc” on page 317.

The Arc Radius tool and Arc 3 Points tools are located with the oval and arc tools in a toolbar that pops out of the toolbox.

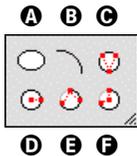
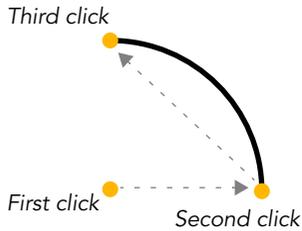
To draw arcs by 3 points

- 1 Select the Arc 3 Points tool. Click in the document to set one endpoint of the arc.
- 2 Move to the second endpoint of the arc. A line extends from the first endpoint. Click to set the second endpoint.
- 3 Move to a point on the perimeter of the arc. A line indicates the chord from the second point, while the arc expands or contracts as you move the pointer.
- 4 Click to set the perimeter point and finish the arc.



To draw arcs by radius

- 1 Select the Arc Radius tool. Click in the document to set the center of the arc.
- 2 Move to one endpoint of the arc. A line extends from the center and indicates the arc's radius. Click to set the endpoint.
- 3 Move to the second endpoint of the arc. An arc segment extends from the first endpoint and indicates the arc's length.
- 4 Click to set the second endpoint and finish the arc.



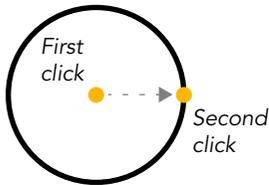
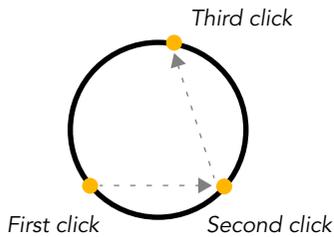
- A** Oval, **B** Arc, **C** Circle 3 Points, **D** Circle Radius, **E** Arc 3 Points, **F** Arc Radius

Drawing circles by radius and by 3 points

The Circle Radius tool draws a circle from a center point and a radius that you set. The Circle 3 Points tool draws a circle through three points that you set.

Both tools draw circles with the current fill ink, pen ink, and stroke.

The Circle Radius and Circle 3 Points tools are located with the oval and arc tools in a toolbar that pops out of the toolbox.



To draw circles by 3 points

- 1 Select the Circle 3 points tool. Click in the document to set a first point on the circle's circumference.
- 2 Move to a second point on the circle's circumference. A line indicates the chord from the first point as you move the pointer. Click to set the second point.
- 3 Move to a third point on the circumference. A line indicates the chord from the second point, while the circle expands or contracts as you move the pointer.
- 4 Click to set the third point and complete the circle.

To draw circles by radius

- 1 Select the Circle Radius tool. Click in the document to set the center of the circle.
- 2 Move to anywhere on the circumference of the circle. A line extends from the center and indicates the radius, while the circle expands or contracts as you move the pointer.
- 3 Click to set the circumference and complete the circle.

Resizing and reshaping vector objects

You can resize and reshape a vector object by changing the size and shape of the object's bounding box. You can also change the length of arc segments and the corner radius of rounded rectangles. These techniques are described in the following section.

You can also edit most vector objects by changing the anchor points and segments that form their paths. For information on these editing techniques, see "Editing object paths" on page 332.

To resize an object's bounding box

When you drag a handle on a vector object's bounding box, you change the height or width (or both) of the bounding box. This also changes the size (and possibly the shape) of the object. For example, if you select a circle and drag a side handle to make the bounding box wider, the circle becomes an oval that is wider than it is tall.

- 1 Choose a Selection tool at the top-left of the toolbox.
 - Use the filled arrow to select a single object (including a group object).

- Use the hollow arrow to select an individual object within a group object.
- 2 Click the object to select it. Handles appear on the object's bounding box.
 - 3 Drag a handle, as described below, to resize the object.

To change	Do this
Height	Drag the top or bottom handle
Width	Drag a side handle
Height and width	Drag a corner handle
Height and width proportionally	Press Shift and drag a corner handle
Symmetrically (from center)	Press Option (Mac) or Ctrl (Windows) and drag a handle
Symmetrically and proportionally	Press Option-Shift (Mac) or Ctrl-Shift (Windows) and drag a corner handle

Maintaining object proportions

When you resize vector objects and want to maintain the object's height-to-width ratio, you have three options:

- Press Shift and drag a corner handle to resize the object proportionally.
- Use the Scale command and select the Proportional option in the Scale dialog box. This keeps the vertical and horizontal scaling factor in the dialog box equal.
- Use the Objects Specs command and select the Keep Proportions option in the Object Specs palette. Canvas keeps the object proportional if you change an object dimension in the Object Specs palette.

To change the length of an arc

- 1 Select the arc. Round handles appear near the beginning and end of the arc segment.
- 2 To shorten the arc, drag the round handle back over the arc. To lengthen the arc, drag the round handle to continue the arc segment.

You can also adjust the length of an arc by changing its Start angle and Δ values in the Object Specs palette.

To change the corner radius of a rounded rectangle

- 1 Select the rounded rectangle. A round handle appears near the lower-right corner of the rectangle.
- 2 Drag the handle to change the corner diameter. You can also use the “Diag” setting in the Object Specs palette to alter the shape.

Using specialized drawing tools

Several specialized drawing tools let you quickly create complex shapes in Canvas. Drawing grids, stars, polygons, concentric circles, cubes, spirals, and Smart Lines is as easy as drawing rectangles.

The tools shown in the following table create specialized vector objects.

Use this tool	to draw this
Concentric Circles	Nested circles or ovals
Cube	Square and rectangular boxes in isometric views
GridMaker	Rows and columns of boxes
Multigon	Stars and complex polygons
Smart Lines	Linked lines for flow charts, diagrams
Spiral	Lines in spiral patterns

In most cases, you can treat these vector objects like all others. You can move them and resize their bounding boxes. They can be rotated, flipped, and scaled. You can apply strokes, pen inks and fill inks to them. However, most of these objects are compound objects, which means that they are made up of separate objects. Because of this, some inks and other effects appear differently when applied to these objects than to simple vector objects like rectangles and ovals.

Some of the specialized objects have unique editing features. For example, you can twirl the points of a star, star outline, or framed star by dragging special handles. You can also specify the number of points of a star, the number of rows and columns in a grid, the number of rings in concentric circles, and the number of revolutions in a spiral. You can draw a cube with or without a perspective effect. Methods for drawing and modifying all of the specialized objects appear with the individual tool descriptions on the following pages.

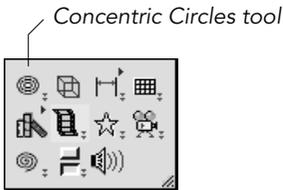
You can also convert most specialized vector objects to paths. Doing this lets you edit the objects' anchor points and segments. For more information, see “Converting objects and text to paths” on page 345.

Concentric circles

The Concentric Circles tool draws nested rings of ovals or circles. You can set the number and spacing of the rings before or after you draw concentric circles.

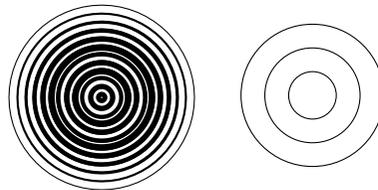
To use the Concentric Circles tool

- 1 Select the Concentric Circles tool.
 - 2 Drag to draw a bounding box that defines the size of the concentric circles object. A rectangular bounding box creates concentric ovals; a square bounding box creates true circles.
 - 3 When you finish, the concentric circles object is selected.
- ◆ **To draw true concentric circles:** Press Shift to constrain the bounding box to a square when you drag the Concentric Circles tool.
 - ◆ **To draw from the center:** Press Option (Mac) or Ctrl (Windows) to draw from the center outward with the Concentric Circles tool. Press Shift also to draw perfect circles outward from the center.



Concentric circles

A concentric circles object appears to have extra rings (left) because a Parallel stroke was applied to the basic ring structure, shown at far right.



To edit a concentric circles object

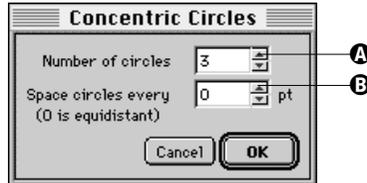
You can change the number of rings of an existing object drawn with the Concentric Circles tool.

- 1 Double-click the Concentric Circles object. The Concentric Circles dialog box appears.
- 2 Adjust the settings as described in the next section. Click OK to close the dialog box and apply the settings to the object.

To configure the Concentric Circles tool

Before you draw an object, you can double-click the Concentric Circles tool icon to open the Concentric Circles dialog box. Use the dialog box to configure the Concentric Circles tool before you draw with it, or to change the configuration of an existing concentric circles object.

- A** Type the number of circles you want the tool to draw.
- B** Type the number of points between each circle. Type zero to evenly space the circles.

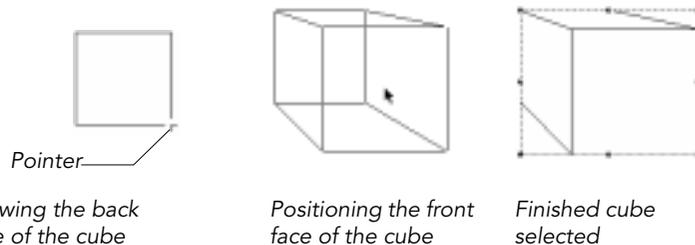
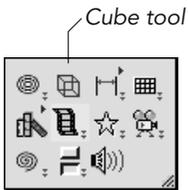


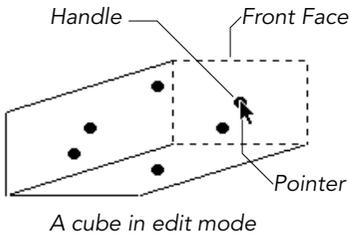
Drawing cubes

The Cube tool draws 2D cubes using the current object attributes.

To draw a cube

- 1 Select the Cube tool.
- 2 Drag to draw the rectangular back face of the cube. To constrain the faces of the cube to perfect squares, hold down the Shift key while drawing the back face.
- 3 Release the mouse button when the back face of the cube is set as you want; an unanchored cube then follows the pointer.
- 4 Position the cube so it appears at the length and angle you want, and then click to anchor it.
 - To give the cube a perspective effect by enlarging the front face, hold down the Command key (Mac) or the Alt key (Windows) before you anchor the cube.





Editing cubes

To change the height or width of a cube, click the cube to select it, and then drag a corner handle. To reshape a cube by moving a side, double-click the cube to place it in edit mode. A black circular handle appears on each of the six faces of the cube. When you point to a handle, the outline flashes on the corresponding side of the cube. You can drag the handle to move that side. Click outside the cube to leave edit mode.

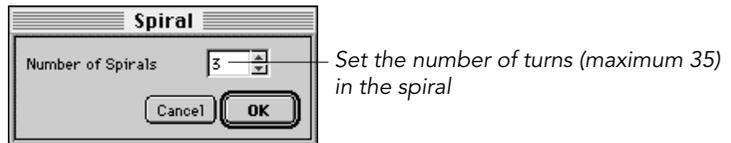
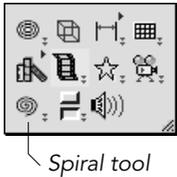
Drawing spirals

The Spiral tool draws a smooth, spiraling curve. You can set the number of spiral turns before or after you draw a spiral object.

- 1 Select the Spiral tool in the Object tools toolbar.
- 2 Drag diagonally to specify the size of the spiral curve. To create a circular spiral, press Shift and drag.

To configure the Spiral tool

Double-click the Spiral tool to open the Spiral dialog box. Set the number of spirals and click OK.

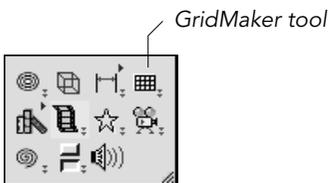


- ◆ **To change the number of spirals in an object:** Double-click the object to open the Spiral dialog box. Change the number of spirals and click OK.

Drawing grids

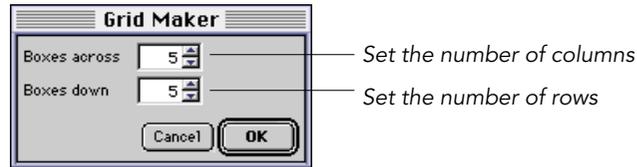
The GridMaker tool draws grids of rows and columns. You can set the number of rows and columns before or after you draw a grid object.

- 1 Select the GridMaker tool in the toolbox.
- 2 Drag diagonally to define the grid's bounding box. To create a square grid, press Shift and drag.



To configure the GridMaker tool

Double-click the GridMaker tool to open the GridMaker dialog box. Set the number of boxes comprising the grid and click OK.



If you set Boxes Across to 1, the grid has no vertical lines. If you set Boxes Down to 1, the grid has no horizontal lines.

◆ **To change the configuration of a grid object:** Double-click the grid object to open the GridMaker dialog box. Change the number of boxes and click OK.

To separate a grid into lines

You can adjust the individual lines that comprise a grid by converting it to a path and then ungrouping it.

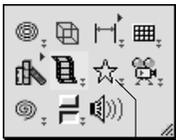
- 1 Select the grid object and choose Object > Path > Convert to Paths.
- 2 Choose Object > Ungroup. The grid object separates into individual lines.

Drawing with the Multigon tool

You can use the Multigon tool to draw all types of multi-sided objects, including triangles, hexagons, pentagons, octagons, stars, circular starbursts, and similar shapes. To set the number of sides and the style of a multigon, configure the Multigon tool before you draw.

◆ **To draw with the Multigon tool:** Select the Multigon tool. Drag diagonally to define the multigon's bounding box. To make the bounding box square, press Shift and drag.

◆ **To configure the Multigon tool:** Double-click the Multigon tool icon. In the dialog box, set the multigon style and other options (described next) and click OK.



Multigon tool

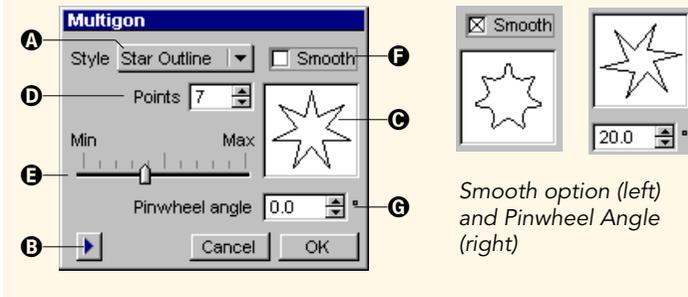
Style	Appearance
Frame	No interior lines

Style	Appearance
Framed Star	Combination of Frame and Star objects
Spoke	No sides connecting the spoke points
Star	Points connected by interior lines
Star Outline	Multiple points with no interior lines
Wheel	Combination of Frame and Spoke objects

Multigon dialog box

The available options depend on the selected multigon style.

- A** Choose a preset style in the pop-up menu.
- B** Click to choose a custom style or to save or delete one.
- C** Preview shows the style and other settings.
- D** For stars, framed stars, and star outlines, enter the number of star points from 3 to 100. For other styles, enter the number of sides from 3 to 100.



- E** Drag the slider to change the interior area of stars, framed stars, and star outlines.
- F** Turn this option on to smooth the object's angles.
- G** For stars, enter a value of more or less than 0 degrees to bend the points. Negative values bend the points counter-clockwise.

Saving custom Multigon settings

You can save Multigon tool settings so you can use them later. In the Multigon dialog box, press the triangle at the lower-left to save, select, and delete custom multigon styles.

- ◆ **To save multigon settings:** Choose Save Shape. Type a name for the shape and click OK. The name appears in the pop-up menu.
- ◆ **To delete a style:** Choose Delete Shape. In the dialog box, choose the shape name you want to delete and Click OK. You can't delete any of the built-in styles.

Note: When you save and delete styles, they remain saved or deleted whether you click OK or Cancel to close the Multigon dialog box.

Editing star multigons

You can interactively edit star multigons (framed star, star, and star outline styles) to adjust the twirl and radius of the object's points. The following procedures do not apply to frames, spokes, or wheels.

- 1 Double-click the star multigon to put it in interactive mode. An outer handle and an inner handle appear on one point of the star.
 - To change the length of the star points, drag the outer handle inward or outward from the center of the star.
 - To twirl the points, drag the handle clockwise or counterclockwise.
 - To change the position of the inner points, drag the inner handle inward or outward from the center.
- 2 To end interactive editing, press Enter (Mac) or Esc (Windows), or double-click outside the object.

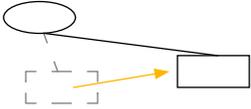
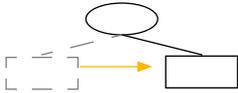
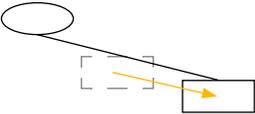
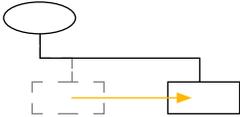
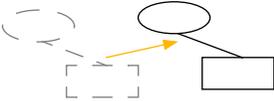
Connecting objects with Smart Lines

The Smart Lines tool draws dynamic links between objects. Smart Lines are useful for creating organizational charts, flow diagrams, and other illustrations with linked objects.

You can use Smart Lines to link one or more objects to a single object. You can draw multiple Smart Lines between objects and you can link Smart Lines to other Smart Lines. When you resize or move a Smart Line, the linked objects move according to the type of Smart Line used.

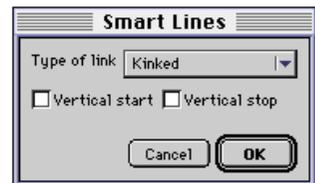
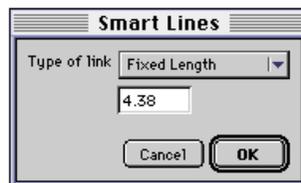
- 1 Select the Smart Lines tools in the toolbox. The Smart Lines tool is in a pop-out toolbar with the Line tool.
- 2 Press the Smart Lines tool to open the Smart Lines palette. You can drag the palette away from the toolbox to keep it open.

3 Select one of the Smart Lines types in the palette.

Type	Characteristics	
 Basic	Smart Lines change length and angle to maintain connection to the linked objects	
 Fixed Length	Maintains a set length and linked objects move to maintain the length	
 Fixed Angle	Maintains a set angle and linked objects move to maintain the angle	
 Kinked	Uses only horizontal and vertical segments. Linked objects move to maintain the segments. You can set the first and last segments to always be vertical.	
 Locked	Smart Lines do not change length or angle and linked objects move as a group	

4 Drag from one object to another object. When you release the mouse button, Canvas creates the Smart Line.

◆ **To change the type of an existing Smart Line:** Double-click the Smart Line to open the Smart Lines dialog box and choose a different type in the pop-up menu.



Type of link The link types correspond to the icons in the Smart Lines palette.

Length For Fixed Length Smart Lines, you can specify the length of the selected Smart Line by entering a number in this text box.

Fixed Angle For Fixed Angle Smart Lines, you can type an angle in degrees to specify the angle of the selected Smart Line.

Vertical Start/Vertical Stop For a Kinked link type, you can select Vertical Start to make the Smart Line start with a vertical segment and select Vertical Stop to make the Smart Line end with a vertical segment.

DRAWING AND EDITING PATHS

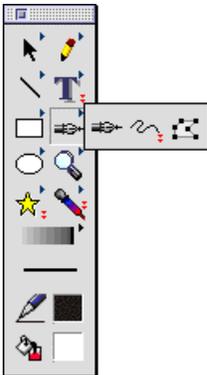
In addition to basic shape tools, Canvas provides tools that let you draw paths of any shape. This chapter explains how to

- draw paths with the Curve, Polygon, and Freehand tools
- edit paths by adding, deleting, and moving anchor points and segments
- adjust a curve segment using the control points that define curves

Drawing with the path tools



- A** Curve tool
- B** Freehand tool
- C** Polygon tool



Press the current path tool to open the toolbar and select the tool you want to use.

You can use the Curve, Polygon, and Freehand tools to draw vector objects as open or closed paths. When you use the Curve and Polygon tools, you set anchor points to define the path segments. With the Freehand tool, you simply drag to draw a path. The three tools are grouped in a toolbar that pops out from the toolbox.

The Polygon tool draws paths with straight segments. The Curve tool can draw paths with straight and curved segments. Paths drawn with the Freehand tool generally are made of curved segments based on the movement of the pointer.

When you draw with the path tools, Canvas uses the current pen ink, fill ink, and stroke settings for the vector objects you create.

Drawing polygons

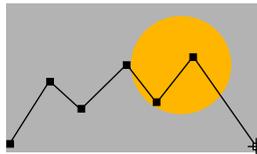
When you use the Polygon tool to draw an object, you set anchor points that define a path of straight line segments. As with any path object, you can later make the straight segments curved. For editing information, see “Editing object paths” on page 332.

- 1 Select the Polygon tool in the Path Tools toolbar.
- 2 Click to set the first anchor point, shown as a small square.

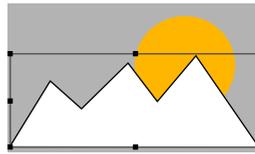
- 3 Click where you want to place the second anchor point.
 - You can press the pointer to display the segment, drag to position it, and then release the mouse button.
 - To constrain placement of a segment to 45-degree intervals, press Shift while drawing the segment.
- 4 Repeat the last step to draw more segments. To remove the last segment you drew, press Delete.
- 5 To complete the polygon:
 - For an open polygon, after you place the last anchor point, press Enter (Mac) or Esc (Windows), or double-click to place the last anchor point.
 - For a closed polygon, click the starting anchor point, and then press Enter (Mac) or Esc (Windows), or double-click the starting anchor point.



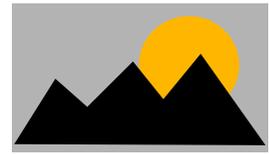
Click to place first point



Click additional points, double-click last point



Completed polygon (selected)



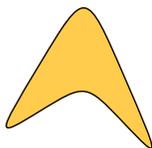
Polygon finished with solid black fill ink

Smoothing polygons

You can use the Smooth command to convert a polygon — a path made of straight segments — to a path with smooth curves. You can smooth any paths made of straight segments, including rectangles and paths drawn with the Curve tool, as long as they have only straight segments. The Smooth command is a convenient way for those who haven't mastered curve drawing to create smooth shapes.



Polygon



Smoothed

- ◆ **To smooth a polygon:** Select the polygon and choose Object > Path > Smooth. Canvas converts the polygon's corner points into smooth points, which changes the path's straight line segments into curved segments. For more information about editing smooth points and curved segments, see "Reshaping paths by editing anchor points" on page 340.

You can use the Unsmooth command to restore the straight segments of a polygon that was smoothed with the Smooth command. However, you can use Unsmooth only if the smoothed polygon wasn't edited after it was smoothed.

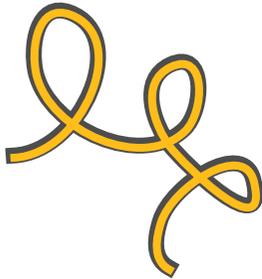
- ◆ **To unsmooth a smoothed polygon:** Select the smooth polygon and choose Object > Path > Unsmooth. Canvas restores the polygon's straight line segments.

Drawing freehand paths

 You can draw objects with the Freehand tool by simply dragging the pointer. The Freehand tool creates paths with curved segments based on the movement of the pointer.

As with any path object, you can later edit the path and reshape its segments; see "Editing object paths" on page 332.

- ◆ **To draw a freehand path:** Select the Freehand tool in the Path Tools toolbar. Position the pointer where you want the path to begin. Drag to create a path. To create a closed path, release the mouse button when the pointer is on the starting point.
- ◆ **To set the curve tolerance:** You can tell Canvas to use relatively more or fewer anchor points to represent a curve. Double-click the Freehand tool to open the Freehand Tolerance dialog box. In the text box, type a value from 1 to 5, where a value of 5 tells Canvas to use as few anchor points as possible.



Paths drawn with the Freehand tool

If you have difficulty drawing smooth curves with this tool, try lowering the speed setting in your system's Mouse (or other pointing device) Control Panel. See your system documentation for information on these settings.



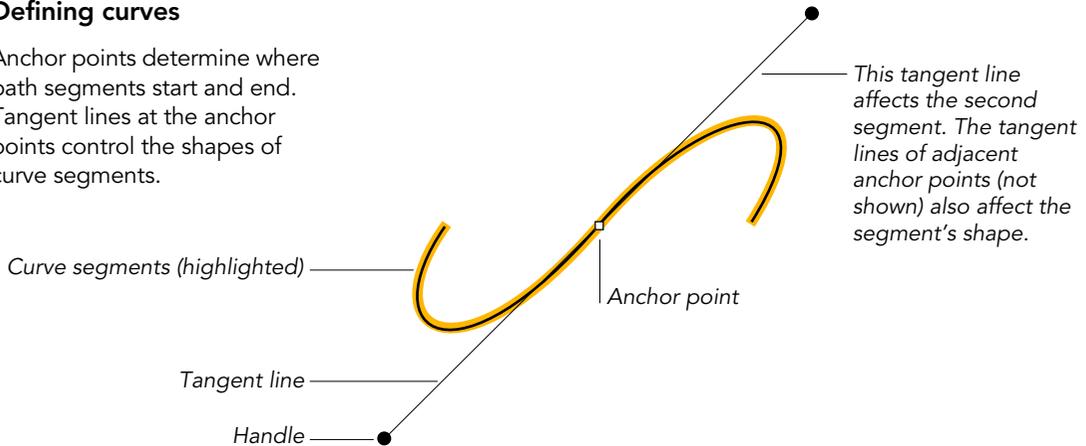
Drawing curved paths



The Curve tool is the most versatile of the path tools. You can use it to draw precise paths with straight and curved segments. When you draw curved segments, you place an anchor point and a tangent line at the start of each segment. The position and length of the tangent line controls the shape of the curved segment.

Defining curves

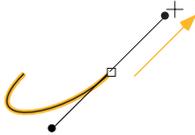
Anchor points determine where path segments start and end. Tangent lines at the anchor points control the shapes of curve segments.



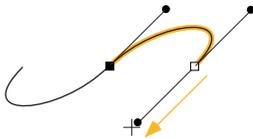
You can also draw straight paths by clicking with the Curve tool, similar to the way you use the Polygon tool; see "Drawing polygons" on page 327.



To draw the curve shown in gray, press and drag to set the first anchor point and tangent line.



Press and drag to set the next anchor point and tangent line. The first segment (highlighted) grows as you draw out the tangent line.



Press and drag to set the third anchor point; the second segment (highlighted) grows as you drag the tangent line.

To draw a path with curved segments

- 1 Select the Curve tool in the toolbox.
- 2 Where you want the path to begin, do one of the following:
 - Click to set the anchor point and, before releasing the mouse button, drag to position its tangent line.
 - Click to set the anchor point without creating a tangent line.

When you release the mouse button, the anchor point appears.

- 3 Where you want the segment to end, do one of the following:
 - Drag to simultaneously set an anchor point and position a tangent line.
 - Click to set the anchor point without creating a tangent line.

This finishes the first curve segment.

- 4 Repeat the previous step to draw additional segments.
- 5 To complete the path, use one of the following options:
 - For an open path, after you place the last anchor point, press Enter (Mac) or Esc (Windows). You can also double-click to place the last anchor point.
 - For a closed path, click the starting anchor point, and then press Enter (Mac) or Esc (Windows). You can also double-click the starting anchor point.

Shaping and editing segments as you draw

As you draw with the Curve tool, you can use modifier keys to constrain and edit the path segments.

- ◆ **To place an anchor point at a 45-degree interval relative to the previous one:** Press Shift as you set the second anchor point.
- ◆ **To create a straight segment:** Press Command (Mac) or Ctrl (Windows) as you click to set the segment's endpoint.
- ◆ **To remove the last segment:** Press Delete. You can continue to remove segments in the reverse order you created them, until you delete the entire object.
- ◆ **To create a corner point:** Press Option (Mac) or Alt (Windows) and click to set the anchor point.

◆ **To constrain a tangent line to 45-degree increments:** Press Shift as you drag the tangent line.

◆ **To move an anchor point as you place it:** When placing an anchor point, hold down the mouse button and press the Spacebar, then move the mouse. While the Spacebar is held down, the anchor point follows the mouse movement.

Editing object paths

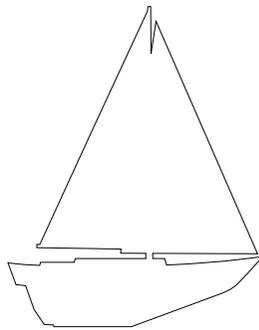
Most vector objects in Canvas are paths. Whether you draw with path tools (Curve, Freehand, or Polygon tools) or shape tools (Rectangle, Oval, Line, or Arc tools), you create paths, and you can use the same path-editing techniques to modify them.

Of course, you can also change a path object by using handles on the bounding box when the object is selected; see “To resize an object’s bounding box” on page 316.

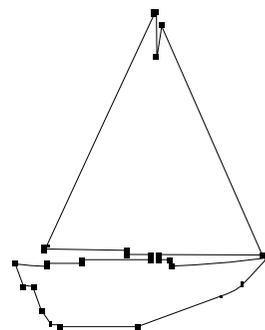
When you want to edit a path, you place the object in edit mode to display its anchor points. The following sections explain how to work in edit mode, edit anchor points, and reshape the segments of a path.

Working with objects in edit mode

To edit points and segments of a path, you place the path object in edit mode. When an object is in edit mode, its anchor points appear as small squares along the path; every path has at least two anchor points.



Object path drawn with Curve tool



Object in edit mode, with anchor points visible

When an object is in edit mode, you can select one or more anchor points. You can even select anchor points and segments on more than one object at once, as long as the objects are in edit mode.

To place an object in edit mode

Do one of the following to place a path object in edit mode:

- Double-click the object.
 - Select the object and choose Object > Path > Edit Path.
 - After you set the last anchor point when using the Curve or Polygon tools, select the Selection tool in the toolbox.
- ◆ **To place multiple objects in edit mode:** You can place two or more objects in edit mode by selecting them, then choosing Object > Path > Edit Path.
- ◆ **To return from edit mode:** When you finish editing an object, double-click outside the object, or press Enter (Mac) or Esc (Windows) to leave edit mode.

Modifying specialized objects as paths

Some Canvas drawing tools create specialized objects. When you double-click one of these objects to place it in edit mode, Canvas displays special editing handles or configuration options, rather than the anchor points and segments of a regular path object.

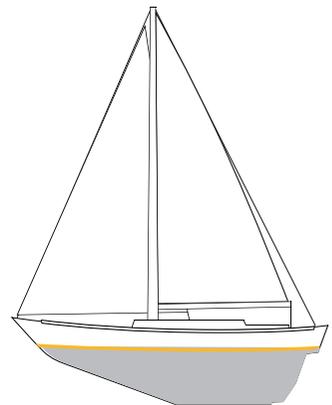
The tools that create special vector objects are the Concentric Circles, Grid Maker, Multi-polygon, and Spiral tools.

Also, when you modify objects with the Envelope or Extrude commands, Canvas creates specialized objects.

If you want to use path-editing techniques to modify these objects, you can convert them to paths. This usually produces a group of objects. After you ungroup these objects, you will have regular paths that can be edited using the techniques in this chapter.

You can also convert text characters to paths so that you can edit the shapes of individual characters.

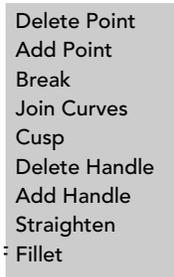
For more information on editing specialized objects as paths, see “Converting objects and text to paths” on page 345.



Most Canvas objects can be edited the same way, whether you use shape tools, path tools, or techniques like Combine to create them.

Editing paths with the context menu

When an object is in path edit mode, you can use the context menu to help you quickly add, delete, and change anchor points and tangent lines. To see this menu, Ctrl-click (Mac) or right-click (Windows) with at least one object in path edit mode. The available options vary depending on the location of the pointer. Each option is described next.



The path-editing Context menu

Delete Point Available when the pointer is on an anchor point and appears as a crosshair. Removes the anchor point from the path, and connects the adjacent anchor points with a path.

Add Point Available when the pointer is on a path segment and appears as a gray arrowhead. Inserts an anchor point with a tangent line at that location.

Break Available when the pointer is anywhere on a path. Splits the path segment at that location, and adds anchor points to the ends of the resulting segments.

Join Curves Available when you select two anchor points that are not connected by a straight line (the anchor points can be joined by a curve, or not connected at all). Connects the selected points with a straight line.

Cusp Available when the pointer is on a tangent line handle or an anchor point. On anchor points, this option deletes the point's tangent lines. On tangent line handles, this option makes the path either smooth or cornered at the anchor point. To be smooth, the anchor point must have both sides of a tangent line. When smooth, the halves of the tangent line are always 180 degrees from each other and rotate around the anchor point like a propeller. When the anchor point is a corner, the tangent line segments can move independently around the anchor point, like the hands of a clock.

Delete Handle Available when the pointer is on a tangent line handle and appears as a crosshair. Removes the handle and the effects of the tangent line on the path.

Add Handle Available when the pointer is on an anchor point and there are fewer than two tangent line segments attached to the anchor point. Adds tangent line segments to the point.

Straighten Available when the pointer is on a path segment and appears as a gray arrowhead. Makes the path segment straight by removing tangent lines from the segment's anchor points.

Fillet Available when the pointer is on an anchor point between two segments. Fillet creates a radius corner between the two segments. When you choose Fillet, a dialog box appears. Enter a radius value in the text box and click OK. The larger the radius value, the larger the curved segment. A message appears if the radius value is too large for the angle of the segments.

Selecting anchor points and segments

When you edit paths, you need to select particular anchor points or segments before you can delete, move, or reshape them. Before you can select anchor points and segments, a path object must be in edit mode (see “To place an object in edit mode” on page 333).

When a path is in edit mode and you point to an anchor point with the Selection tool, the pointer becomes a crosshair. When you point to a segment, the pointer becomes a gray arrowhead.

You can select points in more than one object. When you move any selected point, all points in the selection move the same way. This also works for segments belonging to separate objects.

- ◆ **To select anchor points and segments:** With the path object in edit mode, click an anchor point or segment to select it. To select multiple points or segments, use the Selection tool to drag a selection box around them, or Shift-click each point or segment.

- ◆ **To select all anchor points:** With the path object in edit mode, choose Select All in the Edit menu.

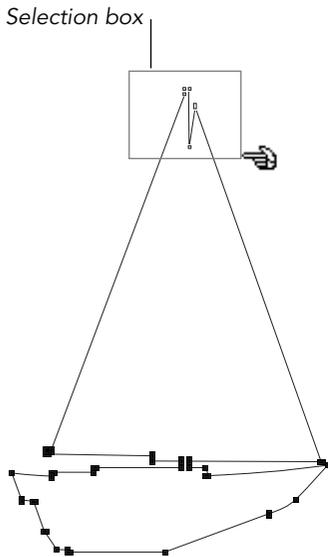
- ◆ **To select parts of separate paths:** Place the paths in edit mode, and Shift-click the point or segments.

When an anchor point is selected, it changes from a solid to hollow square. If the anchor point has tangent lines, they appear when the anchor point is selected. When you select a segment, the anchor point at each end is selected.

Adding and deleting points and segments

If a segment’s anchor points are too far apart for you to adjust the shape as needed, you can add more. If you create or add more anchor points than you need, you can delete unnecessary ones.

Keep in mind that the more points on a path, the more complex and system resource-intensive it becomes. In particular, too many anchor



When a path is in edit mode, you can use the Selection tool to drag a selection box around multiple anchor points to select them.

points can cause printing problems. It's best to use the fewest possible anchor points placed as far apart as possible to create a path.

◆ **To add an anchor point:** With an object in edit mode, Ctrl-click (Mac) or right-click (Windows) a segment to which you want to add an anchor point. In the path Context menu, choose Add Point. You can also Option-click (Mac) or Ctrl-click (Windows) a segment to add a point.

◆ **To delete an anchor point:** With an object in edit mode, Ctrl-click (Mac) or right-click (Windows) the point you want to delete. In the path Context menu that appears, choose Delete Point. You can also Option+Shift-click (Mac) or Ctrl+Shift-click a point to delete it, or select points and press the Delete key.

◆ **To delete a segment:** Select a segment and press Delete. Deleting a segment of a closed path does not split the path open; the remaining segments are joined and the path remains closed.

To add segments to an open path

You can add segments to the end of an open path using the Curve tool or Polygon tool.

- 1 With the object in edit mode, select the endpoint where you want to add a segment.
- 2 Select the Curve tool (to add straight or curved segments) or the Polygon tool (to add straight segments) in the toolbox.
- 3 Click to add a straight segment beyond the selected endpoint. With the Curve tool, you can add a curved segment by pressing the mouse button to establish the new anchor point and then dragging to position the tangent line.
- 4 To add additional segments, repeat the previous step. When you finish, press Enter (Mac) or Esc (Windows) to leave edit mode.

Closing and opening paths

A closed path is one that starts and ends at the same anchor point. An open path has separate starting and ending points. You can close an open path by letting Canvas create a new segment to join the path's two endpoints. You can open a closed path by splitting the path.

◆ **To close an open path:** With the path in edit mode and the Curve or Polygon tool selected, click one of the endpoints. Canvas

closes the path by connecting the endpoints with a new segment. If the adjacent segments are curved, the new segment follows the curve.

◆ **To open a closed path:** With the object in edit mode, Ctrl-click (Mac) or right-click (Windows) an anchor point or segment to open the path Context menu. In the menu, choose Break; Canvas inserts segment end points to open the object at that location.

Using the Scissors tool to open and divide paths

Scissors tool



You can use the Scissors tool to open a closed path and to divide a path into two objects. Splitting a path opens the path at the point where the scissors clip the path.

- 1 Select the Scissors tool in the toolbox. The pointer changes to a pair of scissors.
- 2 Point to the path where you want to split it (you don't need to select the object first). The pointer becomes a crosshair when it is on a point or segment that can be split.
- 3 Click the path when the crosshair is displayed. Canvas adds two endpoints where you click the path and the path opens.
- 4 If the path is closed and you want to split it into two paths, click the path again where you want to split it.

Dividing objects with the Knife tool

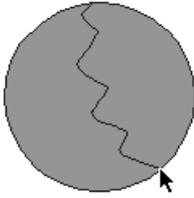
Knife tool



You can divide vector objects into separate pieces using the Knife tool. The Knife tool is located in the Effects toolbar.

When you drag the Knife tool, it draws a cutting path. If the cutting path divides an object into two parts, the result is two new objects. If the cutting path crosses itself, the area inside the path becomes a new object.

The Knife is similar to the Scissors tool; both tools divide vector objects. The Scissors tool divides an object with a straight line between the two points that you click. The Knife tool slices objects along a freeform cutting path. Therefore, you can use the Knife tool to cut curved edges.



Drag the Knife tool . . .



. . . to slice an object

You can use the Knife tool on open and closed vector objects. If you slice one or more open paths, the resulting objects are open paths.

If you slice an open path that crosses itself, the path separates where it crosses itself and where you slice it.

◆ **To use the Knife tool:** Select the Knife tool. Drag in the document to draw a cutting path that intersects the objects you want to divide. The cutting path must intersect at least two points on an object's perimeter.

Partial cuts If you stop dragging before the cutting path intersects a second point on an object's perimeter, the cutting path appears but the object stays intact. To use this cutting path to divide the object, you can drag a second cutting path so it intersects the perimeter of the object and the first cutting path. Or, you can intersect the cutting path with other cutting paths to create a closed shape. The part of the object that falls within the closed shape becomes a separate object.

Cutting holes You can cut out pieces of a vector object by dragging inside of the object and creating a closed path. The parts of the object that fall within the closed cutting path become separate objects. To create a closed cutting path, the path must cross itself.

Gradient inks If an object's fill ink is a gradient, and the style is Radial, Directional, Rectangular, or Elliptical, the gradient remains intact across the separated objects. However, if the gradient style is Shape, the gradient fills each divided object separately.

Knife tool options

To configure the Knife tool, double-click the Knife tool icon. In the dialog box that appears, select an option and click OK.

Cut Only Selected Objects Select this option to make the Knife tool slice only vector objects that are selected and intersected by the cutting path. This setting can prevent unintentional changes to nearby objects.

Cut All Objects Select this option to make the Knife tool slice any vector objects that the cutting path intersects, whether the objects are selected or not.

Joining two paths

You can use the Join command to create one path from two separate, open path objects.

◆ **To join two paths:** Select the two open path objects that you want to join (they should not be in edit mode). Choose Object > Path > Join. Canvas connects the two paths by extending the existing segments or creating a new segment, depending on the distance between the objects.

When you use the Join command to connect two objects that are more than 15 pixels apart, Canvas creates a new line segment between the two closest endpoints. When you join objects whose endpoints are 15 or fewer pixels apart, Canvas extends the two objects to a midpoint between the two closest endpoints.

When the two endpoints on the paths to be joined are 15 or fewer screen pixels apart, you can add a segment by pressing Shift when you choose Join. When the distance between the endpoints is greater than 15 pixels, you can extend the existing segments by pressing Shift when you choose Join.

To join paths at selected endpoints

Canvas, by default, joins paths at the closest endpoints. However, you can select which endpoints to join.

- 1 Place an open object or multiple open objects in edit mode; see “To place an object in edit mode” on page 333.
- 2 Click an endpoint you want to join to another path. The endpoint becomes hollow to indicate that it is selected.
- 3 Shift-click another endpoint. The endpoint also becomes hollow to indicate that it is selected.
- 4 Choose Object > Path > Join, or Ctrl-click (Mac) or right-click (Windows) one of the selected points. In the context menu, choose Join Curves.

Moving anchor points and segments

With a path in edit mode, you can move points and segments to alter the shape.

Drag an anchor point or segment to move it to a new location. You can also use the keyboard arrow keys to move selected points and segments. Canvas reshapes the segments adjacent to the point.

Pressing Shift while dragging points or segments will constrain their movement to 45-degree intervals.

When you begin to drag a segment, the anchor points display their tangent lines. You can control the movement of the tangent lines by using modifier keys when you drag the segment.

To reshape a single segment, drag the segment. You can change the length and angle of the tangent lines.

Press Tab and drag the segment to change the length of the tangent lines, as well as distort the segment. This is the way that segments could be reshaped (without pressing Tab) in Canvas 3.5 and earlier versions.

To reshape the segment you drag and adjacent segments at the same time, press Command (Mac) or Alt (Windows) and drag the segment.

Reshaping paths by editing anchor points

A path can contain two kinds of anchor points: smooth points and corner points.

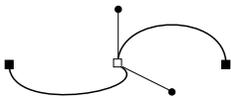
Smooth point An anchor point that connects two curve segments where the curve flows smoothly through the anchor point without a sharp change in direction. Circles and sine waves are examples of paths that have only smooth anchor points.

Corner point An anchor point where the path makes a sharp turn at the anchor point. Corner points can connect two straight segments, two curved segments, or one curved and one straight segment.

Tangent lines

All smooth points, and some corner points, have tangent lines passing through them. Canvas displays the tangent lines when a point is selected.

A corner point can have one, two, or no tangent lines. When you select a corner anchor point with two tangent lines, each tangent line can move independently.



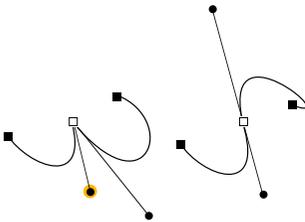
A corner anchor point with independent tangent lines

When you create paths with only straight segments (using the Polygon tool or the Curve tool), the path's anchor points are corner points. When you draw curved segments (using the Curve or Freehand tool), the anchor points are smooth points. In addition, any points that you add to curved segments are smooth points by default.

To change a smooth point to a corner point

You can edit, reshape, and resize two adjoining curve segments independently by converting their smooth anchor point to a corner point.

- 1 With the object in edit mode, click the anchor point to reveal its tangent lines.
- 2 Press Tab and drag one of the handles to move one of the tangent lines. The tangent line pivots at the anchor point and affects only one side of the anchor point.



Tab-click a handle of a corner point (highlighted); the other tangent line snaps into alignment and smooths the path

To change a corner point to a smooth point

To smooth out a sharp turn in curved segments, you can change the corner point between them to a smooth point.

Note: The corner point must have two tangent lines for this procedure. If it has fewer than two, first add tangent lines to the point.

- 1 With the object in edit mode, click the anchor point to display its tangent lines.
- 2 Tab-click the handle of the tangent line you want to keep in place; the other tangent line snaps into alignment.

Adding and removing tangent lines

An anchor point can have as many as two tangent line segments. Corner points can have one, two, or no tangent lines, and smooth points must have two. You can quickly convert a smooth point to a corner point by deleting one of its tangent lines. Also, to convert a corner point with one or no tangent lines to a smooth point, you must add tangent lines.

To add a tangent line

- 1 In path edit mode, select an anchor point with one or no tangent lines. The anchor point cannot be an endpoint with one tangent line, because endpoints can have only one tangent line.
- 2 Press Tab and drag away from the anchor point to place a new two-handle tangent line. You can also Ctrl-click (Mac) or right-click (Windows) and choose Add Handle in the context menu. As you do this, the new tangent line begins altering the segment based on how you drag to position the tangent line.
- 3 Repeat the previous step to add a second tangent line.

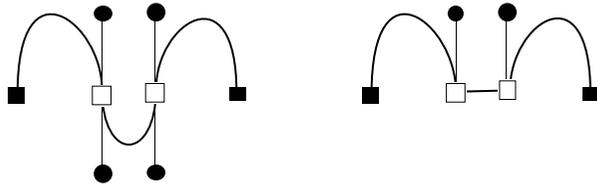
To delete tangent lines

- 1 In edit mode, click an anchor point to display its tangent lines.
- 2 Depending on how you want to edit the anchor point, do one of the following:
 - To delete one tangent line, Ctrl-click (Mac) or right-click (Windows) the tangent line handle and choose Delete Handle in the context menu. You must use this method for anchor points with only one tangent line, and to delete one of two tangent lines attached to an anchor point.
 - To delete an endpoint's tangent line, you can also Tab-click the anchor point.
 - To simultaneously delete both tangent lines of an anchor point, Tab-click the point.

Straightening curve segments

You can straighten a curved segment by selecting it and using the Straighten command in the context menu. This command deletes the tangent line(s) that are curving the segment.

Middle curve segment straightened; Canvas deleted the lower tangent line segments of both anchor points



- ◆ **To straighten a segment:** With the object in edit mode, Ctrl-click (Mac) or right-button click (Windows) the curved segment that you want to straighten. Choose Straighten in the context menu.

Reshaping curve segments

To adjust the shape of a curve, in addition to moving points and segments along the path itself, you can adjust the tangent lines that control the curve. The angle of the tangent line affects the curve shape, while the length of the tangent line affects the size of the segment.

At a smooth anchor point, adjusting the angle of a tangent line affects the curves on both sides of the anchor point. At a corner anchor point, you can reshape the segments on each side independently. For more information, see “Reshaping paths by editing anchor points” on page 340.

To reshape a curved segment

- 1** With the object in edit mode, click one of the segment’s anchor points to display its tangent lines.
- 2** Drag the handle of the tangent line to change the shape of the associated curve. In the case of a smooth point, the tangent line affects both adjacent curve segments.

Path editing modifier keys

You can use modifier keys in conjunction with mouse actions to help you reshape and edit paths quickly. The following table describes available modifier keys for Mac and Windows versions of Canvas.

Path editing modifier keys

To edit a path this way	Do this on Mac	Do this on Windows
Add an anchor point to a segment	Option-click a segment	Ctrl-click a segment
Delete an anchor point	Option + Shift-click an anchor point	Ctrl + Shift-click an anchor point
Move an anchor point as you place it	Hold down the mouse button, then press the Spacebar and move the mouse	Hold down the mouse button, then press the Spacebar and move the mouse
Change the length of the tangent lines on both sides of a smooth anchor point at the same time	Option-drag a tangent line handle	Ctrl-drag a tangent line handle
Constrain movement to 45-degree increments while changing the length of both tangent lines of a smooth anchor point	Option + Shift-drag a tangent line handle	Ctrl + Shift-drag a tangent line handle
Move one side of a smooth point's tangent line independently of the other side (changing the anchor point from smooth to cusp)	Tab-drag a tangent line handle	Tab-drag a tangent line handle
Make a corner point with two tangent lines into a smooth point	Tab-drag a tangent line handle	Tab-drag a tangent line handle
Constrain movement to 45-degree increments while changing an anchor point from smooth to cusp (or cusp to smooth)	Tab + Shift-drag a tangent line handle	Tab + Shift-drag a tangent line handle
Add a tangent line to an anchor point that has fewer than two tangent lines	Tab-drag an anchor point	Tab-drag an anchor point
Delete both tangent lines of an anchor point or the tangent line of an endpoint	Tab-click the anchor point or endpoint	Tab-click the anchor point or endpoint
Close an open path	Click an open path with the Polygon or Curve tool selected	Alt-click an endpoint
Change the length of tangent lines without changing the angles	Press Tab and drag the segment	Press Tab and drag the segment
Reshape the segment you drag and the adjacent segments	Press Command and drag the segment	Press Alt and drag the segment

Converting objects and text to paths

Some vector objects have specialized properties and unique edit modes instead of the standard path edit mode. For example, you cannot directly edit the path segments of macros, concentric circles, grids, multigons, spirals, and objects modified by the Envelope or Extrude commands. However, you can convert these objects to paths so you can edit them the same as any other vector object.

If you create paths from a specialized vector object, the new shape does not have the same unique editing capabilities as the original. For example, if you convert a multigon star object to paths, you can no longer use the edit handles that let you adjust the depth and twirl of the points. Similarly, placed macros are no longer linked to their parent macros in the Gallery palette after you convert them to paths.

You can also convert text so you can reshape characters as vector objects. This has the benefit of making the characters independent of their fonts; the font is no longer required to view and print the characters properly. However, once you convert text to paths, you can no longer perform text operations, such as editing, spell-checking, and formatting, on the text. Also, characters with “holes” in them (such as a, b, d, e, g, o, p, r, and q) are converted to composite paths, which cannot be extruded.

◆ **To convert an object to paths:** Select the object you want to convert and choose Object > Path > Convert To Paths. Canvas converts the object to one or more paths.

Ungrouping objects made of multiple paths

When you convert multiple objects, characters, or specialized vector objects to paths, Canvas creates a separate path for each shape and groups them. You can use the Ungroup command in the Object menu to separate them.

For example, if you convert a five-letter word to paths, the resulting object is a group of five paths. To edit just one of the five paths, first choose Ungroup in the Object menu. You can also use the Direct Selection tool to select one path without first ungrouping the object.

Making and breaking composite paths

You can create openings in a filled path by incorporating multiple paths into a single, composite path. Areas between the paths and areas where the paths intersect are transparent.

- ◆ **To create a composite path from multiple paths:** Select the paths you want to make into a composite path. Choose Object > Path > Make Composite.
- ◆ **To separate a composite path:** Select the composite path and choose Object > Path > Break Composite.

PRECISION DRAWING AND DIMENSIONING

This chapter describes precision drawing tools and techniques that can help you create scale drawings, floor plans, architectural designs, and other types of technical drawings. This chapter explains how to

- display size information as you draw
- set up the scale for scale drawings
- add dimension objects to illustrations
- use Smart Mouse to align objects

Some of the techniques described elsewhere in this book also apply to precision drawing. For information on document setup and using rulers, refer to Chapter 3, “Document Setup.”

Setting up a document’s measurement scale

Canvas offers a variety of options for creating scale drawings. You can set up a ruler to control the scale of an entire document. You can also customize scale settings for individual dimension objects. Other settings affect the format of measurement and position data.

The following settings affect the measurement of objects in a document:

Rulers You set up a document’s overall drawing scale using the Rulers command and Rulers dialog box. The ruler scale affects all object measurements, including those made with the dimensioning tools. The ruler scale also affects data in the Object Specs palette and status bar. See “Setting up rulers and the drawing scale” on page 61.

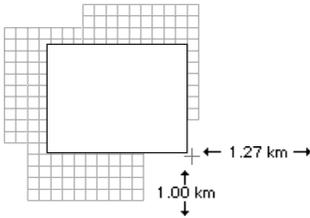
Number Form A setting in the Preferences dialog box affects the format of data in the Status bar and other displays. This option controls the precision of data and the number format (decimal or fractions). See “Measurement units preferences” on page 175.

Dimensions You can create custom scale settings for dimension objects using the Dimensioning dialog box. You can customize individual dimension objects, or set a custom scale for all dimension

objects created with a dimensioning tool. See “Customizing the dimensioning tools” on page 352 for more information.

Displaying dimensions as you draw

Canvas can display the horizontal and vertical dimensions of an object as you draw it. The Show Size command makes dimensions (in scale) appear at the pointer as you drag with any drawing tool. These dimensions do not remain in the document.



When Show Size is active, Canvas displays the scaled size of the object as you draw.

◆ **To display dimensions when you use drawing tools:** Choose Layout > Display > Show Size. When you select a drawing tool and drag the pointer in an illustration, the object’s vertical and horizontal measurements appear at the pointer.

When Show Size is on, the command changes to Hide Size.

◆ **To turn off the dimensions display:** Choose Layout > Display > Hide Size. This command only appears when Show Size is on.

Using the Status bar display

The Status bar at the bottom of the screen displays dimensions and position data that can assist you when you draw objects.

The data in the Status bar are based on the overall document scale as defined by the current ruler setting. When you draw a vector object, the status bar displays the horizontal and vertical dimensions for most objects. When you move an object by dragging it with the Selection tool, the status bar displays the horizontal and vertical distance that the object has moved. The measurements are based on the overall measurement scale as defined in the Rulers dialog box.

Using the dimensioning tools

You can easily add formatted dimensions to documents with the Canvas dimensioning tools. These tools can measure horizontal, vertical, oblique and perpendicular distances; measure diameter, radius, angle, area, and perimeter; and mark the centers of arcs and ovals.

Some dimensioning tools create a single dimension, while others let you create baseline and chain dimensions. Baseline dimensions are a series of measurements made from a common starting point. Chain dimensions are a series of measurements in a row.

 **Tip**

The Smart Mouse can help ensure precise measurements. You can set the Smart Mouse so the pointer snaps to corners and anchor points when you use dimensioning tools. See “Using Smart Mouse for precise alignment” on page 357.

You can create dimension objects that conform to industry standards, including the ANSI, DIN and JIS standards. You can also customize the standard settings — the size of lines, gaps, text, and tolerances. You can also save settings that you have customized as new standards.

The 17 dimensioning tools are grouped in a palette. To open the palette, press the dimensioning tool that appears in the Object tools palette. You can drag the palette away from the toolbox to keep it open while you work.

To add dimensions to an illustration

- 1** Select a dimensioning tool in the toolbox. When you move the pointer into the document, a prompt appears at the pointer.
- 2** To begin dimensioning, position the pointer and click as directed by the prompt. The prompt varies, depending on which dimensioning tool you use. For example, if you use the Horizontal dimensioning tool, the prompt says “Click 1st Point.”

Refer to the table “Dimensioning procedures” on page 351 for details on what you should do when each prompt appears.

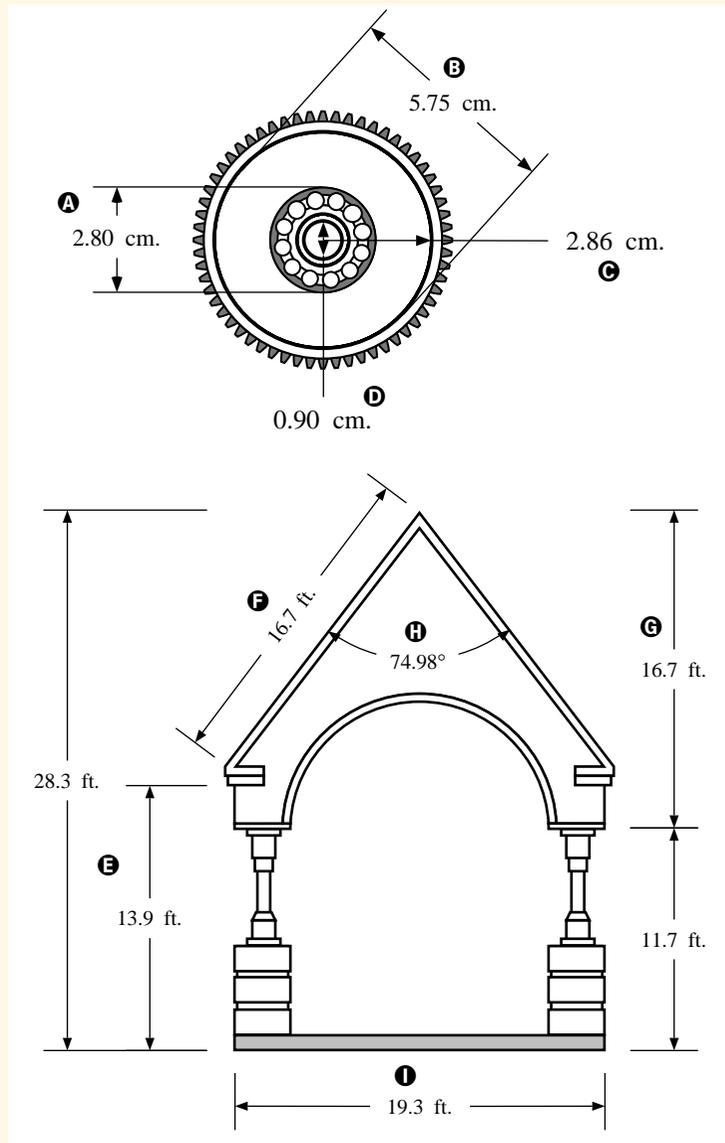
- 3** When the “Anchor” prompt appears, move the pointer to position the dimension. If you drag away from the measurement points, the witness lines extend and the text follows the pointer.
- 4** To anchor the dimension in place, click once.
- 5** For chain and baseline dimensions, you can click additional measurement points and anchor each part of the dimension object. After you anchor the last part, press Enter (Mac) or Esc (Windows) to finish the object.

Types of dimensioning tools and measurements

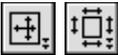
You use the dimensioning tools to add measurements to illustrations. Different tools let you create different types of dimension objects.

Baseline and chain dimensioning tools create groups of dimensions. Baseline dimensions contain several measurements from a common starting point. Chain dimensions are a series of measurements.

- A** Vertical
- B** Oblique
- C** Radius
- D** Diameter
- E** Vertical Baseline
- F** Oblique (with aligned text)
- G** Vertical Chain
- H** Angle
- I** Horizontal



Dimensioning procedures

Dimensioning tool	Prompts	Procedure
 <p>Horizontal, Oblique, and Vertical</p>	Click 1st Point, Click 2nd Point	Click the start point for the measurement, then click the end point and anchor the dimension object.
 <p>Baseline and Chain (Horizontal, Oblique, and Vertical)</p>	Click 1st Point, Click Next Point	Click the start point and then click the end point for the first measurement; anchor the first part of the dimension object. Click the next measurement point and anchor the next part of the dimension object. Continue until finished, then press Enter (Mac) or Esc (Windows).
 <p>Angle</p>	Click 1st Line, Click 2nd Line	Click the start point for the angular measurement, then click the end point.
 <p>Perpendicular</p>	Click Line, Click Point	Click the line to measure from, then click a point anywhere to take a perpendicular measurement from the line to the point.
 <p>Object Side</p>	Click Object Side	Click the side of the object to be measured.
 <p>Radius, Diameter, and Center</p>	Click Arc/Ellipse	Click anywhere on the arc or ellipse and then anchor the dimension object.
 <p>Area and Perimeter</p>	Click Object	Click anywhere on the object to be measured and then anchor the dimension object.

Linking dimensions to measured objects

Because dimension objects aren't attached to the objects they measure, dimensions do not change when you resize objects you have measured. However, you can group a dimension object and the object that it measures. When you do this and then you resize the object, the dimension changes accordingly.

◆ **To group an object and a dimension object:** Select the dimension object and the measured object and choose Object > Group.

Attributes of dimension objects

When you create a dimension object, Canvas uses the current ink and stroke settings, which are shown by the Pen ink, Fill ink, and Strokes

icons in the toolbox. The dimension text uses the current text settings, as indicated in the Text menu by a check mark.

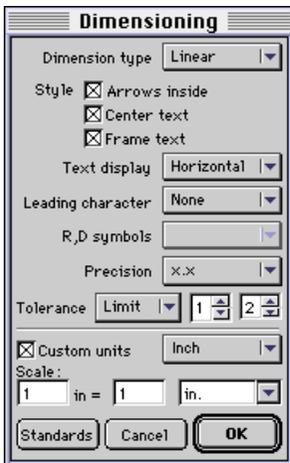
You can change the current ink, stroke, and text settings for new dimension objects, and you can change these settings for existing dimension objects.

- ◆ **To change the type attributes of a dimension object:** Select the dimension object and use the Text menu or the Type palette to choose the font, size, style, and other attributes of the text.
- ◆ **To change the appearance of a dimension object:** Select the object and use the Inks and Strokes palettes to select ink color, pen size, and arrows for the dimension object.
- ◆ **To change attributes for new dimension objects:** Make sure that no objects are selected in the document, and then use the Text menu (or the Type palette), and the Inks and Strokes palettes to change the current settings for new objects and text.

✓ Important

Dimension objects can not display arrows if all the preset arrows have been deleted from the Arrow tab in the Strokes palette.

Customizing the dimensioning tools



You can customize the measurement units, scale, arrow position, tolerance text, and other settings for dimension objects. You use the Dimensioning dialog box to configure these settings. You can set up different configurations for the three categories of dimensioning tools — angular, linear, and radial. You can also use the Dimensioning dialog box to change existing dimension objects.

Using the Dimensioning dialog box

You can open the Dimensioning dialog box by double-clicking a dimensioning tool icon or a dimension object, depending on whether you want to configure the tool or edit a dimension object. Use one of the following three methods to open the dialog box.

- ◆ **To change the properties of regular dimension objects:**

Double-click the dimension object to open the Dimensioning dialog box. To change multiple dimension objects, select them and then double-click one of the objects.

- ◆ **To change the properties of chain and baseline dimension objects:** Select the dimension object and choose Ungroup in the Object menu. Then, double-click one of the dimension objects to open the Dimensioning dialog box. You can also double-click a dimension object with the Direct Selection tool to open the dialog box without ungrouping the objects first.

◆ **To change the settings for dimensioning tools:** Make sure that no dimension objects are selected, then double-click a dimensioning tool icon to open the Dimensioning dialog box.

1 Choose the type of dimensions you want to configure in the Dimension Type pop-up menu. (If a dimension object was selected, the object type appears in the pop-up menu).

Select this type	To configure these dimensioning tools
Angular	Angle
Radial	Radius, Diameter, Center
Linear	Horizontal, Vertical, Side, Horizontal Baseline, Vertical Baseline, Horizontal Chain, Vertical Chain, Perpendicular
Object Info	Area, Perimeter

2 In the Style area, adjust the settings for arrow placement, text position, and text framing.

3 Choose the text alignment method in the Text Display pop-up menu.

4 To configure leaders for linear and radial dimension objects, select one of the following options in the Leading Character pop-up menu:

None	Does not include a leader
Left	Includes a left-pointing leader
Right	Includes a right-pointing leader
Automatic	Applies to radial dimension objects only. Includes a leader pointing left when dimension object is left of the object's center, and a leader pointing right when dimension object is aligned with or right of the object's center.

5 To configure radius and diameter symbols for radial dimension objects, select one of the following options in the R,D Symbols pop-up menu:

None	Does not include any symbols
Leading	Places symbols before the dimension text
Trailing	Places symbols after the dimension text

6 To set the dimension precision, choose an option in the Precision pop-up menu. The options tell Canvas to use fractions or the specified number of decimal places in dimension text.

7 To specify the format of tolerance data in dimension objects, choose one of the following options in the Tolerance pop-up menu. Type the tolerance numbers in the text boxes.

None	Does not include any tolerance amount
One	Prints the tolerance amount from the first text box, with "±" and the dimension text.
Two	Prints tolerance numbers from both text boxes. To use a negative number, type a minus sign (-) before the number
Limit	Prints two dimensions, calculated from the actual dimensions and the two tolerance values.

8 To set a custom scale for dimension objects, turn Custom Units on. This overrides the measurement units specified for the document rulers. Choose a measurement unit in the adjacent pop-up menu and type the actual measure in the first text box. Type the scaled measurement in the second text box. Choose the scale measurement unit in the adjacent pop-up menu.

For example, if you want to use a scale of 1 centimeter equals 1 meter, do the following: turn on Custom Units; select Centimeter in the first pop-up menu; type "1" in the first and second text boxes; and choose "m." in the second pop-up menu.

9 Click OK to close the dialog box and implement the settings.

Style and Text Display settings

Use the following style options in the Dimensioning dialog box to customize the appearance of dimension objects.

A Arrows Inside. Dimension arrows appear next to the dimension text when this option is on.

B Center Text. Must be off if you want to drag dimension text outside the witness lines.

C Frame Text. Turn this option on to frame the dimension text.

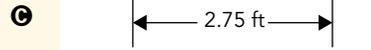
Use the following options in the Text Display pop-up menu to format the dimension text.

Horizontal. Text is always aligned horizontally in all dimension objects.

Option on



Option off



Horz/90°. Text is aligned horizontally, except text is rotated 90° vertically for vertical dimension objects.

Aligned. Text is always aligned with the angle of the dimen-

sion arrows.

Above. Text runs above the dimension arrows.

Below. Text runs below the dimension arrows.

Using industry standards for dimension objects

If you want to use industry standard settings for dimension objects, click the Standards button in the Dimensioning dialog box to open the Dimension Standards dialog box. You can choose several industry standards in the pop-up menu. You can also use the Dimension Standards dialog box to further customize dimension objects.

Dimension Standards settings

The settings in the Dimension Standards dialog box specify the length and position of various elements of dimension objects, based on industry standards.

Current standard. Choose from five standard measurement systems: ANSI (American National Standards Institute) DIN (Deutsches Institut für Normung), BS-380 (British Standards Institute), ISO (International Organization for Standardization), and JIS (Japanese Industrial Standard).

Settings you create also appear in this pop-up menu.

Units. Choose the measurement units you want to use for

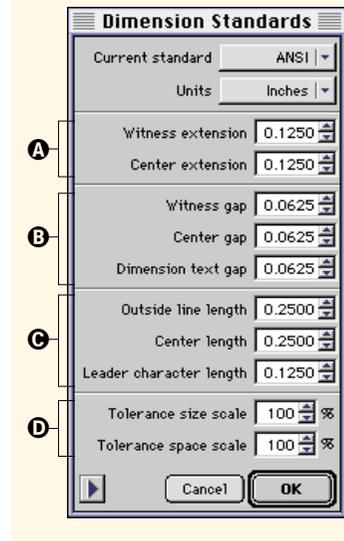
all settings in the dialog box.

A Extension. Set the length of the witness lines' extensions and the center line extension.

B Gap. Set the size of the gap between the witness lines and measurement points on objects; the gap between the center extension and center point mark; and the gap between the dimension text and dimension arrows.

C Length. Set the length of the arrow lines (applies only when arrows are outside the witness lines); the length of center extension lines' leader characters; and the length of the center extension line.

D Tolerance scale. The size of



tolerance text and space between tolerance text, as a percentage of the dimension text size and spacing.

Saving and deleting settings

If you customize the settings in the Dimension Standards dialog box, you can save the settings as a custom standard. Press the triangle button at the bottom-left corner of the Dimension Standards dialog box to display a menu for saving and deleting dimension standards.

When you save or delete standards, they remain saved or deleted whether you click OK or Cancel to close the Dimension Standards dialog box.

◆ **To save the settings as a new standard:** Press the triangle button at the bottom-left corner of the Dimension Standards dialog box. In the pop-up menu, choose “Save settings as.” Type a name for the custom standard in the dialog box that appears. Click OK. The new standard will appear in the Current Standard pop-up menu.

◆ **To delete a custom standard:** Press the triangle button at the bottom-left corner of the Dimension Standards dialog box. In the

pop-up menu, choose “Delete standard.” In the dialog box that appears, choose a custom standard in the pop-up menu and click OK.

Using Smart Mouse for precise alignment

Smart Mouse is a drawing aid that can help you align objects precisely. Smart Mouse is particularly useful when using dimensioning tools, because it can snap the pointer to the corners (and other points) of objects, so dimension objects are perfectly aligned.

You can use 12 types of Smart Mouse constraints. The constraints make the pointer (and objects that you draw or drag) snap to

- the corners or centers of objects
- even divisions (such as the midpoints) of object segments
- specified lengths or angles
- horizontal, vertical, or diagonal movement
- tangential or perpendicular alignment with objects
- the edges of vector objects

Types of Smart Mouse constraints

Relative constraints Indicate the relationship between the beginning position and current position when you draw or drag an object. These constraints can display pointers to indicate a constraint is met. The relative constraints are: Horizontal, Vertical, Diagonal, Angle, Multiple Angle, Length, and Tangent & Perpendicular.

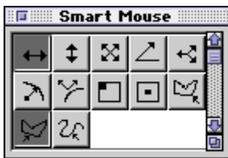
Absolute constraints Indicate the relationship between the pointer and objects. These constraints (except Object Edges) can display source lines and pointers to show a constraint is met. The absolute constraints are: Object Corners, Object Fractions, Polygon & Bézier Anchors, Polygon Fractions, and Object Edges.

To activate Smart Mouse constraints

To use the Smart Mouse, select the constraints and then turn on Snap To Smart Mouse. Refer to the table “Smart Mouse constraints” on page 358 to learn how each constraint works.

1 Choose Layout > Smart Mouse. This opens the Smart Mouse palette, which contains icons for all constraints.

- To activate or deactivate a constraint, click its icon. Active constraint icons are highlighted.



Constraint icons appear in the Smart Mouse palette. The active constraints are shaded.

2 Choose **Layout > Snap To > Smart Mouse** to turn on the Smart Mouse. A check mark shows that Smart Mouse is active.

Note: Be sure **Snap To Grid** (in the **Layout > Snap To** menu) is off when you use the Smart Mouse. If **Snap To Grid** is on, the pointer will snap to the grid and not to active Smart Mouse constraints.

Smart Mouse constraints

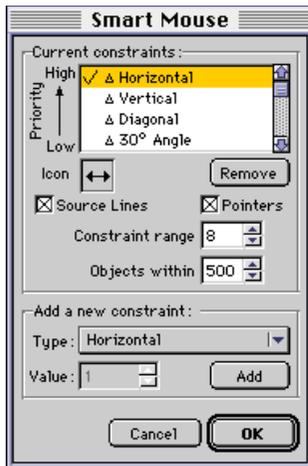
When this constraint is active	Smart Mouse snaps objects and constrains the pointer to
 Angle	A specified angle
 Diagonal	Straight diagonal movement — all multiples of 45°
 Horizontal	Straight horizontal movement— 90° and 270°, or 0° and 180°, depending on the current coordinate system
 Vertical	Straight vertical movement — 0° and 180°, or 90° and 270°, depending on the current coordinate system
 Length	A specified length in points (based on 100% magnification)
 Multiple Angle	All multiples of the specified angle
 Object Corners	The corners of the bounding boxes of vector objects
 Object Edges	Edges of the paths of vector objects (not their bounding boxes); when Object Edges is active, other constraints don't affect the pointer
 Object Fractions	A specified division of vector objects; for example, specify 1/2 to snap to the center of objects
 Object Points	Any anchor point on the paths of vector objects
 Object Segments	Specified divisions of the segments of vector objects; for example, the pointer snaps to the midpoints of segments if you specify 1/2
 Tangent & Perpendicular	Movement in a straight line, tangent or perpendicular to vector objects

Identifying multiple constraints

Up to two Smart Mouse constraints can be met at the same time. For example, you can drag an object in such a way that it triggers both the horizontal constraint and object corner constraint. Although you can activate several constraints, only two constraints can affect the pointer at once.

Tip

To temporarily hide Smart Mouse pointers, press the Shift key. Smart Mouse pointers reappear when you release the Shift key.



Constraints are listed at the top of the Smart Mouse dialog box, from High to Low priority. A check mark indicates active constraints. Constraints preceded by a delta symbol (Δ) are relative constraints.

Smart Mouse can display special pointers to indicate that constraints are met. You can toggle the pointer display if more than one constraint is active. The Pointer option (see “Constraint settings,” next) must be active to see Smart Mouse pointers.

◆ **To toggle the Smart Mouse pointer:** Press Command (Mac) or Alt (Windows) when a constraint pointer is visible. If another pointer appears, both constraints are met. The symbols won’t change for different settings of one constraint type, such as two different values for the Angle constraint.

Customizing Smart Mouse constraints

You can activate constraints, change their values, and add and delete constraints in the Smart Mouse dialog box.

- 1 Choose Smart Mouse in the Layout menu to open the Smart Mouse palette if necessary, then double-click a constraint icon to open the Smart Mouse dialog box.
- 2 To activate or deactivate a constraint, click to the left of the constraint name in the scrolling list. You can activate multiple constraints, but only two can affect the pointer at once.
- 3 Configure the constraint settings described next and click OK.

Constraint settings

The settings in the Current Constraints area at the top of the Smart Mouse dialog box affect the behavior of all Smart Mouse constraints. Select a constraint in the list to see its symbol in the Icon box.

Priority When multiple constraints are active, those at the top of the scrolling list take precedence over those lower in the list. To change the priority of a constraint, drag it to a new position in the list.

Source Lines If checked, Canvas displays a line to show that the pointer, or an object you are moving, is aligned horizontally or vertically with a snap point — such as the corner of an object.

Pointers If checked, constraint symbols appear as you draw or drag objects to indicate that a constraint is met.

Constraint Range The maximum distance, horizontally or vertically, from a target point at which the constraint causes the pointer to snap to the target point.

Objects Within For absolute constraints only, specifies how close the pointer must be to an object for the object to trigger the constraint.

Adding and deleting constraints

You can add new Smart Mouse constraints and delete ones you don't need. When you add a constraint, it appears in the Smart Mouse window; constraints you remove no longer appear.

- 1** Double-click an icon in the Smart Mouse window to open the Smart Mouse dialog box. If the Smart Mouse Window isn't open, choose Layout > Smart Mouse.
- 2** To add a constraint, choose one in the Type pop-up menu. For a relative constraint, enter the constraint value in the Value box, and then click the Add button.

For this Constraint	Enter this value
Object Fractions, Object Segments	The number of divisions. For example, type 2 if you want the constraint to snap to the middle (1/2 point) of an object or segment.
Angle	The angular measurement in degrees.
Length	The distance in points.

- 3** To delete a constraint, select the constraint in the scrolling list at the top of the dialog box, and then click the Remove button.
- 4** Click OK to implement any changes and close the Smart Mouse dialog box.

VECTOR EFFECTS

Canvas provides several special effects that let you develop complex illustrations from basic objects. You can apply the effects described in this chapter to any vector object; some can be applied to text objects, too. These commands help save time by quickly generating new objects and letting you easily modify the appearance of existing objects.

As you apply effects to objects, keep in mind that some of these operations are system memory-intensive and might significantly increase the resource and storage requirements of a document.

Offsetting paths

You can use the Offset Path command to create new objects that follow the path of a vector object.

An offset object's path follows the inside or outside of the original object's path. You can specify the offset distance and the number of objects to create.

You can offset one vector object at a time. Composite objects created by the Concentric Circles, Spiral, Cube, GridMaker, or Multigon tools cannot be offset.

To offset an object

- 1 Select a vector object and choose Effects > Offset Path.
- 2 In the Offset Path dialog box, type the offset distance in the Distance box. In the Copies box, type the number of copies to make. Click OK to create the offset objects.



Canvas applies the current inks and stroke to offset objects. The new objects appear in front of the original if they are smaller; otherwise, they appear behind it.

The direction of the offset depends on whether you type a positive or negative Distance value.

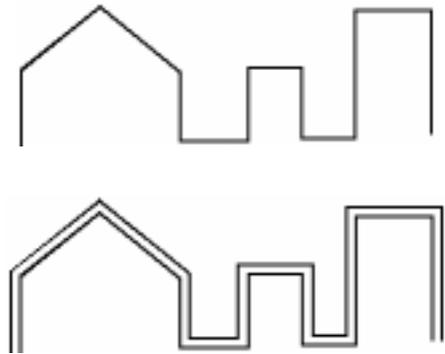
When you offset an object that has an open path, type a negative value to offset the new object to the inside of the curve. Type a positive value to offset the new object to the outside of the curve.

When you offset an object that has a closed path, type a negative number to offset the new object to the inside of the original path. Type a positive number to offset the new object to the outside of the original path.

An offset object can differ in shape from the original object, if a large offset distance makes the path cross itself to follow narrow angles or tight curves of the original object.



Rectangle (behind photo) offset to create frame effect



Vector path offset to make double outline

Using clipping paths

A clipping path is a special object that creates a frame or window on an object. You can use text objects and vector objects as clipping paths.

You can apply a clipping path to one or more objects. The clipping path frames the objects it is applied to. Anything inside the clipping path remains visible, while anything outside the path is hidden, or “clipped.”

If you apply an oval clipping path to a photo, for example, the photo is visible inside the oval, while any part of the photo outside the oval is not visible.

Because clipping paths are vector objects, clipping effects print smoothly at maximum resolution on any printer, including PostScript and non-PostScript devices.

Clipping paths create hard-edged effects. Clipping paths are often used to “cut” photos and illustrations into shapes such as circles or curves. You can use text as a clipping path to create the effect of text characters filled with photos or other graphics.

If you want to create feathered or graduated clipping effects, you can use vector transparency masks and channel masks instead of clipping paths. For information, see “Transparency effects” on page 283.

To apply a clipping path

- 1 Position a text or vector object in front of the objects to be clipped. (You can select an object and choose Object > Arrange > Bring to Front to put the clipping object in front of other objects.)
- 2 Shift-click the clipping object and the objects to be clipped to select them all.
- 3 Choose Object > Clipping Path > Make. Canvas clips the selected objects.

If you want to use a special object (such as a star created by the Multigon tool) as a clipping path, the object must be converted to a vector path first. Select the object and choose Object > Path > Convert to Paths. If a selected object can’t be used as a clipping path, the Clipping Path > Make command is not available.

- ◆ **To hide clipping paths:** Choose Object > Clipping Path > Hide. Canvas makes the strokes of all clipping paths invisible.
- ◆ **To show clipping paths:** Choose Object > Clipping Path > Show. Canvas shows the clipping paths with a 1-point black stroke.
- ◆ **To remove a clipping path:** Select the clipping path or a clipped object and choose Object > Clipping Path > Release. Canvas restores the clipped objects to full view, and the clipping path object appears with its original attributes.



Text in front of paint object



Text clipping path

Editing clipping paths

After applying a clipping path, you can move it and the clipped objects independently. Dragging the clipping path frames a different part of the clipped objects. Dragging a clipped object changes its position inside the frame of the clipping path.

You can apply several effects to a clipping path. Select the clipping path and choose **Effects > Freeform** to display handles that you can drag to skew and rotate the clipping path. You can also apply the **Fractalize**, **Rotate**, and **Flip** commands to a selected clipping path.

You can reshape a clipping path in several ways. Select a clipping path and drag its handles to change the size or shape of its bounding box. To reshape a vector object path, double-click it, or select it and press **Command+E** (Mac) or **Ctrl+E** (Windows). With the path in edit mode, you can use path-editing techniques to move, add, or delete anchor points. When you finish editing, press **Esc** to reapply the clipping path.

To edit a text clipping path, use the **Text** tool or double-click the text to put it in edit mode. You can insert and delete characters in edit mode. When you finish, press **Esc** to reapply the clipping path.

To change the formatting of a text clipping path, select the clipping path and use the **Text** menu or the **Type** palette to change its font, style, size, or other attributes. When a text clipping path is selected, you can use the **Spell Check Selection** command to check its spelling.

Because clipping paths are special objects, they do not display the pen inks, fill inks, or strokes of their original objects. Canvas displays clipping paths with 1-point black strokes (which the **Clipping Path > Hide** command makes invisible).

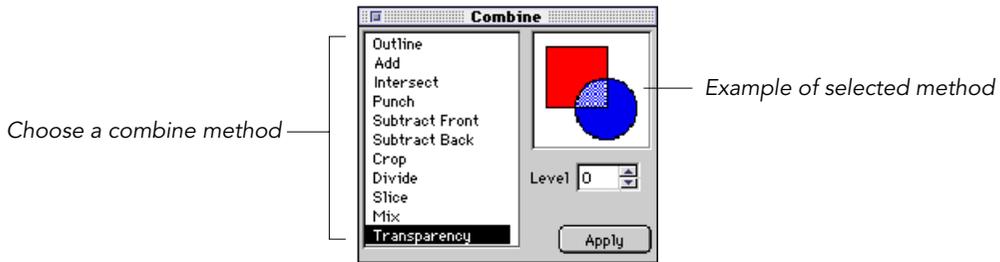
If you select a clipping path and change its inks or stroke, Canvas applies the attributes to the object, but the attributes aren't visible unless you use the **Release** command to convert the clipping path back into a vector or text object.

Combining objects

The **Combine** command makes new objects from the intersection of two or more vector objects. You can outline the overlapping objects, delete all except the overlapping area, subtract the overlapping area, and perform other combinations.

To combine objects

- 1 Select two or more objects that you want to combine. Each selected object must overlap at least one other selected object.
- 2 Choose Effects > Combine to open the Combine palette, if necessary.
- 3 In the Combine palette, choose a combine method from the list (the methods are described below). An example of the selected combine method appears on the right.
- 4 Click Apply to implement the current settings.



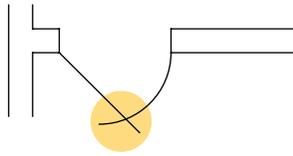
Selecting a combine method

In the Combine palette, you can choose various methods for combining objects. Some methods require that the paths of overlapping objects intersect for the effect to be visible or work properly. In addition, some methods work only with closed vector objects, and not with lines and open curves.

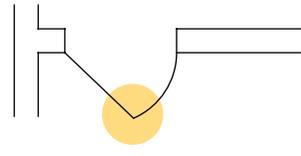
Trim Trims intersecting lines or arcs by shortening them until they meet at a vertex. You can trim a line to a line, an arc to an arc, or an arc to a line. In each case, Canvas trims the shorter segments of the intersecting lines and arcs. Trimmed lines and arcs remain separate and retain their attributes.

Trim also trims lines or arcs where they intersect closed vector objects. The vector objects do not change.

If Canvas can't trim the selected objects, a message tells you that the operation requires at least one open path.

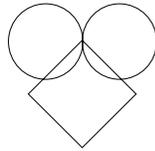


Original objects

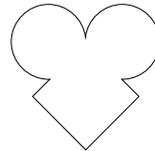


Trim applied

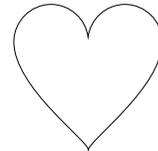
Outline Creates one path around the selected objects and fills the interior of the new shape with the ink of the front object.



Original objects:
two circles and a
rotated square



Objects combined
with the Outline
method



Outline shape smoothed
into a heart using path-
editing techniques

Add Joins two objects where they overlap to create a compound path, and fills the new shape with the ink of the front object. Compound paths can include multiple closed shapes that have holes in them, unlike objects created with the Outline option.

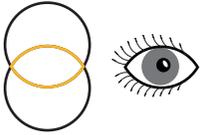
With the Add method, Canvas merges the handle to the cup where they overlap, leaving a hole inside the handle



Original objects



Combined with Add method



The Intersect method helps you create some useful, basic shapes. Here, the intersection of two circles (highlighted) results in an eye shape.

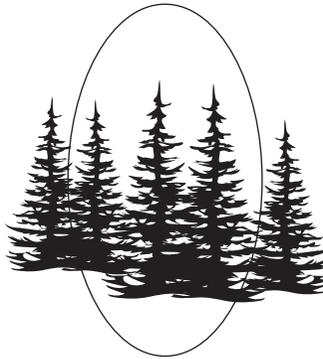
Intersect Creates a new object from the intersection of all selected objects and fills the new object with the ink of the front object. All selected objects must be closed paths and share a common area.

Punch Removes the area where selected objects intersect and fills the new object with the ink of the front object. If you select more than two objects, Canvas starts with the back object and continues forward through the stacking order.

Subtract Front Removes from the back object the areas of overlapping objects in front. The back object retains its ink attributes.

Subtract Back Removes from the front object the areas of overlapping objects behind it. The front object retains its ink attributes.

Crop Removes areas of objects that are not behind the top object.



An oval used to crop a vector drawing of pine trees



A gradient-filled oval provides a background

Divide Creates new objects where selected objects overlap. This option lets you use lines to “cut” other objects in pieces.

Slice Cuts the path of an object where it intersects with objects in front of it in the stacking order. Unlike other combine methods, slice results in open-ended paths. For example, slicing a circle in half with a line produces two arcs, as opposed to two closed semicircles.

Mix Creates new objects where selected objects overlap, similar to the Divide option. However, Canvas fills overlapping areas with a new color (the original colors must be solid). To determine the new color, Canvas compares the CMYK values of all the overlapping objects and uses the highest value of each color. (If you are using

RGB colors, Canvas first converts the colors to CMYK.) For example:

	Cyan	Magenta	Yellow	Black
Color 1	50	30	25	5
Color 2	25	40	20	0
New Color	50	40	25	5

Transparency Creates new objects where selected objects overlap, and fills overlapping areas with a new RGB color (the original colors must be solid). However, transparency lets you specify the level of transparency. When you select the Transparency option, enter a percentage in the text box that appears; 100 percent is completely transparent, and zero is opaque.



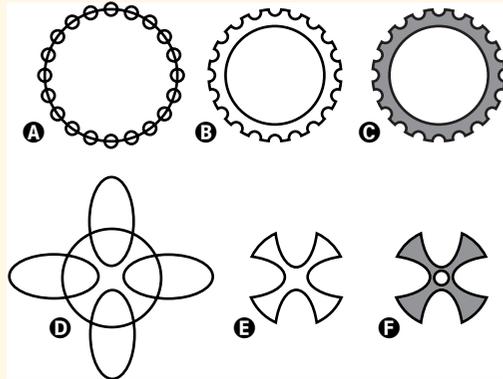
Using the Transparency method, the artist created the illusion that you can see through the wine glass. Where the glass overlaps the wine bottle, you can faintly see the bottle's label and shape.

Note: If multiple overlapping objects are grouped, Canvas treats the group as a single object and doesn't apply the transparency or mix effect within the group.

Building complex shapes

Combine makes it easy to create complex shapes such as gears.

- A** Small circles were distributed around the large circle using the Blend command (described in this chapter), then ungrouped.
- B** The Subtract Front method removed the small circles to create the teeth of the gear.
- C** The Punch method removed the center of the gear.
- D** To create the spokes of the gear, Subtract Back was used to remove the four ovals from the circle.
- E** Completed spokes of the gear.
- F** Punch was again used to create the hole for the axle.



Completed gear



Blending objects

Using the Blend effect, you can create gradual transitions in shape, color, and stroke width between two or more objects. Canvas generates a series of objects (from back-to-front through the stacking order) that appear to transform one object into another.

Artists often use blends to create highlights and shadows in vector drawings that provide the illusion of roundness and lighting. In addition, you can use blends to copy and evenly distribute objects around shapes to create borders.

Canvas can blend solid color inks only. If you blend objects with hatches, symbols, textures, or gradients, Canvas generates the blend objects but doesn't fill them with an ink.

To blend objects

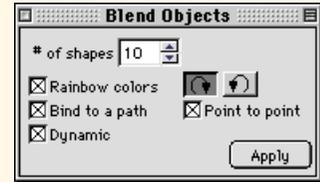
Select two or more vector objects. If necessary, choose Blend in the Effects menu to open the palette. Configure the settings and click Apply.

of shapes. The number of objects Canvas creates for the blend. Higher numbers result in smoother blends.

Rainbow colors. Creates a rainbow-like blend of colors between objects. This introduces more color variations than a standard blend, which uses only combinations of the original colors. When you turn on this option, two buttons appear; choose a clockwise or counter-clockwise path around the color wheel.

Bind to a path. Turn on to use the path of an object (not in the current selection) to arrange blend objects. When you click Apply, Canvas prompts you to *Choose Path*; click the object to which you want to bind the blend objects.

Point to point. Available when blending two objects. This option lets you rotate blend objects, creating the illusion that one object is twisting into another. When you click Apply, Canvas prompts you to *Choose 1st Point*; click an anchor point on one object. Canvas then prompts you to *Choose 2nd Point*; click an anchor point on the other object. To reverse the blend direction, Option-



click (Mac) or Ctrl-click (Windows) when you choose the two points.

Dynamic. Lets you use the Direct Selection tool (hollow arrow) to accelerate, decelerate, expand, contract, and redirect the blend after Canvas creates it. Dynamic blends aren't available for specialized objects, such as multigons, spirals, concentric circles, and grids.

✓ Tip

To ensure that blended objects have the same number of anchor points, copy an object, edit its shape, and blend between these objects.

Using blends for dimensional effects

By specifying a high number of blend objects, you can create gradual transitions between shapes and colors. With the appropriate settings, colors seem to fade and mix into each other, and the blend objects do not appear as distinct objects. This effect is often used to add realistic highlights and shadows to objects so they appear three-dimensional.

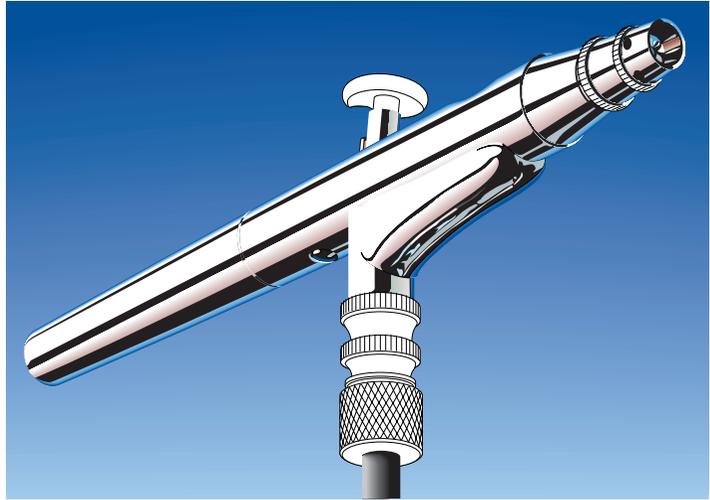
When configuring the blend settings, keep in mind that the size of the final output affects the number of shapes required to make the blend appear smooth. For large posters, you might need to use a lot of shapes, but fewer shapes are required for small illustrations.

In addition, objects that you blend must have the same number of anchor points for the blend to appear smooth. Canvas uses the anchor points to calculate the steps and shapes in a blend; an inconsistent number of anchor points can cause unwanted twists and distortions.

Shading with blends

By choosing the right shape and color combinations, you can use the Blend effect to create realistic three-dimensional effects, such as chroming.

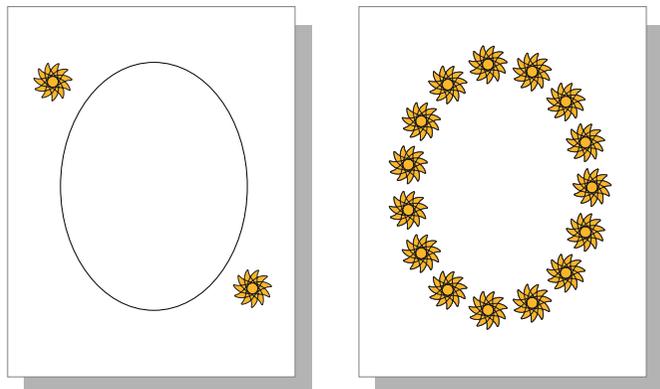
The airbrush shown here is a very complex application of blends, using high numbers of shapes to create subtle transitions that give the impression of roundness and reflectiveness.



Using blends to create patterns

Although blends are often used to create gradual, smooth transitions between shapes and colors, you can also use the Blend command to create and evenly space a pattern across a layout. By specifying a low number of shapes and widely spacing the front and back objects, you can make each blend object a distinct object. This effect can be useful for creating borders and other patterns.

The artist created this border by first creating a flower-like multigon, copying it, and drawing an oval. To distribute the flowers evenly around the oval, the artist selected the two multigons, turned on the "Bind to a path" option in the Blend palette, specified a relatively low number of shapes (15) for the blend, and chose the oval as the binding path.

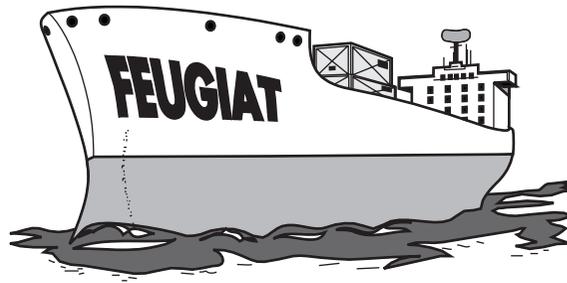


Distorting shapes

The Envelope command lets you distort shapes and text, as if an illustration was drawn on a rubber sheet and then stretched.

When an object is in envelope edit mode, its bounding box acts like the rubber sheet. Canvas includes several envelope styles that offer various handles you can use to stretch an object's bounding box. Using this effect, you can create new shapes, add a sense of motion to an illustration, or arrange text so it appears to be painted on a three-dimensional object.

The Envelope command distorted the type to match the contour of the ship's hull



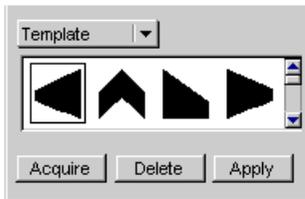
Using envelope templates

Canvas has several envelope templates that you can use to instantly distort shapes. The silhouettes in the template scroll list show the distortion created by each template.

In addition, you can create your own envelope templates. After you apply the envelope effect to an object, you can acquire the shape of the envelope as a template.

To apply an envelope template

- 1 Select a vector object.
- 2 Choose Effects > Envelope to open the Envelope palette, if necessary.
- 3 In the palette, choose Template in the pop-up menu.
- 4 Click a preview shape in the scroll list to select it, and click Apply.



To save an envelope as a template

To store an object's envelope as a template, you must first have used the envelope effect on the object. (See "To apply an envelope effect," next.) You can't acquire a standard vector shape, such as a circle, unless you first apply the envelope effect

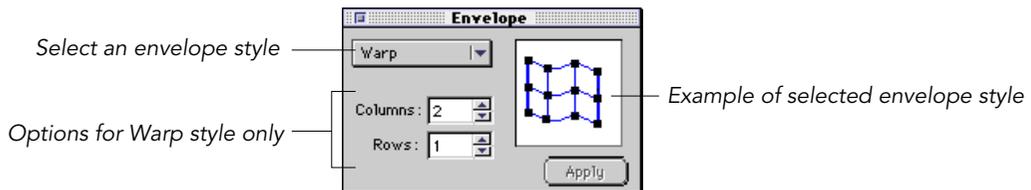
- 1 Select an object that has been edited using the envelope effect. The object cannot be in envelope edit mode.
 - 2 Choose Effects > Envelope to open the Envelope palette, if necessary.
 - 3 In the pop-up menu, choose Template.
 - 4 Click Acquire; a preview of the envelope shape appears in the scroll box.
- ◆ **To delete an envelope template:** In the Envelope palette, choose Template in the pop-up menu. Click a preview shape in the scroll box to select it, and click Delete.

Using envelope styles

In addition to envelope templates, Canvas has six envelope styles that let you edit shapes in different ways. Each style moves and changes the bounding box in a particular way. See the table below for information on the attributes of each style.

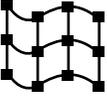
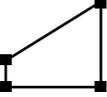
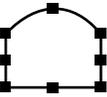
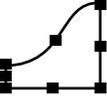
To apply an envelope effect

- 1 Select a vector object.
- 2 If necessary, choose Effects > Envelope menu to open the Envelope palette.



- 3 In the palette, choose an envelope style in the pop-up menu and click Apply.
- 4 Drag the envelope handles that appear on the bounding box of the object to edit the shape.

Envelope styles and editing options

Example	Style	Number of handles	Envelope behavior
	Warp	Enter the number of horizontal and vertical handles in the text boxes.	Each handle behaves like a path anchor point and can move in any direction.
	Distort	Four	Each side of the envelope edit box is a straight line; handles can move in all directions. This style is useful for creating perspective.
	Straight Line	Eight	All handles are connected by straight lines. Corner handles are constrained to right-angle movements; side handles can move in all directions.
	Single Cusp	Eight	Side handles form convex or concave curves between corner handles. Side handles can move in any direction; corner handles are constrained to right-angle movements.
	Double Cusp	Eight	Side handles form S-shaped curves between corner handles. Side handles can move in any direction; corner handles are constrained to right-angle movements.
	Bézier	Eight	All handles behave like smooth anchor points and can move in any direction.

Extruding objects

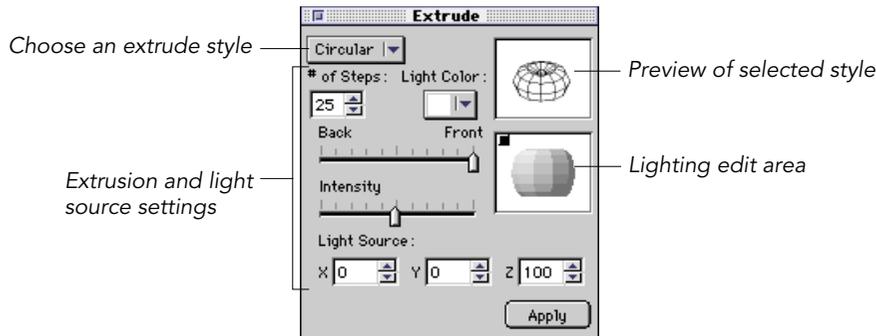
The Extrude command lets you create objects that appear to have three dimensions. Canvas can create parallel, circular, and semi-circular extrusions using vector objects, and parallel extrusions using text objects.

You can rotate and scale extruded objects in three-dimensional space. In addition, you can set the placement, intensity, and color of a simulated light source and Canvas applies appropriate shading to the extruded object.

Although Canvas extrusions appear similar to QuickDraw 3D objects, they do not require QuickDraw 3D shared libraries, and do not use the 3DMF (3D metafile) file format. However, if you have QuickDraw 3D, you can save an extruded object in 3DMF format.

Note: Canvas uses only solid fill colors for extruded objects, and ignores stroke attributes, pen inks, gradients, hatches, symbols, and textures.

◆ **To extrude objects:** With a text or vector object selected, choose Effects > Extrude. In the Extrude palette, choose the style of extrusion, the lighting color, and the position of the light source. Click Apply to implement the settings.



Choosing an Extrude style

The pop-up menu at the top of the Extrude palette displays extrude styles. When you select a style, an example appears at the upper right. You can choose one of three extrude styles.

Extrude styles

Preview	Style	Result
	Parallel	Adds thickness to a shape, as though the shape were cut out of a slab of clay. You can create parallel extrusions with text objects and closed vector objects.
	Circular	Extrudes a shape in a circular path. You can set the diameter of the extrusion path and the number of steps (6-60) used to complete the extrusion (see "Completing a circular or sweep extrusion," below). You can apply circular extrusions to open and closed vector objects, but not text.
	Sweep	Extrudes a shape along a circular path, and lets you specify the number of degrees (10 to 360) to extrude. You can also set the diameter of the extrusion path and the number of steps (6-60) used to complete the extrusion (see "Completing a circular or sweep extrusion," below). You can apply sweep extrusions to open and closed vector objects, but not text.

Completing a circular or sweep extrusion

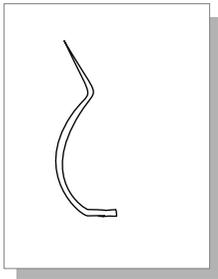
When configuring a circular or sweep extrusion, you can specify the number of steps you want Canvas to use. The more steps, the smoother and less “blocky” the extrusion appears.

◆ **To specify the number of steps for a circular or sweep extrusion:** In the Extrude palette, enter a number between six and 60 in the “# of Steps” text box.

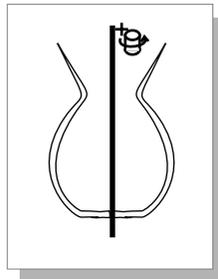
After you apply a circular or sweep extrusion to an object, you also need to set the diameter of the extrusion path. Canvas displays a black bar to mark the center of the extrusion. Canvas also shows a mirror image of the original object to show the position of the extrusion at 180 degrees.

◆ **To set the extrusion diameter:** Drag the black bar right, left, up, or down, depending on the direction you want to extrude. The mirror image of the original object moves as you drag the black bar. When the diameter is the right length, press Enter (Mac), Esc (Windows), or double-click. Canvas completes the extrusion.

Circular and sweep extrusions



Original shape

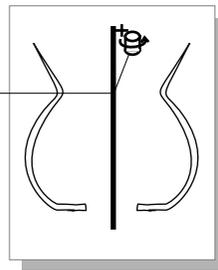


Position the black bar like this...



...for an extrusion with no gap in the middle

Circular extrusion pointer



Position the black bar like this...



...for an extrusion with a gap in the middle

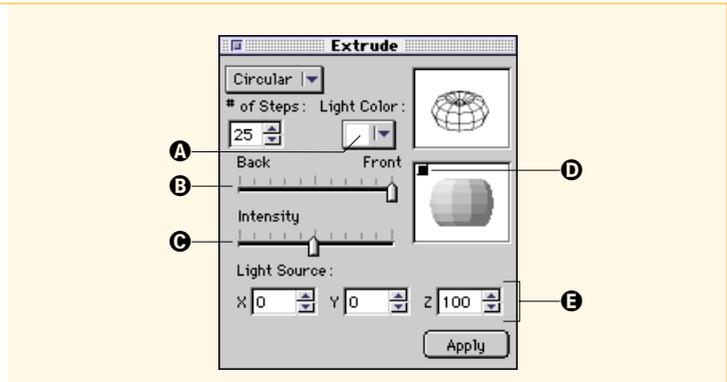
Creating lighting effects

You can add lighting to extruded objects to enhance the three-dimensional appearance. You can control the color and position of the light source to get the exact effect you want. Canvas uses shades of gray to create highlights and shadows. Canvas then mixes the highlights and shadows with the color of the light source and the fill color of the object.

Extrusion lighting

Use the following options to configure lighting effects for extruded objects.

- A** Choose a light source color from the pop-up palette, or create a custom color; see “Creating custom colors in pop-up palettes” on page 253.
- B** Drag the Back/Front slider to specify the depth of the light source in three-dimensional space (the z-position).
- C** Drag the Intensity slider to the right to make the light source brighter.



- D** Drag the handle to set the horizontal and vertical (x- and y- position) of the light source and preview the lighting effect.
- E** Instead of dragging the Back/Front slider and light source handle, you can enter x-, y-, and z-positions in the text boxes.

Editing extruded objects

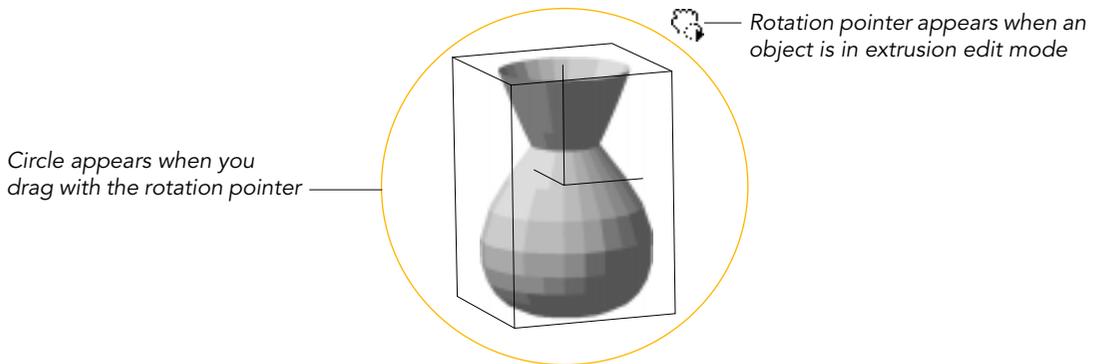
Canvas lets you rotate and scale extruded objects interactively. To rotate and scale extruded objects, the object must be in extrusion edit mode. Immediately after you apply the Extrude effect, the object is in edit mode; to exit this mode, double-click outside the object or press Enter (Mac) or Esc (Windows).

- ◆ **To place an extruded object in edit mode:** Double-click the extruded object.

In edit mode, Canvas displays three axes, representing the three dimensions. Each axis has a handle, and when you roll the pointer over a handle, it changes to an extrusion pointer. Otherwise, the pointer appears as a rotation pointer.

To rotate an extruded object

When you first apply the Extrude effect, the object appears solid gray and flat because it is facing you (the z -axis points directly at you). To see all dimensions, rotate an edge of the object toward you. With the rotation pointer, drag a side in the direction you want to rotate the object. As you drag, Canvas displays a circle to show the space in which the object can rotate. Dragging inside the circle rotates the object in all three dimensions; dragging outside the circle rotates the object on the plane that is facing you.



You can also rotate an extruded object in two dimensions, like other vector objects, using the Rotate or Freeform commands in the Effects menu. The object can't be in extrusion edit mode to use these commands. When you use the Rotate and Freeform commands, Canvas does not reapply lighting effects as with three-dimensional rotation. In other words, the light source appears to move with the object, instead of remaining in the same place as the object rotates.

Changing the shape of extruded objects

When an extruded object is not in edit mode, you can resize and reshape it like other two-dimensional vector objects. You can

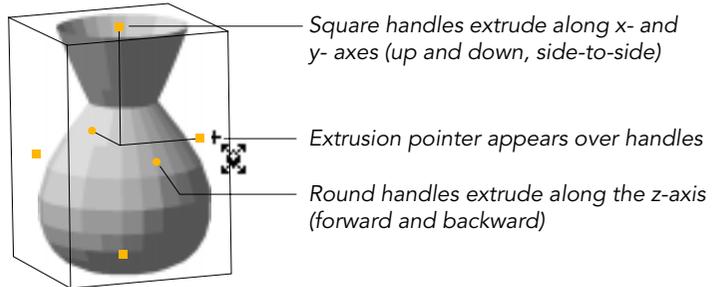
- drag a handle on the bounding box to resize the object
- place the object in freeform mode to skew the object
- use the Scale or Object Info commands to resize the object
- apply the Envelope effect to warp and distort the object

In addition to these two-dimensional editing functions, extruded objects have unique, three-dimensional properties. When an object is

in extrusion edit mode, you can make it thicker, wider, or taller, and Canvas redraws the object to account for lighting changes.

Editing extruded objects

When you drag a handle, Canvas extrudes the object outward from the center, along the corresponding axis. In other words, dragging a square handle to the right extrudes the object to the right and the left simultaneously.



Changing the color of extruded objects

When you extrude a vector object, Canvas uses combinations of a solid-color fill ink, shades of gray, and the light-source color to create a three-dimensional appearance. After you extrude an object, you can apply solid color fill inks (not gradients, hatches, symbols, or textures) and change the color of the light source in the Extrude palette. When you change colors, Canvas redraws the object to show the interaction of the new colors with the object's shape and shading.

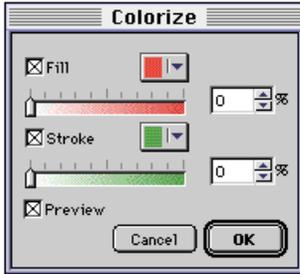
Colorizing objects

You can use the Colorize command to tint vector objects with solid color fill or pen inks when you want to mix two colors, or shade one color with another. Doing this in the Inks palette can be complicated, because you have to create a custom color and set the correct values to approximate a two-color mixture. The Colorize command lets you simply select two colors and choose the percentage of each.

To colorize a vector object

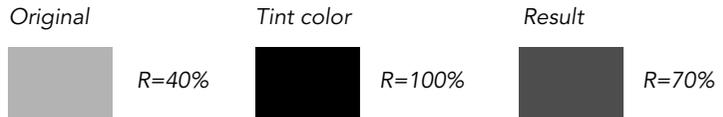
- 1** Select at least one vector object that has a solid color fill or pen ink. Colorize has no effect on gradient, hatch, texture, and symbol inks.
- 2** Choose Effects > Colorize.
- 3** In the Colorize dialog box, turn on the Fill and Stroke options to colorize both, or select the one ink you want to colorize.
- 4** In the pop-up color palettes, select the colors you want to add to the inks of the selected objects.

- 5 Use the sliders or enter a percentage in the text boxes to set the amount of color to mix with the object's color.
- 6 Turn on Preview to see the effect or click OK to colorize the object.



Colorization calculations

An object's color has a red value of 40%. To tint 50% with a color that has a red value of 100%, Canvas calculates a new red value of 70%. The same calculations apply to the green and blue values for an RGB color.



Difference in red values: $100 - 40 = 60$

*Value difference multiplied by tint percentage: $60 * 50\% = 30$*

Original color value plus tint value is new value: $40 + 30 = 70\%$ red

Fractalizing objects

Fractals are mathematical transformations that simulate the irregularities and patterns in natural shapes, such as coastlines and mountain ranges. When you fractalize a vector object, its outline becomes jagged. You can use the Fractalize command to add a fractal effect to any vector object except dimension objects and Smart Lines.



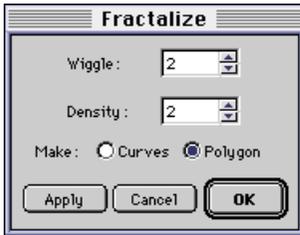
Vector objects



Fractalized mountains

◆ **To fractalize an object:** Select at least one object and choose Effects > Fractalize. Enter the Wiggle and Density values, and

choose Curves or Polygon fractals. Click Apply to preview the effect. Click OK to apply the effect and close the dialog box.



Wiggle The amount a fractalized path can deviate from the original path. Enter a number between 0 and 20; higher numbers increase the amount of wiggle.

Density The smoothness of the fractalized path. Enter a number between 0 and 5. Higher values increase the number of anchor points Canvas add to the path. Lower densities result in sharper angles.

Curves or Polygon Polygon fractals can be jagged and use many anchor points, while curves fractals are smoother and require fewer additional anchor points.

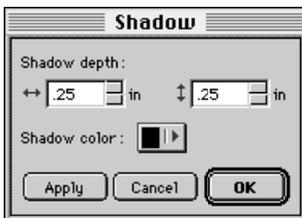
Note: Canvas fractalizes objects by adding several anchor points to an object's path. High wiggle and density settings and polygon fractals can add numerous anchor points, which require more memory to print. Lower settings and curves fractals can help to conserve system resources and eliminate problems you might have while printing.

Creating shadows for objects

The Shadow command copies selected objects, applies a color to the new objects, and offsets them from the original objects by an amount you specify. Canvas places the shadow object directly behind the original in the stacking order. If you apply a shadow to a group of objects, Canvas groups the shadow objects and places the shadow behind the original group.

You can apply shadow effects to any vector or text object except dimension objects and Smart Lines.

◆ **To create an offset shadow:** Select a vector object and choose Shadow in the Effects menu to open the Shadow dialog box. Configure the options, and click Apply to see the effect. To accept the settings and close the dialog box, click OK.



Shadow depth The horizontal and vertical distance by which the shadow object is offset from the original object.

Shadow color The pen and fill color of the shadow object.

Because shadow objects are vector objects, you can edit them the same as other objects. You can skew them to create oblique shadows, or convert them to paint objects and use blur filters to soften them. Remember that the original object and the shadow object are not grouped, so editing or moving one doesn't affect the other.

Examples of shadows

By combining Canvas vector and image-editing capabilities, you can create different styles of shadows.



Standard offset shadow with gray fill ink



Original shadow reduced in height, then skewed



Shadow converted to paint object using Image > Area > Render. Gaussian blur filter with radius 6.3 applied to shadow

Binding groups

The Bind Group command in the Effects menu lets you align a group of objects to the path of a vector object, such as a curve or polygon.

To use the Bind Group command, you must select an object group (a set of vector objects that have been united with the Group command in the Object menu).

To bind an object group

- 1 Select the object group that you want to bind to a path and select the path to which you want to bind the object group. Both the object group and the path must be selected.
- 2 Choose Effects > Bind Group.

Using the Transform palette

You can use the Transform palette to move, scale, rotate, and skew selected objects. You can keep the palette open for easy editing and positioning of objects.

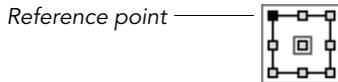
To display the Transform palette, choose **Effects > Transform**. To close the palette, click the Close box (Mac) or double-click the Control menu box (Windows).

You can change the palette's layout from horizontal to vertical by dragging the lower-right corner.

You can change the size, location, and orientation of selected objects by using options and entering values in the Transform palette. Canvas applies the current settings when you press **Enter** or **tab** to the next box.

Once an object has been transformed, it becomes a new object. Therefore, the reference point is reset to reflect its position on the new object. The values in the text boxes display the size and position of the new object. The text boxes that show rotation and skew display 0. And the scaling percentage text boxes display 100 percent.

Locating the reference point



The reference point is displayed on the transform palette. It is a point on the selected object (or its bounding box) that position data are based on. The reference point is also the fixed point used in an object's transformation. For example, with a rectangle selected, click the upper-left corner point. The X Y boxes show the coordinates of the rectangle's upper-left corner, if Absolute coordinates are specified.

Transform menu options

You can choose different options to transform objects. The option you choose determines the type of data that appears in the boxes on the palette. You can choose from one of the following options:

Relative Changes the position of the object relative to the current position, or height and width values. The value in the first boxes, Delta X and Delta Y, is 0 when you select an object. To move the object, type the distance to move.

The next two boxes, W and H, display the object's width and height. Type new values to resize the object.

Absolute Specifies X Y coordinates or height and width values. The first two boxes, X and Y, display the coordinates of a selected object's reference point. To move an object, type new coordinates for the reference point.

The next two boxes, W and H, display the object's width and height. Type new values to resize the object.

Start/End Points The first two boxes, X and Y, show the coordinates of the object's reference point. To resize an object by moving the reference point, type new coordinates for the reference point.

The next two boxes, X' and Y', show the coordinates of one of the corner points on the object (or the object's bounding box). The point is the upper-right corner when the reference point is the lower-left corner. The point is the lower-right corner when the reference point is the upper-left corner. The point is the lower-left corner when the reference point is the upper-right corner. The point is the upper-left corner when the reference point is the lower-right corner.

For a line, you cannot select a reference point. The X and Y boxes always indicate the starting point of the line and the X' and Y' boxes always indicate the end point of the line.

To resize an object, type new coordinates for this point.

Distance and Angle The first two boxes show the X Y coordinates of a line's start point. This is only available when a line is selected. The second two boxes show the line's length and angle. You can change these values to change the length, angle, or position of the line. A representation of the angle is given in the reference point box.

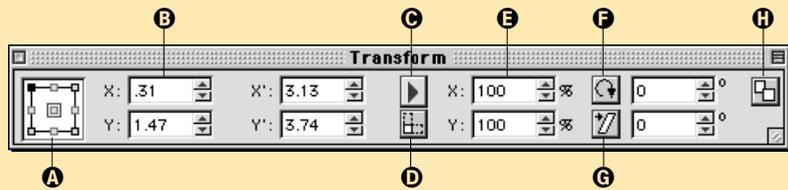
Transform palette settings

You can select options and enter data in the Transform palette to change the size, location, and orientation of selected objects.

A Reference point. Click a point in the box to set the reference point for the object. The location of the reference point depends on the object's shape. With a rectangle selected, the corner points in the box correspond to the rectangle's corners. With an oval or other shape selected, the corner points in the box correspond to the corners of the object's bounding box.

Rotation point. Shift-click a point in the box to set the rotation point for the object. A red square in the box indicates the current rotation point. The rotation point is a point on the object around which the object rotates if you enter a rotation angle.

B Position data. The type of data that appears in the boxes, and their labels, depends on whether you choose Relative, Absolute, Start/End Points, or Distance and Angle in the menu (C).



C Choose an option for specifying location and size data. You can choose Relative, Absolute, Start/End Points, or Distance and Angle.

Choose **Relative** to change position relative to the current position, or height and width values.

Choose **Absolute** to specify X Y coordinates or height and width values.

Choose **Start/End Points** to specify X Y coordinates.

Choose **Distance & Angle** to specify X Y coordinates, distance, and angle for lines.

D When this button is selected, the palette constrains objects so they are resized proportionally. For example, if you type a width value, Canvas calculates the height value to keep the object's proportions the same.

E The X and Y boxes show 100% when you select an object. You can resize an object by percentages by changing the

values. For example, to resize a rectangle so it is twice as wide, type 200 in the X box. To make it one-half as tall, type 50 in the Y box.

The Y box is not available when the proportion option (D) is selected.

F Rotation. Click to select clockwise or counter-clockwise rotation. Type the angle of rotation in the box to rotate the object.

G Skew. Click to select horizontal or vertical skewing. Type the skew angle in the box to skew the object.

H When this is selected, the Transform palette operates as if multiple selected objects were a group object. If this option is not selected, the palette affects selected objects individually.

With multiple objects selected and the group option (H) not selected, coordinate values are 0; you can enter new values, which Canvas applies to each object when you press Enter.

IV

TEXT & TYPOGRAPHY

TEXT ENTRY AND LAYOUT

Canvas has a full range of text and typography features that let you integrate text with illustrations and images. You can enter, format, edit, and arrange text in Canvas. You can also import text files, and use Publish and Subscribe or Object Linking and Embedding (OLE) to place text in documents. To help you edit and proof text, Canvas provides spell-checking and text-searching tools.

This chapter describes how to perform the following operations with text:

- Create and work with text objects.
- Type text into new objects and flow text between text columns.
- Insert headers, footers, page numbers, the current date and time in Publication documents.
- Create empty text objects for layout templates.

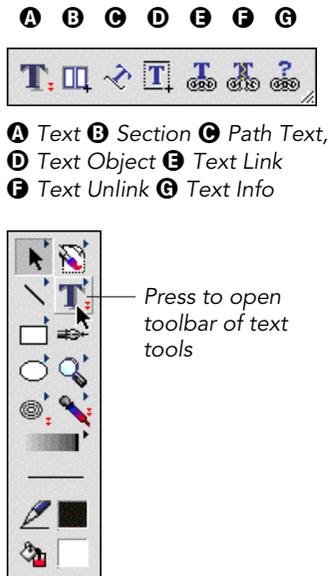
Text tools

The Text toolbar in the toolbox contains the tools you can use to create text objects and to edit text. Each of these tools is described in later sections in this chapter.

- Use the Text tool to create text objects and edit text.
- Use the Text Object tool to draw fixed text objects for page layouts.
- Use the Path Text tool to type text along a vector path.
- Use the Text Link tool to link text objects to create text flows.
- Use the Text Unlink tool to break text object links.

Text objects

All text in a Canvas document is contained in objects called text objects. Text objects can contain a single character or line of text, or thousands of words, sentences, and paragraphs.



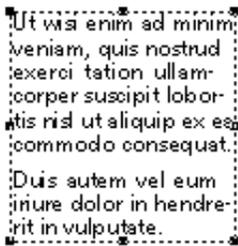
Note: Dimension objects contain dimension text. For more information on text in dimensions, see the description of Dimensioning tools beginning on page 348.

Selecting and editing text objects

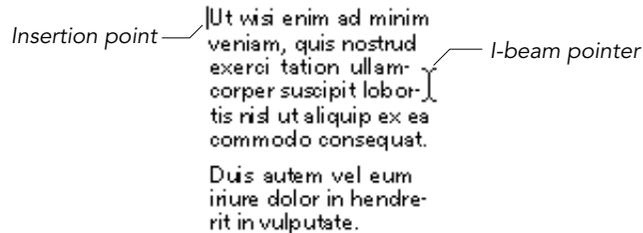
A text object can be selected or be in edit mode. These states are mutually exclusive. In other words, a text object can't be in edit mode and be selected at the same time.

When a text object is in edit mode, the Text tool is active and you can add, move, and delete text in the text object. For text-editing procedures, see “Text edit mode” on page 411.

When a text object is selected, you can change its dimensions, delete it, move it, and apply commands and operations to it, the same as you would with other objects. For more information, see the chapter titled “Working with objects” on page 187.



A selected text object has handles at the corners and midpoints of its bounding box.



In edit mode, an insertion point appears in the text, and the Text tool pointer is an I-beam.

Typing text in a document

You use the Text tool or the Vertical Text tool to type text into a document. This section describes using the Text tool for typing.

The Vertical Text tool does not appear unless “Enable two-byte script” is selected in the Preferences dialog box. The Vertical Text tool is designed for Japanese and other languages with vertical text. For information on the Vertical Text tool and other features for working with two-byte languages, see “Tools and options for two-byte and vertical text” on page 168.

Text tool



Using the Text tool

The Text tool is used to create new text objects, type text into a document, and edit text.

When you create text objects with the Text tool, you can choose whether or not to set the column width before typing.

- If you set the column width before typing, text will wrap to the next line when it reaches the right boundary of the text object.
- If you don't set the column width before typing, the right margin expands indefinitely to accommodate the amount of text you type. This is called a "caption" text object.

In either case, you can change the size of the text object by selecting it and dragging a selection handle.

Whether you should set the column width before or after typing depends on the amount of text you want to type. For short labels and callouts, you might find it easier to simply type and let Canvas adjust the right margin. However, for paragraphs or newsletter columns, it's probably easier to set the column width before typing.

To type text with the Text tool

- 1** Select the Text tool in the toolbox. The pointer displays an I-beam when moved into the document window.
- 2** Do one of the following to set the location and type the text:
 - To enter one line of text, click in the document; an insertion point appears where you click. Begin typing and the right margin extends to fit the line of text that you type.
 - To define a text column, drag diagonally to create a rectangular text object. The object's width matters, but not its length; Canvas contracts or expands the length to accommodate the text you type. An insertion point appears at the top of the object. Begin typing, and when you reach the right margin, Canvas wraps the text to the next line.
- 3** When you finish typing, press Esc to exit text-editing mode. You can also end text editing by pressing Enter (Mac), or by selecting another tool. The text object remains selected.
- 4** When a text object is selected, you can change its dimensions by dragging one of the selection handles on the edge of the object.

To deselect the text object, press Esc, select another object, or click outside the object.

To type text in an object

When a vector object such as an oval is selected, you can use the object as a text container and type text in it without selecting the Text tool.

To type text in an object, select the object and simply begin typing (without clicking in the object first). The text you type stays inside the left and right boundaries of the object. When you finish typing, press Esc to end text editing.



Select a vector object and begin typing to wrap text inside the object.

If you start to type more text than can fit in the object, a text overflow indicator appears. You can resize the object to fit the text, or flow extra text to another text object; see “Flowing overset text into new text columns” on page 407 for more information.

Typing text in an object is the same as wrapping text inside an object. See “Wrapping text inside an object” on page 469 for more information on how to work with this type of text.

Typing text on paths

You can use the Path Text tool to type text so it follows the path of a vector object, such as a circle, polygon, or open curve. You can also use the tool to create text that flows along multiple paths.

To type text on a path

- 1 Select the Path Text tool in the Text toolbar. In the document window, the pointer is an arrow. The arrow changes to an I-beam when you point to a vector object path.
- 2 To set the insertion point, click the path. Begin typing and the text follows the vector path. You can type multiple lines of text. To start a new line, press Enter at the end of the previous line.
- 3 When you finish typing, press Esc. The text object becomes selected.

Path Text tool





Flowing text

As you type text on a path, if you reach the end, you can flow text to another path. Click the overset symbol at the end of the text object. Then, click the next vector path at the point where you want the over-set text to start flowing. You can continue typing to enter additional text.

If you don't want to flow overset bound text, you can resize the path so that all the bound text can flow along it. If no text is overset, the overset symbol does not appear at the end of the text object.

You can also use the Text Link tool to link text to another path. Select the Text Link tool in the Text toolbar. The pointer displays the number "1." Click the first text object. The pointer changes to the number "2." Click the object you want the text to flow to. When you finish, press Esc.

Adjusting text on a path See the section about adjusting bound text, starting with "Binding text to vector objects" on page 473, for information on changing the text baseline, flipping the text, and adjusting the spacing between the text and the path.

Typing special characters

You can insert special characters using Keycaps (Mac) or Character Map (Windows). The table below shows key strokes for some special characters. On Windows, the numbers must be typed on the numeric keypad.

Character	Mac Keystroke	Windows keystroke
– (em dash)	Option + -	Alt + 0151
™	Option + 2	Alt + 0153
£	Option + 3	Alt + 0163
§	Option + 6	Alt + 0167

Character	Mac Keystroke	Windows keystroke
¶	Option + 7	Alt + 0182
•	Option + 8	Alt + 0149
®	Option + r	Alt + 0174
©	Option + g	Alt + 0169

Typographic quotes

You can set a preference so Canvas inserts typographic (“curly”) quotation marks in text you type. For more information, see “Use Smart Quotes” on page 167.

To control line breaks

“Soft” returns are forced line breaks which do not create new paragraphs.

To create a soft return, place the insertion point where you want the soft return and press Shift+Return. Text to the right of the soft return moves to the next line.

◆ **To view soft return symbols:** Choose Layout > Display > Show Text Invisibles. To hide soft return symbols, choose Layout > Display > Hide Text Invisibles.

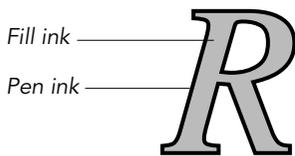
Attributes of new text

When you type text, Canvas applies the current attributes and the current type format settings to the characters you type.

Type formatting Canvas applies the current settings for the font, style, type size, justification (alignment), leading, and kerning to the characters you type. These settings are selected in the submenus in the Text menu or with the controls in the Type palette. For more information on formatting, see “Applying text formats” on page 430.

Inks Canvas applies the current fill ink, if it’s a solid color fill ink, to the text characters. If the current fill ink is a gradient, hatch, symbol, or texture, Canvas applies 100% black to the text characters. The pen ink for text you type is always 100% black, and is not visible until you apply a pen stroke to the text.

Strokes Canvas applies no stroke to text characters you type. This means that no outline appears on the characters, and the pen ink



A text character that has a gray fill ink and a black pen ink, with a 2-point pen stroke

applied to the text is not visible because the pen ink appears only when an object or text has a visible stroke.

Creating text layouts

Text Object tool



The Text Object tool lets you place empty text objects, or columns, in page layouts. Empty text columns created with the Text Object tool keep their width and length, unlike text objects made with the Text tool, which shrink and expand to fit the amount of text you type. The Text Object tool is especially useful for designing templates and master pages, because you can set up text columns and add type later.

✓ Tip

When the bounding boxes of text objects are visible, you can hide them by choosing Display > Hide Text Boxes in the Layout menu. To show text boxes again, choose Display > Show Text Boxes in the Layout menu.

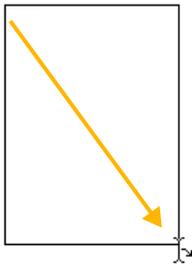
If you type or paste text into a column created with the Text Object tool, and there is more text than will fit in the column, Canvas hides the overflow text and displays an overflow indicator. See “Flowing overset text into new text columns” on page 407 for information on flowing text from one object to another.

Note: The Text Object tool doesn’t select text or place a text object in edit mode. For these operations, use the Text tool.

To create an empty text column

- 1 Select the Text Object tool. When you move into the document window, the pointer is an I-beam with an arrow.
 - 2 Drag to set the width and length of a rectangular text column.
 - 3 Canvas deselects the Text Object tool and selects the Text tool. The new text object is in edit mode, with an insertion point at the top of the column.
- You can begin typing in the new text object immediately, or press Esc to end text editing. The text object remains selected; press Enter (Mac) or Esc (Windows) to deselect it.

Text Object tool pointer



Drag the Text Object tool to create an empty text object.

Positioning text objects

You can arrange text objects the same way you arrange other types of objects. You can drag text objects with the mouse, resize them by dragging a selection handle, “nudge” text objects with keyboard arrow keys, and set coordinates and dimensions in the Object Specs palette.

Copying and removing text objects

You can use the Copy, Cut, Clear, Paste, Duplicate, and Replicate commands in the Edit menu to copy and delete text objects. These

commands operate on text objects the same as on vector objects. For more information on these commands, see “Copying, cutting, pasting, and deleting objects” on page 192.

Inserting headers and footers

In Publication documents, you can add header and footer text objects using commands in the Text menu. Headers and footers are special text objects that can contain codes for the current date, current time, and page number, in addition to text you type. Canvas updates the date, time, and page number codes each time it redraws the screen.

Canvas inserts headers at the top of the printable area (the top of the onscreen page layout) and footers at the bottom of the printable area. Both types of objects initially span the width of the page, but you can resize and move them just like other text objects.

To create header and footer text objects

- 1 Because you can't add headers and footers in edit mode, press Enter (Mac) or Esc (Windows) to end text editing, if necessary.
- 2 Choose Text > Insert > Header or Text > Insert > Footer. Canvas creates the text object, and places it in edit mode.

Inserting dates, times, and page numbers

In Publication documents, you can insert date, time and page number codes in header and footer text objects. Canvas will update the values for these codes each time it redraws the screen. Canvas uses the date and time as set in the operating system. Refer to your system documentation for information on setting the current date and time.

You can insert the current date and time in standard text objects, but Canvas does not update this text; it is “stamped” into the document as regular text.

◆ **To insert the date, time, or page number in a Publication document:** With a header or footer object in edit mode, choose an option in the Insert submenu in the Text menu; refer to the table for descriptions of the Insert submenu commands.

You can apply text formatting to the date, time, and page codes. For example, you can change fonts, type sizes, and justification, as you would apply formatting to normal text with the Text menu or the Type palette.

Date, time, and page number commands

To insert	In this type of object	Do this
Updating date code	Header or footer	Choose Insert > Date, or type $$d$
Date stamp	Any text object	Choose Insert > Date Stamp
Updating time code	Header or footer	Choose Insert > Time, or type $$e$
Time stamp	Any text object	Choose Insert > Time Stamp
Current page number	Header or footer (page count is static in normal text objects)	Choose Insert > Page #, or type $$p$
Total page count	Header or footer (page count is static in normal text objects)	Choose Insert > Total Page #, or type $$t$

Creating column layouts

To create text columns in a document, you could manually arrange separate text objects. However, the Section tool and column guides make text layout almost automatic. This section describes how to work with the Section tool and column guides to create text layouts.

Column guides and sections

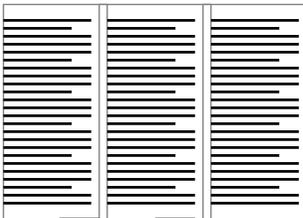
A section is a rectangular area that arranges text in columns. A section is made of column guides, which are non-printing lines that define the text columns and gutters (spaces between columns).

Sections make it easy to arrange and modify text in columns. You can place one or more sections on a page. After you place text in a section, you can change the number or the size of the columns in the section and Canvas will adjust the text to fit.

Displaying column guides

You can display or hide all the section column guides in a document.

◆ **To show column guides:** Choose Layout > Display > Show Guides when column guides are not displayed. To hide column guides, choose Layout > Display > Hide Guides when column guides are displayed.



A 3-column section

Creating sections

You can create sections with the Section tool or the Column Guides command.

- The Section tool lets you place multiple sections at specified locations on one or more pages. You can also use the tool to modify sections.
- The Column Guides command lets you place sections on pages that don't contain sections. If the current page has sections, the Column Guides command lets you change the settings for any section on the page.

Whether you are creating or modifying sections with the Section tool or the Column Guides command, the Column Guides dialog box is the control center for configuring sections.

When you create a section, the section's column guides appear on a guide layer in the document. By default, guide layers are non-printing and have a bright blue override color. You can use the Document Layout palette to change the override color or make a guide layer printable.

When you add text to a section, Canvas creates a text object in each column in the section. The text objects are placed on the current layer.

To create sections with the Column Guides command

- 1** Go to the page where you want to place a new section and choose Layout > Column Guides.
- 2** In the Column Guides dialog box, you can select a preset column arrangement or set up custom columns. In the Apply To menu, choose where to place the new section. See “Column Guides settings” on page 400.
- 3** Click OK to create a new section with the current settings.

If the document contains no sections, Canvas creates one or more new sections, according to the Apply To setting.

Modifying sections

If you choose the Column Guides command, and the current page contains one or more sections, you can use the Column Guides dialog box to modify or delete a section.

Enter the name of the section to modify in the Section Name box. You can use the menu to select the name of any section on the page. When you click OK, Canvas applies the settings in the Column Guides dialog box to the section specified in the Section Name box.

If you choose the Delete Section command in the dialog box, Canvas deletes the section specified in the Section Name box.

Using the Section tool

Section tool 



Drag to create a section

You can drag the Section tool in a document to create a section. You can also use the Section tool to move and modify sections. The Section tool is in a toolbar with other text tools in the toolbox.

To create a section with the Section tool

- 1 Select the Section tool, and then drag in the document to set the width and height of the section.
- 2 In the Column Guides dialog box, select options for the section. You can select preset column guides or specify a custom setup. See “Column Guides settings” on page 400.
- 3 Click OK to create a new section with the current settings.

Modifying sections with the Section tool

You can use the Section tool to move, resize, and modify sections.

Moving sections

To move a section, drag it with the Section tool. When you move a section, text objects contained in the section move with the section.

Note: You must use the Section tool to move or resize a section. Unlike vector, paint, and text objects, you can't use the Selection tool to modify a section.

Resizing sections

To change the width of a section, drag one of its sides. To change the height of a section, drag the top or bottom border of the section. To change both dimensions at once, drag a corner of the section.

To adjust the width of columns in a section, use the Section tool to drag column guides. The Fixed Widths and Fixed Gutters options in the Column Guides dialog box limit how sections can be resized. If both options are selected, you can't drag the sides, columns, or gut-

ters to resize a section; you can drag the top or bottom to make it longer or shorter.

Modifying sections

To change the configuration of a section, including the number of columns and their widths, double-click the section with the Section tool. This opens the Column Guides dialog box. Change the settings in the dialog box and click OK to apply the settings to the section.

◆ **To delete a section:** Double-click the section with the Section tool. In the Column Guides dialog box, choose Delete Section in the pop-up menu and click OK.

Column Guides settings

The Column Guides dialog box appears when you create or modify sections with the Section tool or the Column Guides command.

Section Name

Canvas applies a default name when you create a section. You can type a new name in the text box to change a section's name.

To modify a section, enter its name. You can select a section name in the Section Name menu. The menu contains names of sections on the current page or pages.

When you modify a section, Canvas modifies all sections that have the same name if you select an option in the Apply To menu that refers to more than one section.

Apply To

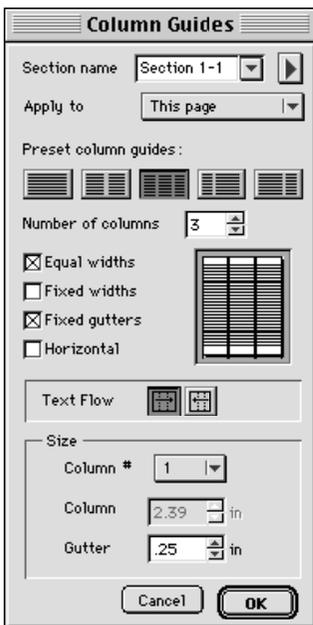
When you create and modify sections, choose an option in the Apply To menu to specify where you want to apply the column guides settings.

This Page Applies the settings to the current page only. In a Publication with facing pages, it applies the settings to both (left and right) current pages.

All Pages Applies the settings to all pages in the document.

All Left Pages Applies the settings to all left-hand pages in a Publication with facing pages.

All Right Pages Applies the settings to all right-hand pages in a Publication with facing pages.



Left Page Applies the settings to the current left-hand page in a Publication with facing pages.

Right Page Applies the settings to the current right-hand page in a Publication with facing pages.

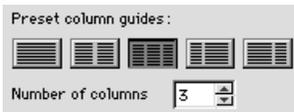
Section options

You can also delete sections, fit sections to a page, or fit sections to the top half or bottom half of a page. Choose an option from the triangle pop-up menu.

Delete Section Deletes the current section. If the Apply To setting refers to more than one section, this deletes all matching sections.

Fit to Page Creates a full-page section.

Fit to Top Half or Fit to Bottom Half Creates a half-page section on the top half or the bottom half of the specified pages.



Preset column guides

These buttons let you select a preset column guides arrangement. You can select 1, 2, or 3 columns of equal width, or 2 columns with a wider column on the left or right.

Number of Columns

This setting specifies the number of columns; it overrides the preset column guides. Type the number of columns. The maximum number you can set depends on the width of a section.



Equal Widths This option makes the column widths equal to the value in the Column box, and makes the gutter widths equal to the value in the Gutter box.

Deselect this option to set the width of a specific column.

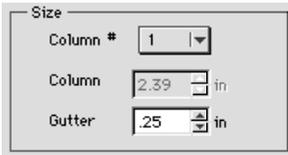
When Equal Widths is selected, you can't set a specific column width (the Column box is not available), because the column width is based on the number of columns, the gutter width, and the section size.

Fixed Widths This option prevents changes to the width of the section's columns. If you use the Section tool to drag a column guide, the entire column moves, which changes the width of the gutters without changing the width of the column.

Fixed Gutters This option prevents changes to the width of the column gutters. If you use the Section tool to drag a column guide, the gutter moves, which changes the width of the adjacent columns without changing the width of the gutter.

If both Fixed Gutters and Fixed Widths are selected, you can't drag the column guides in a section to adjust the widths of columns or gutters.

Horizontal This option appears if “Enable two-byte script” is selected in the Preferences dialog box. It creates horizontal columns for text in a section.



Size

If Equal Widths is not selected, you can set widths for specific columns and gutters in the Size area.

Column # To adjust a specific column or the gutter to the right of the column, select the column by number. The widths of the selected column and gutter appear in the Size area. Columns are numbered from left to right.

Column Enter the width of the column specified in the Column # menu. If you select a preset column option, the Column value can't be changed unless Equal Widths is deselected first. This box is not available if Equal Widths is selected.

Gutter Enter the width of the gutter to the right of the column specified in the Column Number pop-up menu.



Text Flow

To change the direction of the text flow, click the button that indicates left to right (the arrow points right) or right to left (the arrow points left).

Applying section settings throughout a document

The Column Guides dialog box lets you create or modify multiple sections at once. The Apply To setting controls how Canvas applies the column guides settings. When you click OK, Canvas modifies matching sections and creates new sections as necessary, depending on the setting selected in the Apply To menu.

For example, if you choose All Pages while creating a section, Canvas creates a matching section on each page in the document.

In Publications with facing pages, you can apply the column guides settings to left-hand or right-hand pages, or both.

Canvas will modify existing sections and create new matching sections, if necessary, based on the Apply To setting. For example, a

document with 10 pages has matching sections on five pages. If you choose All Pages while modifying a section, Canvas will modify the existing sections and create a new section on each of the pages without a matching section.

The Apply To setting can complement your actions. If you drag the Section tool on a left page in a Publication, but choose Right Page in the Apply To menu, Canvas creates a section on the left page and on the right page.

Placing text in sections

After you create a section, you can place text in the section by typing or pasting text from the Clipboard. You can also place text using the Place command. Canvas links the text objects in the section so that text will flow from column to column.

If the last column in a section contains overset text, you can flow the text to another column by clicking the overset symbol and then clicking in a column.

If you create sections on multiple pages, Canvas links the columns in the first section when you place text in the section. If you want text to flow to another section, you can click the overset text indicator in the last column in a section, and then click in the first column in another section to flow text from one section to the other.

To place text using the Place command

You can use the Place command to place text from a text file into a section.

- 1 Select the Text tool and click at the top of the first column in the section. An insertion point appears in the column at the height where you clicked.
- 2 Choose File > Place. Select the text file you want to place and click Place. The text from the text file appears in the section and flows from column to column.

To type text in a section

You can use the Text tool to type text in a column in a section.

- 1 Select the Text tool and click at the top of the first column in the section. An insertion point appears in the column at the height where you clicked. Canvas creates linked text objects in the section when you click in the section with the Text tool.

2 Begin typing. Text will wrap to the next line when it reaches the column edge. If you continue typing to the end of the column, text will flow to the next column in the section.

If a section has multiple columns, you can skip one or more columns by clicking in the section where you want the text flow to begin.

To paste text into a section

After you create a section, you can paste text from the Clipboard to create text columns.

- 1** Use the Edit > Copy command to place text on the Clipboard.
- 2** Select the Text tool and click at the top of the first column in the section. An insertion point appears in the column at the height where you clicked.
- 3** Choose Edit > Paste. The text on the Clipboard appears in the section and flows from column to column.

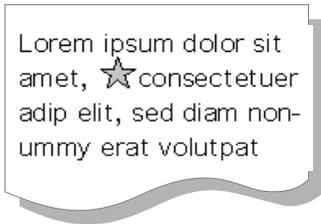
If the final column in a section contains overset text, you can flow the text into another text object or section, or resize the section to contain the overset text. See “Flowing overset text into new text columns” on page 407.

Placing graphics in text objects

You can use the Insert Picture command to anchor graphics in a text object. This feature lets you use custom bullets, special illustrations for drop caps, and small logos within text.

An inserted picture behaves like a text character.

- Inserted pictures move with the surrounding text.
- Indent and justification settings apply to inserted pictures.
- You can adjust an inserted picture’s baseline and kerning.
- An inserted picture rotates and skews with the surrounding text.



Text with an inserted picture

Some text formatting features do not apply to inserted pictures.

- If you scale the surrounding text, an inserted picture does not distort or scale with the text.
- Spread and Overprint commands do not affect inserted pictures.
- Strokes or inks applied to the text don't affect inserted pictures.
- Inserted pictures might not be imported from the Clipboard by other applications.

When the insertion point is in a text object and you choose the Insert Picture command, Canvas inserts the contents of the Clipboard as a raster image into the text.

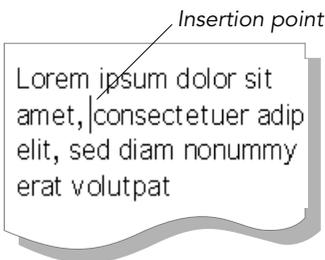
Because Canvas converts the Clipboard contents to a raster image when you use Insert Picture, you cannot edit objects that have been inserted into text. For example, if you insert a multigon object into text, you can't use editing handles to reshape or scale it.

If you insert text characters using the Insert Picture command, the inserted text characters are not editable.

To insert a picture into text

The Insert Picture command is available when any object is on the Clipboard and the insertion point is in a text object.

- 1 Select the object or objects that you want to insert into text.
- 2 Choose Edit > Cut or Edit > Copy to place the selection on the Clipboard. If you selected multiple objects, they become a single composite graphic when inserted into text.
- 3 Select the Text tool in the toolbox. Click in the text where you want to insert the graphic. An insertion point appears where you click.
- 4 Choose Text > Insert Picture. The Clipboard contents appear at the insertion point.

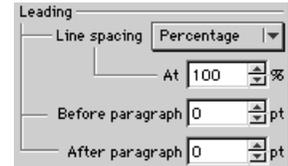
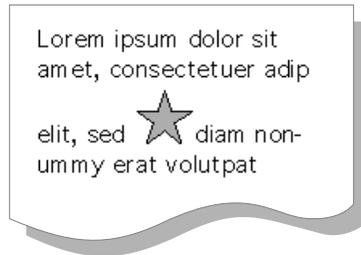


How inserted pictures affect leading

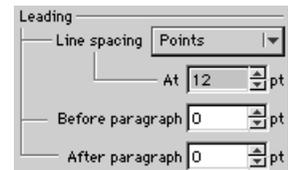
When you use the Insert Picture command, the leading of the paragraph might change, depending on the Line spacing method:

- If the Line spacing is defined by Percentage in the Leading area of the Type palette, Canvas adjusts the Line spacing to fit the picture based on the defined percentage, if necessary.
- If the Line spacing is defined by Points, the spacing between lines stays the same, regardless of the size of the picture.

Line spacing set to 100%



Line spacing set to 12 points



Using macros for inserted pictures

If you want to be able to edit an inserted picture, you can insert a macro object into text. A macro object is an object linked to an editable original in the Gallery palette. If you change the original in the Gallery palette, the inserted picture macro object will change to match the original.

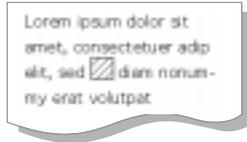
For example, you can use the Insert Picture command to place simple placeholder macro objects (such as small squares) where you want finished graphics to appear in text. When the final graphic is available, replace the placeholder macro in the Gallery palette with the finished graphic. With this method, you do not have to change each instance of a graphic individually or alter the publication's layout.



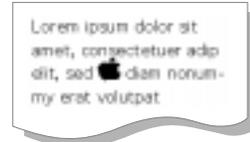
Placeholder macro



Final graphic



Text with placeholder macro inserted



Placeholder macro replaced by apple graphic

Flowing overset text into new text columns

You can flow text when all the text won't fit in a text object.

An indicator tells you when an object has overset text. If you select a text object and drag a handle to reduce its size so all the text does not fit, the overset indicator appears.

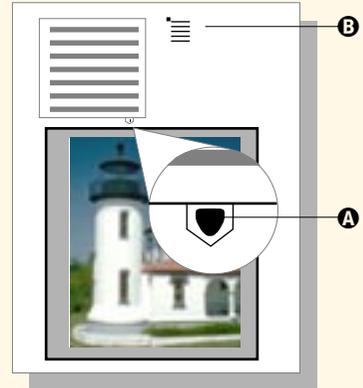
Click the overset indicator (A) to change the pointer to a text flow pointer (B). You can click or drag the pointer to create a new column for the overset text.

To flow text into a column with the same margins as the original column, click the text flow pointer where you want the upper-left corner of the new column to appear. To flow text into a column with different margins than the original column, drag the text flow pointer to specify the column width.

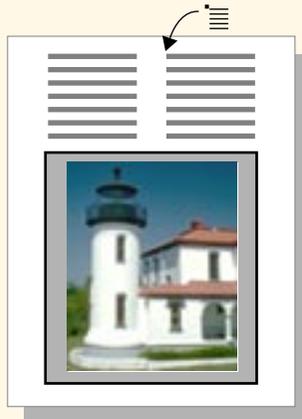
You can flow text between as many columns as you want.



Resizing a text column can result in overset text



If you click the overset indicator (A), the text flow pointer (B) appears



Clicking with the flow pointer creates a new column the same size as the original, and flows the overset text into it.

A plus sign replaces the overset sign on the first column, indicating that text flows to another column.

Flowing text from column to column

You can create text flows so that text runs from one text object to another. You can flow text to a new text object when the text won't all fit in an existing text object; the term "overset text" is used to refer to the text that doesn't fit in a text object or column.

You can also link empty text objects to create a preset text flow when you create templates for page layouts.

Flowing overset text to a new object

If you reduce the size of a text object, or change the text formatting, and all the text no longer fits in the text object, you can create another text object to hold the overset text. Doing this creates a link between the first and second text object, as shown in "Flowing overset text into new text columns," above.

Displaying text flow bars

A text flow bar is a solid line with a flow symbol. Flow bars appear at the bottom of text objects when they contain overset text or are part of text flows. The symbol under a flow bar indicates the flow condition.

- An arrow indicates that a text object contains overset text.
- A plus sign indicates that text flows to another text object.
- The last object in a text flow does not display a flow bar unless text is overset.

◆ **To display flow bars:** Choose Layout > Display > Show Text Flow Bars. To hide text flow bars, choose Layout > Display > Hide Text Flow Bars.

Linking text objects

After you create text objects using the Text tool or Text Object tool, you can use the Text Link tool to link the objects and create a text flow. When text you type or insert fills one object, it flows to the next linked text object. The linked text object can be on another page (in a Publication document) or another slide (in a Presentation document). You can link columns in a chain to create articles in a multi-page document such as a newsletter. The Text Link tool is especially useful for creating templates for publications.

Note: Text objects created with the Text tool expand as needed when text is added. However, if you use the Text Link tool to link objects



Text object has overset text



Text flows to another text object

Text Link tool



✓ **Tip**

If text boxes aren't visible, choose Display > Show Text Boxes in the Layout menu; this makes it easier to find and link empty text objects.

created with the Text tool, the objects no longer expand or contract to hold the text. Instead, they remain a fixed length, the same as objects created with the Text Object tool.

To link text objects

You can use this procedure to link an object containing text or an empty text object to other text objects.

- 1 With the Text or Text Object tool, create at least two text objects. Select the Text Link tool in the Text toolbar. The pointer displays the number “1”.
- 2 Click the first text object — the object you want to flow *from*. The text link pointer changes to the number “2”.
- 3 Click the next text object — the object you want to flow *to*. If you click anything but a text object, Canvas cancels the linking operation.
- 4 To link another text object to the chain, repeat the linking procedure: Click the object text will flow from, and then click the object the text will flow to.
- 5 When you finish, press Enter (Mac) or Esc (Windows).

Unlinking text objects

You can use the Text Unlink tool to break the links between text objects that have been linked into a text flow. To unlink one text object from the next object in the flow, select the Text Unlink tool and click the first text object.

Text Unlink tool



Checking text flows

The Text Info tool lets you check text flows in a document. You can use the tool to display arrows showing the flow of text among linked text objects.

Text Info tool



The Text Info tool is in the Text toolbar.



A Flow arrow

To check a text flow

- 1 Select the Text Info tool.
- 2 Point to a text object. Press and continue holding down the mouse button to display flow arrows.

If the text object is part of a linked text flow, arrows show the flow sequence. Flow arrows are displayed until you release the mouse button. If the text object is not linked, no flow arrows appear.

A flow arrow starts at the lower-right corner of the first object in a flow, and points to the upper-left corner of the next object in the flow, and so on throughout the flow.

Note: With the Text Info tool selected, you can use the same procedure to display flow arrows.

TEXT EDITING AND PROOFING

You can insert, search, replace, move, delete, copy, and spell check text in Canvas documents. This chapter describes how to navigate through text for editing, how to make text selections, and how to use spelling tools and the Find feature for text search-and-replace.

Text edit mode



In edit mode, an insertion point appears in the text object.

To edit text, put a text object in edit mode. In edit mode, you can revise, delete, insert, and select specific text. Only one object is in text edit mode at a time. You can put a text object in edit mode with the Text tool or the Selection tool.

When you put a text object in edit mode, the text object becomes opaque, the selection handles disappear, and a flashing insertion point appears. Also, the Text tool becomes the active tool.

- ◆ **To enter edit mode using the Text tool:** Select the Text tool and click in a text object. An insertion point appears where you click, and you can begin typing or editing.
- ◆ **To enter edit mode using the Selection tool:** With the Selection tool, double-click a text object. If you double-click on a word, the word becomes selected and is highlighted. The Text tool is selected, and you can begin typing or editing.
- ◆ **To edit text bound to a path:** With the Path Text tool or the Text tool, click the text. An insertion point appears in the bound text, and you can begin typing or editing.

Leaving text edit mode

When you finish text editing, you can leave edit mode by doing any of the following:

- Press Esc (Mac or Windows) or Enter (Mac only). Canvas switches to the Selection tool from the Text tool. The text object you were editing is selected.
- Select another tool in the toolbox. The text object you were editing is selected.

- Click outside the text object. Canvas creates a new text object where you click. The text object you were editing is not in edit mode and isn't selected.
- Choose the Save command in the File menu. The text object you were editing is not in edit mode, and the Text tool remains active.

Text selection and navigation

You can move the insertion point and select characters, words, lines, and paragraphs using the mouse or the keyboard.

The mouse lets you quickly select text or text objects and move the insertion point. However, if you work with a lot of text, you might find that the keyboard techniques let you move the insertion point more precisely to edit more quickly.

Making text selections

Before you can cut, copy, move, delete, type over, or perform other operations on text characters, you need to select the text within a text object. You can select text when a text object is in edit mode. For information on putting a text object in edit mode, see “Text edit mode” on page 411.

The phrases “selected text,” “text selection,” and “highlighted text” all refer to an active selection of characters within a text object. Selected text appears highlighted; the highlight color depends on your system's color settings.

Keep in mind that a text selection is not the same as a selected text object. When you select a text object, you can move, copy, delete, and perform other operations on the entire object. When you make a text selection, the editing actions will affect only the highlighted characters within the object.

◆ **To deselect all highlighted text:** Click anywhere in the text object or layout. Clicking outside the selected text object creates another text object at that location.

Using the keyboard for text editing

While editing text, you can use the key combinations listed in the following table to move the insertion point and select text.

Key combinations for text editing

Press this key	and these keys	to do this in edit mode
None	Up arrow, Down arrow, Right arrow, Left arrow	Move insertion point 1 space right or left
	Page Up, Page Down	Move insertion point 3 lines up at the left margin (Page Up) or down at the right margin (Page Down)
	Home, End	Move insertion point to the beginning (Home) or end (End) of the text object
Option (Mac) Ctrl (Windows)	Right arrow, Left arrow	Move insertion point to the next word end (Right arrow) or beginning (Left arrow)
	Up arrow, Down arrow	Move insertion point to the left margin of the line, or up 1 line at the left margin (Up arrow), or down 1 line to the left margin (Down arrow)
	Home, End	Move insertion point to beginning (Home) or end (End) of line
Shift	Right arrow, Left arrow	Extend selection 1 space right or left
	Up arrow, Down arrow	Extend selection 1 line up or down
	Page Up, Page Down	Extend selection 3 lines up or down
	Home, End	Extend selection to the beginning (Home) or end (End) of the text object
Shift + Option (Mac) Shift + Ctrl (Windows)	Right arrow, Left arrow	Extend the selection 1 word right or left
	Up arrow, Down arrow,	Extend the selection to left margin (Up arrow) or right margin (Down arrow). From the margin, extend the selection to the other margin, or up or down 1 line
	Page Up, Page Down	Extend selection 3 lines up or down

Using the mouse for text editing

Using the mouse and modifier keys, you can quickly place the insertion point, select specific words, and select sections of text in edit mode. For information on putting a text object in edit mode, see “Text edit mode” on page 411.

Mouse actions for text editing

To do this in text	Do this with the pointer
Select a continuous block of text	Drag over the text you want to select
Select all text between the insertion point and another location	Press the Shift key and click where you want the selection to end. Windows users can use the right mouse button like the Shift key (hold down the right button and click with the left).
To deselect all highlighted text	Click anywhere in the text object. (Clicking outside the text object creates a new text object at that location or puts another text object into edit mode.)
Deselect text between the insertion point and another location in the selection	Press Shift and click in the highlighted text
Select a word	Double-click the word
Select a line of text	Triple-click the line

Copying, pasting, deleting, and moving text selections

✓ Tip

To help you in editing text, you can display symbols for spaces, paragraph breaks, and indents. Choose Layout > Display > Show Text Invisibles. To hide these symbols, choose Layout > Display > Hide Text Invisibles.

You can cut and copy a text selection, and then paste the selected text in the same document, in another Canvas document, or to and from a non-Canvas document using the Clipboard.

Whether pasted text retains its formatting depends on the operating system and the source of the text.

- Text pasted from the Mac OS Clipboard that originated in another application will be formatted with the current Canvas text formatting when pasted into a Canvas document, regardless of the formatting applied in the originating application.
- In Windows, text pasted from another application can be embedded into a Canvas document, using Object Linking and Embedding (OLE) to preserve its formatting. See “Embedded text objects and editions containing text” on page 425.

If you copy and paste selected text (and not an entire text object) within Canvas, the text retains its character attributes, but it adopts the paragraph formatting of the surrounding text.

To delete text

- 1 Select the text you want to delete.
 - 2 Choose an operation based on the results you want:
 - To remove the text to the Clipboard, choose Edit > Cut.
 - To delete the text from the document without saving it to the Clipboard, choose Edit > Clear, or press Delete.
- ◆ **To replace selected text:** Begin typing, or use the Paste command, to replace a text selection with the text you type or paste from the Clipboard. This saves the step of deleting the selected text.
- ◆ **To replace all text in a text object:** Select a text object and begin typing. The text you type adopts the formatting of the replaced text. If multiple text objects are selected, the text you type replaces the text in the object that was created first.

To copy selected text

When you copy selected text, you can create a new text object or insert the text into an existing text object.

- 1 Select the text you want to copy.
- 2 Choose Edit > Copy. Canvas copies the selection to the Clipboard.
- 3 Depending how you want to paste the selection, do one of the following:
 - To paste text into an existing text object, put the insertion point in the text where you want to paste the insertion.
 - To paste text as a new text object, be sure no objects are in text edit mode by pressing Esc. You can set the width of the new text object by selecting the Text tool and dragging. Otherwise, text will be pasted in one long line that might extend off the screen.
- 4 Choose Edit > Paste to insert the text from the Clipboard.

Changing text attributes

While a text object is selected, you can change the formatting of all the text it contains using the Text menu, the Type palette, or the text ruler.

Finding and changing text

Use the Text tab in the Find palette to search for specific text in selected text objects and entire documents. You can replace or delete found text selections one at a time or all at once.

The Text tab also lets you search for text with specific font, size, and style attributes, and change the attributes of found text.

To find and change text

- 1 Choose Edit > Find to open the Find palette. Click the Text tab to select it. To search for text, type the text in the Find box. You can specify that you want to find only whole words, or text matching the capitalization (case) of the Find text.
- 2 If you want to replace found text, type the replacement text in the Change To box. When the Change To box contains at least one character (including a space), the Change All button is available.
- 3 Click Find to locate the first occurrence of the specified text. If one or more text objects are selected, Canvas searches the text contained in the first selected object. If no text objects are selected, Canvas searches the entire document.
- 4 If Canvas finds the specified text, it highlights the text in the document. You can click Find to search for the next occurrence of the specified text. If the Change To box contains replacement text, the Change button is available. Click Change to replace the highlighted text with the Change To text.
- 5 To continue searching, click Find. Repeat the previous step if Canvas finds another occurrence of the search text. When Canvas completes the operation, it displays a message. Click OK in the message box to continue.

Note: You can click Change All to replace all occurrences of the Find text with the text in the Change To box, without first clicking Find.

Finding and changing text attributes

You can search for and change text attributes (whether or not you also search for specific text). The text attributes you can search for and change are font, type size, and text style.

- 1 To search for text attributes, click the arrow at the bottom-left corner of the Find palette.

- 2** In the Find Attributes section, select a font name from the font pop-up menu. Type a size (in points) or select a size from the size pop-up menu. Click the style buttons to set the styles you want.
- 3** In the Change Attributes To section, you can specify replacement attributes in the same way that you specify the Find attributes.
- 4** Click Change or Change All to replace the attributes specified in the Find Attributes section with the attributes specified in the Change Attributes To section. If you have also typed text in the Find box, the replacement text attributes can be applied only to text that matches the Find text.

Clicking the Clear button removes all settings in the Find Attributes and Change Attributes To areas.

Text search options

The options on the Text tab in the Find palette let you specify criteria for text searching and replacement.

Find. Type the text you want to find. You can leave this box blank to search for text attributes only.

Change To. If you want to replace found text, type replacement text here. If you want to delete found text, leave the Change To box empty.

Whole Word. Select Whole Word to specify that the Find text is an entire word. For example, if you type “time” and select Whole Word, Canvas will not find “times,” “untimely,” or “timer.”

Match Case. Select Match Case to include the capitalization of the Find text in the search criteria. For example, if you type “Time” and select this option, Canvas will not find “TIME” or “time.”

Change. If Canvas locates the text and attributes you specified, it highlights the text in the document. Click Change to replace the highlighted text with the Change To text and to apply the replacement attributes specified in the Change Attributes To section.

Change All. Click to replace all occurrences of the text and attributes you specified with the replacement text and attributes. Canvas makes the changes without highlighting found text.

Find button. Click to search for the next occurrence of text specified in the Find text box and attributes specified in the Find Attributes area.

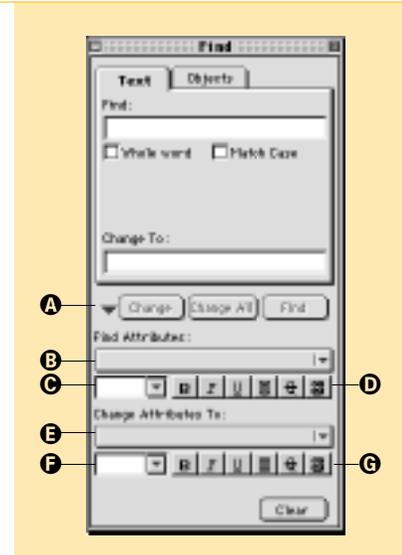
Find Attributes

The text attributes that you specify here tell Canvas what to search for.

- A** Click to display Attributes options.
- B** To search for a particular font, select the font name from the pop-up menu.
- C** To search for a type size, enter the size or select the size from the pop-up menu.
- D** To search for a type style, select a style button. You can select bold, italic, underline, outline, strikethrough, and shadow styles.

Change Attributes To

The text attributes that you specify here can be applied to text that matches the attributes specified in the Find Attributes



area.

- E** Select the font from the pop-up menu.
 - F** Enter the replacement size (in points) or select the size from the pop-up menu.
 - G** Click style buttons to specify replacement styles. You can choose bold, italic, underline, outline, strikethrough, and shadow.
- Clear.** Click to delete all the settings from the Find Attributes and Change Attributes To areas.

Automatic text correction

Canvas can automatically fix typographical mistakes as you type. The Auto Correct dialog box lets you select several automatic correction options. It also lets you specify common misspellings, typing errors, and abbreviations that you want Canvas to replace as you type.

When any text replacement option is active, Canvas checks each word you type. It corrects or replaces text as appropriate once you press the Spacebar.

To set up automatic correction

- 1 Choose Text > Spell Checker > Auto Correct.
- 2 In the Auto Correct dialog box, select the replacement options you want to use. The options are described below.
- 3 Click OK to implement the current settings.

Auto Correct options

Use the options in the Auto Correct dialog box to specify corrections you want Canvas to make as you type.

Two Initial Capitals Corrects a word that you type beginning with two capitalized letters.

Capitalize the First Letter of Sentences Capitalizes the first letter you type following typical sentence-ending punctuation, such as periods, question marks, or exclamation points, even if these marks are followed by quotation marks or parenthesis. Canvas may or may not capitalize the first letter following unusual punctuation, such as website addresses or abbreviations in the middle of sentences, so sentences containing unusual punctuation should be checked.

Note: Auto Correct does not capitalize the next word if you insert sentence-ending punctuation in existing text.

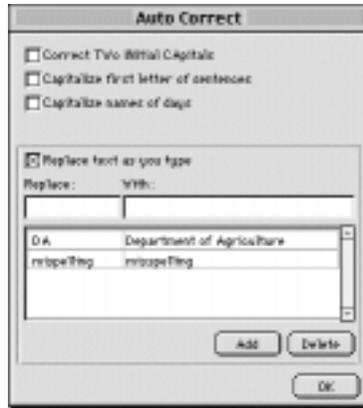
Capitalize the Names of Days Capitalizes the full names of days of the week. For example, this option replaces “saturday” with “Saturday.” It does not expand abbreviations for day names, such as “wed.” or “Thurs.,” unless you add these abbreviations to the replacement list.

Correct Accidental Usage of the Caps Lock Key (Windows only)

Corrects non-standard word capitalization. If the first letter of a word is lowercase and the other letters are uppercase, this changes the first

letter to uppercase and the rest of the letters to lowercase. For example, this replaces “rEPEL” with “Repel.” If the first two letters of a word are uppercase and the rest are lowercase, this changes the first letter to uppercase and the rest of the letters to lowercase, replacing “REpel” with “Repel,” for example.

Replace Text as You Type Replaces text that you type with any specified replacement text. Each set of typed text and replacement text appears in the scrolling list in the Auto Correct dialog box. You can add items to this list and delete selected items as described next.



Setting up text replacement

You can specify abbreviations, common misspellings, and other text that you want Canvas to replace as you type.

You can use this feature to expand abbreviations for common phrases and long names that you type throughout a document. For example, if you often type “Department of Agriculture,” you can specify that the abbreviation “DA” be replaced by the full name.

To set up text replacement

- 1 Choose Text > Spell Checker > Auto Correct. In the Auto Correct dialog box, be sure Replace Text as You Type is selected.
- 2 In the Replace box, type text that you want to be replaced. In the With box, type the replacement text. Click Add to place the text in the scrolling list.

3 Repeat this procedure to specify more automatic replacements. You can add as many items to the scrolling list as you want. When you finish, click OK.

Note: Auto Correct does not remove specified text from a document if you type nothing in the With box. Also, Auto Correct won't replace spaces with more or fewer spaces (such as replacing two spaces with one space). However, you can use the Text tab in the Find palette to find and replace spaces.

◆ **To remove replacement entries:** Select the entry in the scrolling list and click Delete.

Automatic spelling correction

When you use the Spelling pop-up menu (page 422) to correct a misspelling, Canvas adds the item to the Auto Correction list. The misspelled word appears under Replace and the correction appears under With. If you make the same spelling mistake again and “Replace Text as You Type” is selected in the Auto Correct dialog box, Canvas corrects the error. If “Replace Text as You Type” is not selected, Canvas won't make these automatic corrections.

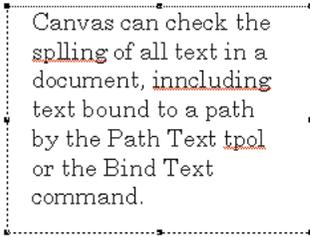
Checking the spelling of text

Canvas can check the spelling of all text in a document, including text bound to a path by the Path Text tool or the Bind Text command. Canvas can check the spelling of specific words, selections and entire documents. Canvas can also check the spelling of words as you type.

Canvas checks the spelling of text by looking up words in the Canvas Dictionary and the User Dictionary. The Canvas dictionary contains 100,000 words; this dictionary file can't be modified. You can add words to the User Dictionary to stop Canvas from marking unrecognized words that are spelled correctly.

Showing and hiding unrecognized words

Canvas marks words that it can't find in either the Canvas Dictionary or the User Dictionary with a red wavy underline. Canvas can check spelling while you type or after you finish entering text.



Unrecognized words marked

When Show Spelling Errors is active, Canvas checks the spelling of a word after you type it and press the Spacebar, tab, or deselect the text object. Canvas marks an unrecognized word with a red wavy underline.

- ◆ **To mark unrecognized words:** Choose Layout > Display > Show Spelling Errors. If you do not want Canvas to mark unrecognized words, Choose Layout > Display > Hide Spelling Errors.

Using the spelling pop-up menu

While using the Text tool to edit text, you can choose suggested replacements for words marked as unrecognized.

The spelling pop-up menu lets you choose replacement words. You can also use the menu to add unrecognized words to the User Dictionary.

To use the spelling pop-up menu

With a text object in edit mode, point to a word that Canvas has marked as unrecognized. Control-click the word (Mac) or right-button click the word (Windows).

The spelling menu pops up. Do one of the following:

Replacement word To replace an unrecognized word with a suggested word, choose the suggested word in the pop-up menu.

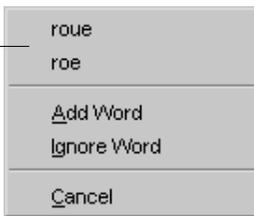
When you choose a replacement word in the Spelling menu, Canvas adds the unrecognized word and the replacement word to the Auto Correct dialog box. The unrecognized word appears in the Replace text box and the suggested word appears in the With text box. See “Checking the spelling of text” on page 421.

Add Word To add an unrecognized word to the User Dictionary, choose Add Word. After you choose Add Word, Canvas adds the word to the User Dictionary and will recognize any future use of the word.

Ignore Word To ignore the spelling of the unrecognized word, click Ignore Word. If you choose Ignore Word, Canvas will ignore the word in any document until you quit Canvas.

Cancel To close the spelling menu without making any changes, choose Cancel or click outside the pop-up menu.

Suggested words



Spelling menu

Spell checking a selection or document

You can check the spelling of selected text, a selected text object, and an entire document using commands in the Spell Checker submenu.

- 1 To limit the spell checking to specific text or a text object, select the text or the text object. To spell check an entire document, you don't have to select anything.
- 2 To begin spell checking, choose Text > Spell Checker > Spell Check Selection (if you selected text or a text object), or Text > Spell Checker > Spell Check Document.
- 3 If Canvas finds an unrecognized word, the Spelling Checker dialog box appears. For descriptions of the spelling options, see "Spelling Checker," next.
- 4 Canvas displays a message when the spell check is complete. Click OK to close the message box.

Note: Canvas deselects any selected objects (but not text) when you use the Spell Check Selection or Spell Check Document commands.

Spelling Checker

The Spelling Checker dialog box appears during spell checking of a selection or document if Canvas finds a word that is not in its dictionaries.

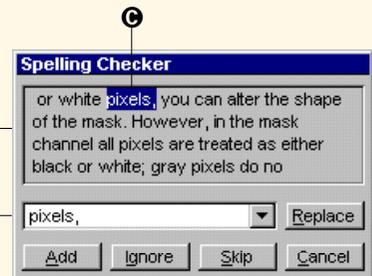
- A** Canvas displays unrecognized words in context. You cannot edit the text in this box.
- B** You can type a new spelling in this text box, or click the down-arrow to choose from the list of suggested spellings.
- C** The highlighted word in this box is the unrecognized word.

Replace. Click this button to replace the unrecognized word with the contents of the text

box (**B**) and continue to spell check the document.

Add. If Canvas doesn't recognize a word that is actually spelled correctly, you can add the word to the User Dictionary so that Canvas will recognize it in all future documents. After saving the word, Canvas continues to spell check.

Ignore. Allows an unrecognized word in the current document without adding the word to the dictionary. Canvas ignores all instances of the



word until you close Canvas.

Skip. Allows the current instance of an unrecognized word, but Canvas alerts you the next time this word occurs.

Cancel. Interrupts the spell check and closes the dialog box.

Continuing a spelling check

If you cancel a spell check, you can choose Continue Spell Check in the Spell Checker submenu to pick up where you left off. Canvas remembers the words you chose to ignore.

Modifying the User Dictionary

In addition to more than 100,000 words in the Canvas Dictionary, you can store an unlimited number of words in a personal user dictionary. By adding words to the User Dictionary, you can “teach” Canvas new words and special terms, and prevent Canvas from stopping unnecessarily while checking spelling.

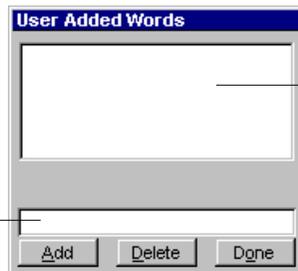
To add words to the User Dictionary

- 1 Choose Text > Spell Checker > Show Added Words. The User Added Words dialog box appears.
- 2 In the dialog box, type a new word to add.
- 3 Click the Add button.
- 4 Click Done to close the dialog box when you are through adding words.

To delete words in the User Dictionary

- 1 Choose Text > Spell Checker > Show Added Words. The User Added Words dialog box appears.
- 2 In the list, select a word to delete, and then click the Delete button.
- 3 Click Done to close the dialog box when you are through deleting words.

You can add words to the dictionary by typing the word in this text box and clicking Add



Words you add to the user dictionary appear in a scrolling list. To delete a word, select the word and click Delete.

Importing text from other applications

You can import text created in other applications into Canvas. This capability is especially useful if you are compiling documents from different applications into a Canvas layout. For example, you might need to assemble a publication with contributions from several writers who each use different word processors.

Canvas supports several methods for importing text. You can open a text file, place a text file, paste text from the Clipboard into a Canvas document, and use object embedding or Publish and Subscribe. The Acquire command, however is used to import raster images, not text.

Opening a text file with the Open command creates a new Canvas Publication document for the imported file. Placing, pasting, and embedding text inserts the text into the current document. For information on pasting text from the Clipboard, see “Copying, pasting, deleting, and moving text selections” on page 414.

The formatting of imported text might differ from the formatting of the original text in its native application. Although some software products might have similar capabilities, the methods used can vary significantly. It might be necessary to reformat imported text using the typographic tools in Canvas.

Tip

If you have difficulty opening or placing a text document because of the formatting, try converting the file to plain text before importing the file.

Also, try copying and pasting the text you want to import. This removes formatting that Canvas doesn't understand.

To place a text file in an existing Canvas document

You can place text using the Place command. See “To place text using the Place command” on page 403.

To place text using the same margins as the original file, click the Place icon in the document. If the file you are importing contains text only (no images or objects), you can also drag the Place pointer to simultaneously import and set margins for the text. However, if the file you want to import has images or objects, dragging the place icon scales the text, images, and objects as a group.

Embedded text objects and editions containing text

In Windows, you can use Object Linking and Embedding (OLE) to insert text in a Canvas document with the Paste Special command. You can also use Publish and Subscribe in the Mac OS to subscribe to an edition that contains text.

However, Canvas treats embedded text objects and editions as objects, not text. You cannot apply effects, such as wraps or binds, to text in these objects. In addition, Canvas cannot spell check, hyphen-

ate, or format this text. All formatting and effects must be performed in the original application or publisher.

For more details and procedures, see “Using Object Linking and Embedding (OLE)” on page 106 and “Sharing information through Publish and Subscribe” on page 109.

Exporting text from Canvas documents

You can copy text from Canvas and paste it into other applications using the Clipboard. In addition, you can use the Canvas file filters to save selections and documents in other file formats; see “File and data exchange” on page 81. Keep in mind that if you save a document containing text, and use a format that supports only raster images, Canvas rasterizes the text before saving the file, so you can’t edit it in the saved file.

Also, several Canvas typographic capabilities aren’t available in other applications. For example, character inks and strokes, text typed on a path, and wrapped text are unlikely to convert reliably. In some cases, such as rotated text, the export filters might rasterize the characters, and you will not be able to edit them as text.

To export text to other file formats

- 1 Choose File > Save As.
- 2 In the File Format (Mac) or Save as type (Windows) pop-up menu, choose a file format. Type a name for the file, and then click Save.

Note: Canvas warns you that saving files in other formats might result in a loss of some information whenever you save using a format other than Canvas 6.

✓ Tip

Always save a copy in Canvas format of files you want to export, in case the file conversion doesn’t give the results that you expected.

FORMATTING TEXT

You can control all aspects of text formatting in Canvas. This chapter explains how to specify font, font styles, type size, character position and scaling, kerning, letter and word spacing, paragraph alignment and spacing, and hyphenation. This chapter also explains how to select text for formatting and how to apply format settings.

You can also save format settings as named character and paragraph styles so you can use them again. Procedures for using type styles is covered in “Using type styles” beginning on page 463.

Selecting text and objects

The following section is a review of some basic selection techniques used to format text.

To select and deselect text objects

You can select text objects the same way you select other objects in Canvas.

- To select a single object, use a Selection tool to click the text object or drag a selection rectangle around the object.
- To select multiple objects, hold down the shift key and click text objects with a Selection tool. You can also drag a selection rectangle around all the objects you want to select.
- To deselect an object, press the Shift key and click the object. Other objects remain selected.
- To deselect all objects, press the Enter key (Mac) or Esc key (Windows) twice, or click an area of the screen where there are no objects.

To select all text objects

To select all text objects with a single command, select the Text tool in the toolbox and then choose Edit > Select All.

- In an Illustration document, this procedure selects all text objects on the current layer.

- In a Publication document, this procedure selects all text objects on the current page or current two-page spread.
- In a Presentation document, this procedure selects all text objects on the current layer of the current slide.

To select text within a text object

Before you can select specific characters, words, lines, or paragraphs, the text object must be in edit mode.

- 1 To place an object in edit mode, use one of these methods:
 - With a Selection tool, double-click the text object. The pointer becomes an I-beam and an insertion point appears in the text.
 - Click the Text tool in the toolbox. The pointer becomes an I-beam. Click the I-beam within the text. An insertion point appears.
 - For bound text only, click the Path Text tool. The Path Text tool is in a pop-out toolbar with the Text tool.
- 2 Use one of the following methods to highlight the text you want to select.

To	Do this
Select a continuous block of text	Drag the I-beam over text.
Select all text between the insertion point and another location	Press the Shift key and click where you want the selection to end.
Deselect text between the insertion point and another location within the selection	Press the Shift key and click within the highlighted text.
Select a word	Double-click the word with the I-beam pointer.
Select a line of text	Triple-click the line with the I-beam pointer.
Select all text in the text object	Choose Edit > Select All.
Deselect all highlighted text	Click anywhere in the text object or layout. Clicking outside the selected text object creates another text object at that location. Choosing another tool in the toolbox ends text edit mode.

Working with linked text objects

When you link text objects so text flows from one column to another, you can select all of the text in the flow. This lets you apply formatting changes and text styles to all the text at once, even if the columns are on separate pages or slides.

For information on linking text objects, see “” on page 407 and “Linking text objects” on page 408.

To select all text in a flow

1 Select the Text tool and click one of the linked text objects; this places the text object in edit mode and sets the insertion point in the text. You can also double-click a text object with the Selection tool to enter edit mode.

2 Choose Edit > Select All. Canvas highlights all the text in the linked text objects.

To deselect the text, click outside any text object, or press Enter.



Three linked text objects span three pages of a Publication document. The insertion point is in the first text object.

When you choose Select All, Canvas selects the text throughout the flow.

Note: When text is highlighted, anything you type replaces the highlighted text. If you select a long text flow across several columns, and then type a single letter or press the Spacebar, all the highlighted text will be erased. If this happens, choose Edit > Undo.

Applying type formatting to a text flow

Once you select the text in a flow, you can apply formatting changes using the Type palette, the commands in the Text menu, and the Text Ruler. Of course, changes that you make to selected text on other pages or slides will not be shown until you switch to the other pages or slides.

Applying text formats

Canvas provides three ways to format text: the Text menu, the Text Ruler, and the floating Type palette. The Text menu and Text Ruler provide basic formatting options, while the Type palette provides advanced controls and features. You might find that the Type palette and Text Ruler are easier to use because you can keep them open as you edit a document. However, using menu commands can help to familiarize you with the hot-key command shortcuts and make text formatting quicker.

When you use menu commands or the Text Ruler to apply formatting, the settings you choose affect the document immediately. However, when you use the Type palette, the settings take effect when you click Apply. You do not have to click Apply before switching to another tab within the Type palette; Canvas remembers all changes and applies them simultaneously with one click. However, you must apply or save the new settings *before clicking the pointer anywhere outside the Type palette*. If you don't, the settings will be lost.

Depending on the text selection you make, the format settings you choose can be applied to existing text, stored as the preset for new text objects, or applied to text you are about to type.

To format existing text

You can change the formatting of existing text by selecting a text object or a portion of text within the object.

- ◆ **To apply character formatting to existing text:** Select the characters you want to change. Using Text menu commands, the Type palette, or the Text Ruler, choose the formatting you want to apply.
- ◆ **To apply paragraph formatting to existing text:** Select text in the paragraph you want to change, or place the insertion point anywhere in the paragraph. Using Text menu commands, the Type palette, or the Text Ruler, choose the formatting you want to apply.

To establish formatting for new text objects

When you create a new text object, Canvas applies a preset format to text you type. You can define the preset format for new text objects. To establish or modify the preset, follow these steps:

- 1 Be sure you have not selected any text or text objects, and no text objects are in edit mode. To deselect all objects, press Enter (Mac) or Esc (Windows) twice.

2 To change format settings, use Text menu commands, the Type palette, or the Text Ruler. If you use the Type palette, be sure to click the Apply button after making changes.

Canvas uses the specified settings to format new text objects that you create.

To change formatting before typing new text

You can set the format for text you are about to type — without changing the preset format for new text objects.

1 Place the text object in edit mode (see “To select text within a text object,” page 428). The pointer should appear as an I-beam and an insertion point (a flashing vertical line) should appear in the text.

2 Place the insertion point by clicking the I-beam where you want the new formatting to begin.

3 Use the Text menu commands, the Type palette, or the Text Ruler to choose formatting options. If you use the Type palette, be sure to click the Apply button after making changes.

4 Begin typing. The text will appear with the formatting you chose. If you begin typing in the middle of a paragraph, only the new text will have the new settings.

Using the Text Ruler

You can use the Text Ruler to set fonts, sizes, styles, and other formatting. To set tabs, you must display the Text Ruler.

◆ **To display the Text Ruler:** Choose Layout > Display > Show Text Ruler. The Text Ruler and document rulers appear. To hide the Text Ruler, choose Layout > Display > Hide Text Ruler. This removes the Text Ruler, but leaves the document rulers. To hide the document rulers and the Text Ruler, choose Layout > Display > Hide Rulers.

Selecting text for formatting

You can use the Text Ruler to apply formatting to text objects, selected text characters, and text you are about to type.

Text objects When you select text objects, any formatting you set with the Text Ruler will apply to the entire text objects.

Text selections When you make a selection by highlighting text, you can apply the following formatting to the selection: font, type

size, type styles, fill ink, text frame ink, text background ink, text frame stroke, and character style.

If you apply justification, leading, kerning, or paragraph styles, the formatting applies to all paragraphs that contain selected text.

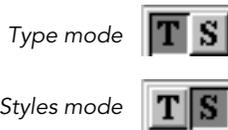
Before typing When you place the insertion point in a text object, you can use the Text Ruler to set formatting for the next text you type. For example, to apply bold style, click the Bold style button on the Text Ruler before typing.

When the insertion point is in a paragraph (and no text is selected), you can set the following formatting: font, type size, text style, fill ink, text frame ink, text background ink, and character style.

If you apply justification, leading, or paragraph styles, the formatting applies to the paragraph that contains the insertion point.

To use the Text Ruler

- 1 Select the text you want to format.
- 2 Depending on the formatting you want to apply, do one of the following:



- To adjust fonts, type styles, leading, and kerning, click the “T” on the Text Ruler to put it in Type mode.
 - To apply paragraph and character formatting, click the “S” on the Text Ruler to put it in Styles mode.
 - To apply text attributes, set tabs, and specify leader characters, the Text Ruler can be in either mode.
- 3 Select formatting options (see “The Text Ruler” next).



Type mode



Styles mode

The Text Ruler

The Text Ruler has two modes, Type and Style. One mode is active at a time.

- A Justification.** Click a button to set the alignment of selected text objects, the current paragraph, or all highlighted paragraphs. Select left, center, right, or full justification.
- B Tab type.** To change the current tab type, click the Tab button to set left, center, right, decimal, or comma tab alignment. Each click selects the next tab type.
- C Tab position.** For a selected text object, displays the position of the current tab.
- D Leader character.** Indicates whether a text object contains leader characters. If the button displays a leader character, one or more tabs in the selected text object use leader characters. If this button is blank, no tabs in the selected text object use leader characters.
- E Text attributes.** Select a text fill ink, text frame ink, text

background ink, or text stroke for selected text.

Type mode

Click the “T” on the Text Ruler to use Type Mode. The following can be set in only Type mode: font, size, styles, leading and kerning.

- F Font.** Type a font name in the box and press Enter or choose one from the pop-up menu. The font applies to selected text objects, highlighted text, or the next text you type.
- G Type size.** Enter a type size in the box and press Enter or select one from the pop-up menu. The type size applies to selected text objects, highlighted text, or the next text you type.
- H Type Styles.** Select buttons to apply standard type styles. In addition, Canvas lets you raise the baseline of selected characters. To do this, click the style button on the far right. Canvas raises the characters’ baseline and reduces the type size by a fixed percentage.

I Leading. By default, 100 appears in the text box, which makes leading 100% of normal (about 110% of the type size). Enter a leading amount in the text box in points and press Enter. To obtain leading that’s “normal,” enter “0” in the text box. Canvas applies the specified leading to selected text objects, the current paragraph, or all highlighted paragraphs.

J Kerning. Enter the amount of kerning in points and press Enter. To tighten kerning, type a negative number. To loosen kerning, type a positive number.

Styles mode

Click the “S” on the Text Ruler to use Styles Mode, which lets you set paragraph and character styles.

- K Paragraph style.** Type a paragraph style name in the box or select one from the menu.
- L Character style.** Type a character style name in the box or select one from the menu.

Positioning tabs

You can set tabs and indents by using the Ruler Bar in the Text Ruler. The Ruler Bar appears below the formatting area of the Text Ruler when a text object is selected or in edit mode. The Ruler Bar is aligned with the selected text object.

A new text object has tab stops at half-inch intervals beginning at the left border of the text object. You can move the insertion point to each of these tab positions by pressing the Tab key. In addition, you can edit a default tab by double-clicking it on the Ruler Bar.

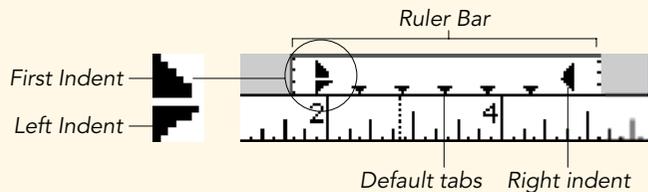
Note: The Ruler Bar shows tab positions for one selected object. You cannot use the Text Ruler to set tabs for multiple selected text objects

Ruler Bar

When you select a single text object, the Ruler Bar appears.

You can set the right and left indents of a selected text object by dragging the Right and Left Indent markers in the Ruler Bar.

To indent the first line of a paragraph, drag the First Indent marker to the desired position in the Ruler Bar.



To set the distance between the left border of a text object and the left margin of a paragraph, drag the Left Indent marker.

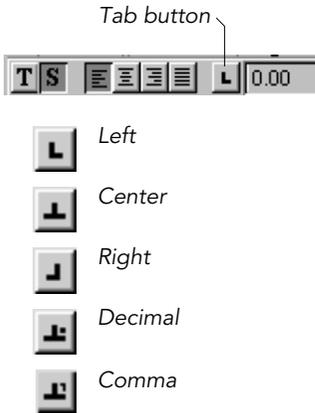
To set the distance between the right border of a text object and the right edge of a paragraph, drag the Right Indent marker.

To set tabs

1 Depending on how you want the tab settings to apply, do one of the following:

- To set a tab for one paragraph only, place the insertion point anywhere in the paragraph.
- To set tabs before typing a new paragraph, place the insertion point at the beginning of the paragraph.

2 If necessary, display the Text Ruler by choosing **Layout > Display > Show Text Ruler**. The Text Ruler and document rulers appear.



3 On the Text Ruler, click the tab button to select a tab. You can select the following:

Left The left edge of the text is flush with the tab position.

Center Text is centered around the tab position.

Right The right edge of text is flush with the tab position.

Decimal The first decimal (or period) in a string of text aligns directly under the tab position. For example, if you align “123.45.678” to a decimal tab, the decimal between the “3” and “4” will fall under the tab position.

Comma The first comma in a string of text aligns directly under the tab position.

4 To set the position of the tab, click in the Ruler Bar at the tab location. A new tab applies to selected text objects, the current paragraph, or all highlighted paragraphs.

Setting a tab removes the default tab stops to the left. To move a tab, drag the tab marker to a new position.

Editing a tab

To edit a tab, double-click the tab symbol in the Ruler Bar. Configure the options in the Tabs dialog box. You can create a new tab, or modify the alignment, position, and leader character of the current tab. Click OK when you finish to apply the tab settings.



Tab Position. Specify the distance between the tab and the left border of the text object.

Type of Tab. You can change the alignment setting of a tab by choosing one of these options.

Leader Character. You can use a character to fill tabbed space. To adjust the spacing of the leader character, you can use kerning options. To specify a leader character, type a character in the text box.

Using the Type palette

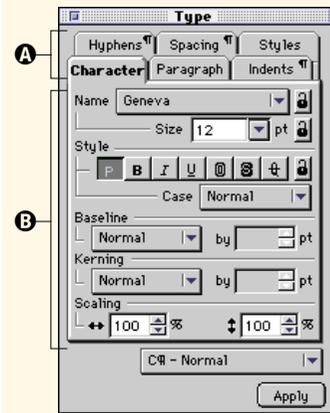
When you adjust settings in the Type palette, the new settings don't take effect until you click Apply. Be sure that you don't click outside the palette before applying the settings, or they will be lost.

To open the Type palette, choose Type in the Text menu. The Type palette contains six tabs: Character, Hyphens, Indents, Paragraph, Spacing, and Styles.

and Styles.

A Click a tab to bring it to the front. The paragraph symbol (¶) on some tabs indicates that these are paragraph-level options.

B Configure the settings you want and click Apply to implement them.



Text inks and strokes

In Canvas, there are six attributes you can apply to text: fill inks, pen inks, strokes, frame inks, background inks, and frame strokes.

To apply these attributes, you can use the Fill inks icon, the Pen inks icon and the Strokes icon in the toolbox. Or, you can use the Text Ruler, which includes palettes that let you apply fill inks, frame inks, background inks and frame strokes. These palettes appear in both modes of the Text Ruler.

Note: If your monitor resolution is 640x480, you can see the palettes on the Text Ruler only in Styles mode.

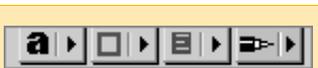
Applying inks and strokes

You can apply the following attributes to one or more text objects, and to text selections.

Fill ink An ink applied to the inside, as opposed to the outline, of the characters in a text object or a text selection. To apply a fill ink, you can use the Fill ink palette on the Text Ruler, or the Fill ink icon in the toolbox.

Pen ink An ink applied to the stroke of text characters. To apply a pen ink, you use the Pen ink icon in the toolbox.

Stroke The outline of text characters. To apply a stroke, you use the Strokes icon in the toolbox.



Inks and Strokes palettes on the Text Ruler

- A** Fill ink
- B** Frame Ink
- C** Background ink
- D** Frame stroke

Text frame ink An ink applied to the stroke on the bounding box of a text object, or a box around a text selection. To apply a frame ink, you can use the Frame ink palette on the Text Ruler, or the Pen ink icon in the toolbox.

Text background ink An ink applied to the background of a text object or a text selection. To apply a background ink, you can use the Background ink palette on the Text Ruler, or the Fill ink icon in the toolbox.

Text frame stroke A stroke applied to the bounding box of a text object, or a box around a text selection. The text frame ink appears on the text frame stroke. To apply a frame stroke, you can use the Frame stroke palette on the Text Ruler, or the Strokes icon in the toolbox.

Current attributes

By using the icons in the toolbox, you can set the pen ink, fill ink and stroke current attributes for text. You can't, however, set frame inks, background inks, and frame strokes to be "current" attributes; in other words, you can't set a frame ink, background ink, or frame stroke that will be applied when you create new text objects.

In addition, when you convert text to paths, Canvas keeps the pen ink, fill ink and stroke, but any background inks, frame inks, or frame strokes are removed.



Fill ink

To apply a fill ink

- 1 Select a text object, text characters, or place the insertion point in existing text.
- 2 Select an ink from the Fill ink palette on the Text Ruler. Or, select an ink from the Fill ink icon in the toolbox. Canvas applies the selected ink.

To apply a pen ink

- 1 Select a text object, text characters, or place the insertion point in existing text.
- 2 Select a pen ink from the Pen ink icon in the toolbox. Canvas applies the selected ink.



Frame ink and stroke



Background ink

To apply a stroke

- 1 Select a text object or text characters.
- 2 Select a stroke from the Strokes icon in the toolbox. Canvas applies the selected stroke.

To apply a frame ink

- 1 Select a text object or text characters.
- 2 Select an ink from the Frame ink palette on the Text Ruler. Or, press Ctrl (Windows), or Option (Mac), and then select an ink from the Pen Ink icon in the toolbox. Canvas applies the selected ink.

If a text selection spans more than one line of text, the ink appears on boxes around the selected characters on each line of text.

To apply a background ink

- 1 Select a text object or text characters.
- 2 Select an ink from the Background ink palette on the Text Ruler. Or, press Ctrl (Windows), or Option (Mac), and then select an ink from the Fill Ink icon in the toolbox. Canvas applies the selected ink.

If a text selection spans more than one line of text, the background ink appears separately on each line of text.

To apply a frame stroke

- 1 Select a text object or text characters.
- 2 Select a stroke from the Frame stroke palette on the Text Ruler. Or, press Ctrl (Windows), or Option (Mac), and select a stroke from the Strokes icon in the toolbox. Canvas applies the selected stroke.

If a text selection spans more than one line of text, the stroke outlines the selection separately on each line of text.

Applying character formatting

Canvas gives you precise control over the appearance of each character. You can set the font, type size, font style, kerning, capitalization style, scale, and baseline position using menu commands or the Character tab in the Type palette.

Character attributes are applied by selecting the specific characters that you want to modify. You can select any portion of text — from

one character to entire text objects. For selection techniques, see “Selecting text and objects” on page 427.

Setting attributes in the Character tab

The Character tab lets you control all character attributes. Some attributes, such as type face, type size, font style, baseline, and kerning, are also available in the Text menu.

Name. Choose a typeface in the pop-up menu.

Size. Choose a type size in the pop-up menu, or type a number in the text box.

Style. Click a button to select a font style.

Case. Choose a capitalization style in the pop-up menu.

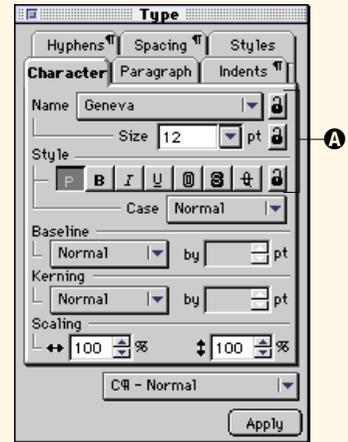
Baseline. Specify subscript or

superscript settings to one hundredth of a point precision.

Kerning. Tighten and loosen kerning by hundredths of a point.

Scaling. Specify percentages by which you want to scale the current type size. You can set individual horizontal and vertical scaling percentages.

A Locks. To prevent accidental or unwanted changes to the type face, type size, or font style of specific text, you can set these locks. If you want to change locked text, you must first unlock the text.



Specifying fonts

You can use the Font submenu in the Text menu or the Character tab in the Type palette to choose any of the fonts installed on your system. For more information, see the sidebar on font usage, next.

To choose a font using menu commands

- 1 Depending on how you want the font to apply, do one of the following:
 - To change existing text, select the text or text objects.
 - To set the font before typing, place the insertion point where you want the font to change.
 - To apply the font to the preset format, deselect all objects.
- 2 Choose Text > Font to open the Font submenu. A check appears next to the current font.

- 3 Choose a font in the submenu. The font setting changes.

To choose a font using the Type palette

- 1 Depending on how you want to apply the font, do either:
 - To format existing text, select the text or text objects.
 - To set the font before typing, place the insertion point where you want the font to change.
 - To apply the font to the preset format, deselect all objects.
- 2 If necessary, open the Type palette by choosing Text > Type, and click the Character tab to bring it to the front. Choose a font in the Name pop-up menu and click Apply.

Tips for font installation and use

On Mac OS systems, Canvas uses fonts installed in the Fonts folder of the System Folder. Fonts should be installed by dragging the font files to the closed System Folder icon. The system puts the fonts in the correct folder.

On Windows systems, Canvas uses fonts installed in the Fonts folder of the Windows folder. You can also access the Fonts folder by the Fonts shortcut icon in the Control Panel. Use the Install New Font command in the File menu to add fonts to your system. You can also drag and drop font files or font file shortcuts to the Fonts folder. To specify that you want to see only TrueType fonts in your programs, you can use the Options command in the Views menu.

Canvas can only use fonts that are properly installed in the above locations. If fonts that you use in another application are not available in Canvas, that application probably stores its fonts in a different location and has its own font management capabilities.

Guidelines for choosing fonts

There are three types of fonts widely available: bit-mapped (or screen), PostScript, and TrueType. You cannot distinguish the three types in

the Canvas menus. However, you should be aware of the different types of fonts you have, because each font is best suited for particular purposes.

Bit-mapped fonts are used by your computer to display text onscreen. A bit-mapped font is optimized for a particular point size, and appears jagged at other sizes. These fonts are not scalable for printing.

PostScript Type 1 fonts are the standard for imagesetting. PostScript produces high-quality printed text. For onscreen display, however, PostScript needs screen fonts. If the screen font for a particular point size is not installed, the text appears jagged onscreen. To compensate for this, you can use Adobe Type Manager (ATM) software. If a screen font is unavailable, ATM uses the PostScript printer font for both screen display and printing. In addition, ATM lets you print PostScript fonts to non-PostScript printers.

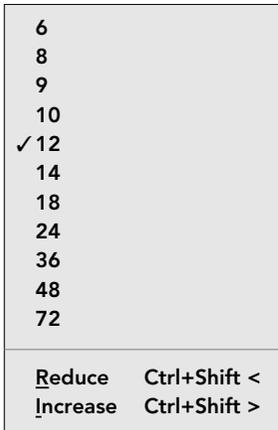
TrueType fonts are suitable for most desktop publishing purposes when you are printing in-house. TrueType fonts produce good quality printed text, and their onscreen appearance closely resembles the printed output, even when the screen font is unavailable.

Specifying type size

You set the type size in either the Size submenu of the Text menu or the Character tab of the Type palette. You can choose from standard type sizes using either method. Using the Size submenu, you can also reduce or increase the size in 1-point increments. Using the Character tab, you can enter any type size with precision to one-hundredth of a point.

To set type size using menu commands

- 1 Depending on how you want the type size to apply, do one of the following:
 - To change existing text, select the text or text objects.
 - To set the type size before typing, place the insertion point where you want the size to change.
 - To set the type size of the preset format, deselect all objects.
- 2 Choose Text > Size to open the Size submenu. A checkmark appears next to the current type size.
- 3 Choose one of the sizes in the submenu, or choose the Reduce or Increase commands to change the type size in 1-point increments. The size setting applies immediately.



Size submenu

To set the type size using the Type palette

- 1 Depending on how you want the type size to apply, do one of the following:
 - To change existing text, select the text or text objects.
 - To set the type size before typing, place the insertion point where you want the size to change.
 - To set the type size of the preset format, deselect all objects.
- 2 If necessary, open the Type palette by choosing Text > Type, and click the Character tab to bring it to the front.
- 3 Choose one of the sizes in the Size pop-up menu, or enter a number in the box to specify a type size.
- 4 Click Apply to implement the type size setting.

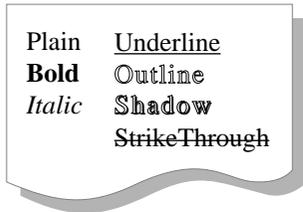
Applying font styles

Font styles are different character types, such as bold, italic, or superscript, as well as capitalization modes. You can apply font styles in

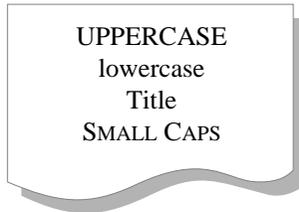
the Style submenu in the Text menu or the Character tab in the Type palette.

Font styles can be categorized into three groups: appearance, capitalization, and baseline position. To the same text, you can apply multiple appearance styles, but only one each of capitalization and baseline styles.

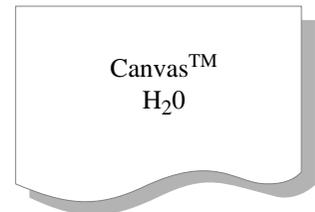
Types of font styles



Appearance styles



Capitalization styles



Baseline shift:
"TM" superscripted
"2" subscripted

Appearance styles

Appearance styles include plain, bold, italic, underline, outline, shadow, small caps, and strikethrough. With the exception of the Plain option, you can use as many of these appearances as you like on the same text. Applying the Plain setting removes other font styles that have been applied to revert text to its standard appearance. Depending on the typeface, using certain styles might not have the desired effect, and can even make text appear ugly when printed. For example, applying bold to a heavy weight typeface can make characters look too thick. Similarly, applying italic to an already italicized font might exaggerate the slant of the characters.

Capitalization styles

Capitalization styles format text as uppercase, lowercase, or title (first letter of each word capitalized) styles. You can apply one of these capitalization styles to the same text: Normal, Upper, Lower, and Title.

Baseline position

The baseline of text is the imaginary horizontal line on which characters sit. To position characters above (superscript) or below (subscript) the normal baseline, you can shift the baseline position.

Canvas does not change the type size of superscript and subscript text. Unless you reduce the type size of shifted text, the line size increases by the amount of the baseline shift. As a result, the line spacing might change, depending on the leading setting. If you don't want the line spacing to change, you can reduce the type size of shifted text by the same amount (or more) of the baseline shift, or you can specify leading in points (see "Setting line and paragraph spacing," page 448).

If you use the Style submenu to change baseline position, you can choose either Superscript or Subscript to shift text the baseline by roughly 27 to 33 percent of point size of the line. For example, superscript text in a line of 12-point text appears 4.0 points above the normal baseline.

If you use the Character tab of the Type palette to change the baseline position, you can specify the exact distance (in points) of the text above or below the normal baseline.

To apply font styles using menu commands

1 Depending on how you want the font style to apply, do one of the following:

- To change existing text, select the text or text objects.
- To set the font style before typing, place the insertion point where you want the style to change.
- To apply the font style to the preset format, deselect all objects.

2 Choose Text > Style to open the Style submenu. Canvas places checkmarks next to the active styles in the submenu.

3 Choose the font style you want to apply. Choosing an active style turns off the style. Canvas implements the setting immediately.

To apply font styles using the Type palette

1 Depending on how you want the font style to apply, do one of the following:

- To change existing text, select the text or text objects.
- To set the font style before typing, place the insertion point where you want the style to change.
- To apply the font style to the preset format, deselect all objects.

- 2 If necessary, open the Type palette by choosing Text > Type, and click the Character tab to bring it to the front.
- 3 To change appearance styles, click the Style buttons. Clicking the Plain button turns off all active appearance styles. Clicking an active appearance style button turns the style off.
- 4 To change the capitalization style, choose Upper, Lower, Normal, Title or Small Caps in the Case pop-up menu.
- 5 To change the baseline elevation, choose Normal, Superscript, or Subscript in the Baseline pop-up menu. If you are applying superscript or subscript, specify the distance from the baseline (in points) in the text box. Normal baseline always has an elevation of zero points.
- 6 Click Apply to implement the font style settings.

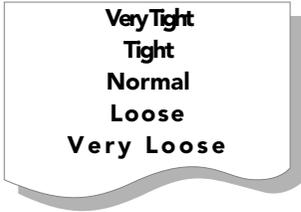
Specifying spacing between characters

The space between characters is defined by font designers. In Canvas, the Kerning option lets you adjust the amount of space to the right of each character, so you can bring characters closer together (tighten) or spread them farther apart (loosen).



Some combinations of letters might have too much or too little space between them when typed. For example, the first line of Roman numerals is unevenly spaced. Using kerning controls, we adjusted the spacing to make the second line appear more even.

Canvas can also adjust letter and word spacing for paragraphs following minimum, maximum, and desired guidelines that you set. See “Adjusting letter and word spacing” on page 458.



These five lines of text demonstrate the kerning options in the Kerning submenu in the Text menu.

The Kerning submenu lets you choose a standard kerning amount: Very Tight, Tight, Normal, Loose, or Very Loose. You can interactively kern characters in half-point increments using the Tighten and Loosen commands. You can also set a fine kerning amount using the Configure Fine Kern command, then use the Tighten Fine and Loosen Fine commands to kern characters by the specified amount.

On the Character tab of the Type palette, you can use the Kerning option to tighten or loosen kerning by an amount you specify.

To change character spacing using menu commands

- 1 Based on what you want to change, do one of the following:
 - To change existing text, select the text or text objects.
 - To set the kerning before typing, place the insertion point where you want the kerning to change.
 - To change the preset format, deselect all objects.
- 2 Choose Text > Kerning to open the Kerning submenu and choose one of the following options:

Option	Result
Tight	8% less space than normal between characters
Very Tight	14% less space than normal between characters
Normal	Standard spacing as defined by the font's designers
Loose	8% more space than normal between characters
Very Loose	14% more space than normal between characters
Tighten	Reduce kerning by 0.5 points. You cannot tighten kerning to less than the width of one character
Loosen	Increase kerning by 0.5 points
Tighten Fine	Reduce kerning by amount specified in the Kerning Specifications dialog box
Loosen Fine	Increase kerning by amount specified in the Kerning Specifications dialog box



◆ **To set the fine kerning amount:** Choose Text > Kerning > Configure Fine Kern. In the Kerning Specifications dialog box, specify the amount of kerning (in points) you want the Tighten Fine and Loosen Fine commands to apply.

To kern characters using the Type palette

1 Depending on how you want kerning to apply, do one of the following:

- To change existing text, select the text or text objects.
- To set the kerning before typing, place the insertion point where you want the kerning to change.
- To apply the kerning setting to the preset format, deselect all objects.

2 If necessary, open the Type palette by choosing Text > Type, and click the Character tab to bring it to the front.

3 To set the kerning, choose Normal, Tighten, or Loosen in the Kerning pop-up menu and specify the kerning amount (in points) in the text box. Normal always has a setting of zero.

4 Click Apply to implement the kerning setting.

Preventing changes to character attributes

Using the Character tab in the Type palette, you can lock the current font, type size, and font style to prevent accidental changes. This feature is especially useful when several people are using the same Canvas document. In addition, you can also use this feature to selectively exempt sections of text from global formatting changes. Once you lock a setting, no one can change it without first unlocking it.

To lock character attributes

1 Depending on how you want locks to apply, do one of the following:

- To change the lock setting of existing text, select the text or text objects.
- To change the lock setting before typing, place the insertion point where you want the locking to change.
- To apply a lock setting to the preset format, deselect all objects.

2 If necessary, open the Type palette by choosing Text > Type, and click the Character tab to bring it to the front.

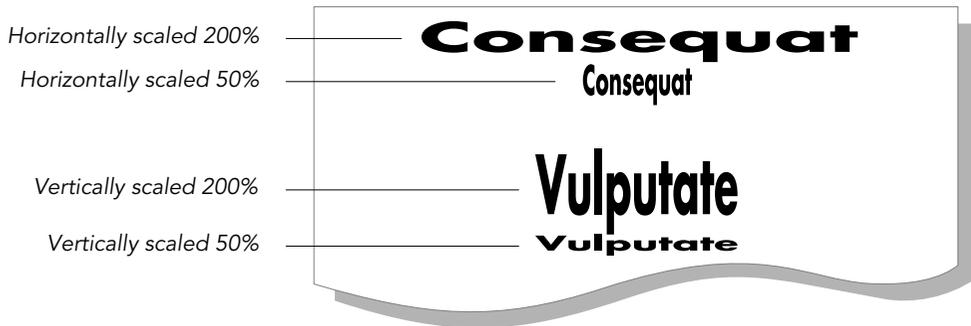
Lock button



3 To lock an attribute, click the Lock button to the right of it. You can also change font attributes in this step. When you click Apply, Canvas first applies the new font attributes, *then* locks the new attributes.

Horizontal and vertical text scaling

Canvas provides independent control of horizontal and vertical scaling of text. Using this feature, you can stretch characters to create extended and condensed letterforms.



To scale an entire text object, you can also select the text object, press Command (Mac) or Alt (Windows), and drag a selection handle. Depending on the direction of the drag, Canvas scales text horizontally or vertically.

To scale characters using the Type palette

1 Depending on how you want scaling to apply, do one of the following:

- To change existing text, select the text or text objects.
- To set the scale of text before you type it, place the insertion point where you want the scale to change.
- To apply scaling to the preset format, deselect all objects.

2 If necessary, open the Type palette by choosing Text > Type, and click the Character tab to bring it to the front.

3 To specify the vertical and horizontal scale of characters, enter percentages in the Scale boxes. If you enter the same percentage in

both boxes, Canvas scales the text proportionately. Canvas will apply these percentages to the point size displayed in the Size box.

Canvas does not limit the percentage you can scale characters, however, extremely high and low settings can distort some fonts and make them unreadable. In addition, scaling requires significant amounts of memory for text display, which might cause performance problems for some systems.

4 Click Apply to implement the scaling settings.

Applying paragraph formatting

In Canvas, you can control paragraph attributes, such as justification and leading. Paragraph attributes affect entire paragraphs, even if you select a single character, or place the insertion point anywhere in the paragraph. If you select text in multiple paragraphs, all the paragraphs will be affected.

Paragraph-level formatting includes the following:

- leading and paragraph spacing
- indents
- tabs
- alignment (justification)
- automatic letter and word spacing
- hyphenation
- widow and orphan controls

Setting line and paragraph spacing

Using the Text menu, Text Ruler, or Type palette, you can adjust the spacing, or leading, between lines of text. You can also insert extra space before and after paragraphs using the Type palette.

Canvas provides two methods of specifying leading: ratio (or percentage) and point size.

- Ratio and percentage leading are based on the normal leading of the largest type size in the preceding line. The normal leading is usually designed to be slightly larger than the point size of the type. For example, a single line of 12-point text usually occupies about 15 points of vertical space when you specify 100 percent or Single Space leading. Therefore,

double spaced, or 200 percent, leading for 12-point text increases the line spacing to about 30 points.

- Leading specified in points is independent of the type size and normal leading of the typeface. The space from baseline to baseline is exactly the number of points specified, regardless of the size of the type. Using point size leading lets you maintain consistent line spacing, and fit text to specific space requirements. For example, you have 10 lines of text, and exactly 120 points of vertical space to place the text. To make the text fit, set the leading to 12 points.

The Leading submenu of the Text menu lets you set Single, 1¹/₂, or Double Space leading. You can also choose the Tighten or Loosen commands to fine-tune the current leading in 0.5-point increments. You can tighten and loosen the leading repeatedly, but the line spacing cannot be less than zero. The Text Ruler provides the same options as the Leading submenu.

The Paragraph tab of the Type palette lets you adjust the leading by a percentage or point size that you specify.

You can also add space between paragraphs by specifying additional spacing in points on the Paragraph tab of the Type palette.



A page of text with "after paragraph" spacing



A page of text that does not have paragraph spacing, but uses both "before" and "after paragraph" spacing for block quotes

To set leading using menu commands

1 Depending on how you want the leading to apply, do one of the following:

- To change existing text, select the paragraphs or text objects. To set leading for only one paragraph, place the insertion point anywhere in the paragraph.
- To set the leading before typing a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply the leading setting to the preset format, deselect all objects.

2 Choose **Text > Leading** to open the Leading submenu. Canvas places a checkmark next to the current leading setting.

3 Choose a standard leading in the submenu, or choose **Tighten** or **Loosen**. Canvas applies the setting immediately.

To set leading using the Type palette

1 Depending on how you want the leading to apply, do one of the following:

- To change existing text, select the paragraphs or entire text objects. To set leading for only one paragraph, place the insertion point anywhere in the paragraph.
- To set the leading before typing a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply the leading settings to the preset format, deselect all objects.

2 Configure the leading settings as described next.

Setting leading in the Type palette

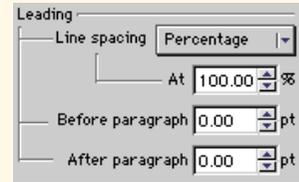
Open the Type palette by choosing Text > Type, if necessary. Click the Paragraph tab to bring it to the front. After configuring the settings, click Apply to implement them.

Percentage leading. To set the leading using a percentage of the line size, choose Percentage in the Line Spacing pop-up menu and enter an amount in the At box. A leading of 100% is the same as the Normal setting in the Leading submenu of the Text menu. Double space is 200%, and 1.5 space is 150%.

Point size leading. To specify leading in points, choose

Points in the Line Spacing pop-up menu and enter an amount in the At box. Although each font's standard leading might be different, normal leading is generally between 110% and 125% of the largest type size on the line. Therefore, for 10-point type, normal leading is approximately 12 points.

Before paragraph. To insert space before the first line of a paragraph, specify the number of points in the Before Paragraph box. Before paragraph spacing does not apply to the first paragraph in a column.



After paragraph. To insert space after the last line of a paragraph, specify the number of points in the After Paragraph box. Canvas inserts space after every paragraph, including the last paragraph in a column.

Note: You can force a line break without creating a new paragraph by pressing Shift-Return. See "To control line breaks" on page 394.

Setting indents

You can set the amount of space between the left and right borders of a text object and the edges of each paragraph using the Indents tab of the Type palette or the Text Ruler. For text wrapped around an object, you can also use the Indents tab to set the distance between the edge of the object and the text.



Left 1 in.



Left 1 in., Right 1 in.



First line 1.5 in., Left 1 in.



First line 1 in., Left 1.5 in.

Note: The Text Ruler shows indent positions for one selected object at a time. Therefore, you cannot use the Text Ruler to set indents for the preset format or for multiple selected objects.

To set indents using the Type palette

1 Depending on how you want the indent settings to apply, do one of the following:

- To change existing text, select the paragraphs or text objects. To set indents for only one paragraph, place the insertion point anywhere in the paragraph.
- To set the indents before typing a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply the indent settings to the preset format, deselect all objects.

2 Configure the indent settings as described below.

Settings on the Indents tab

If necessary, open the Type palette by choosing Text > Type. Click the Indents tab to bring it to the front.

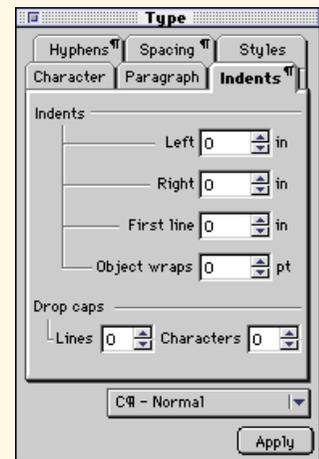
Left. To specify the distance between the left border of a text object and the left indent of a paragraph, enter the distance in the Left box.

Right. To specify the distance between the right border of a text object and the right indent of a paragraph, enter the distance in the Right box.

First Line. To specify a different indent for the first line of a paragraph, enter the distance in the First Line box. Canvas measures the first line indent from the left border of the bounding box.

Object Wraps. To specify the distance between an object and the edge of text wrapped around or inside that object, enter the number of points in the Object Wraps box.

Click Apply to implement the indent settings.



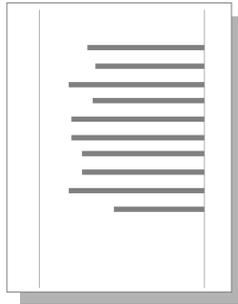
Paragraph alignment

Canvas aligns text to the indents of a text object. Canvas has four alignment, or justification, settings: flush right, flush left, full (flush with both right and left indents), or centered. You can set alignment

in either the Justification submenu of the Text menu, the Text Ruler, or the Paragraph tab of the Type palette.



Left-justified



Right-justified



Full-justified



Center-justified

Note: Full justification may create wide letter or word spacing, especially in narrow text columns. Other justification settings (without hyphenation) might appear too ragged on one or both sides. You can set letter- and word-spacing parameters to improve the appearance of text. For more information, see “Adjusting letter and word spacing” on page 458

To set justification using menu commands

- 1 Depending on how you want the justification settings to apply, do one of the following:
 - To change existing text, select the paragraphs or text objects. To set justification for only one paragraph, place the insertion point anywhere in the paragraph.
 - To set the justification before typing a new paragraph, place the insertion point at the beginning of the paragraph.
 - To apply justification settings to the preset format, deselect all objects.
- 2 Choose Text > Justification to open the Justification submenu. Canvas places a checkmark next to the current justification setting.
- 3 Choose an alignment option in the submenu. Canvas applies the justification setting immediately.

To set justification using the Text Ruler

1 Depending on how you want the justification settings to apply, do one of the following:

- To change existing text, select the paragraphs or text objects. To set justification for only one paragraph, place the insertion point anywhere in the paragraph.
- To set the justification before typing a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply the justification settings to the preset format, deselect all objects.

2 If necessary, open the Text Ruler by choosing Layout > Display > Show Text Ruler.

3 Click a justification button. Canvas applies the justification setting immediately.



Justification buttons on the Text Ruler

To set justification using the Type palette

1 Depending on how you want the justification settings to apply, do one of the following:

- To change existing text, select the paragraphs or text objects. To set justification for only one paragraph, place the insertion point anywhere in the paragraph.
- To set the justification before a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply justification settings to the preset format, deselect all objects.

2 If necessary, open the Type palette by choosing Text > Type, and click the Paragraph tab to bring it to the front.

3 Click a Justification button.

4 Click apply to implement the justification setting.

Using vertical justification

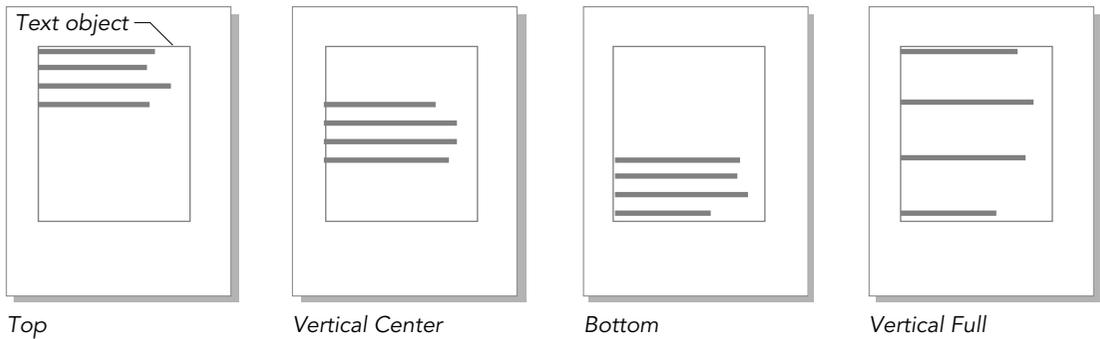
Canvas can align text relative to the top and bottom borders of text objects. Canvas has four vertical justification, or alignment, settings: Top, Bottom, Vertical Full, and Vertical Center.

Vertical justification applies to an entire text object. To change the setting, select one or more text objects. Choose Text > Justification

and choose a vertical justification setting in the submenu. A checkmark appears next to the selected setting.

Note: There must be space in the text object to use vertical justification, not including space created by empty paragraphs. The text objects must therefore be created with the Text Object tool, not the Text tool.

Top vertical justification is the default setting for new text objects. Copying or duplicating text objects preserves their vertical justification settings. However, if you copy a text selection and paste it into another object, the text follows the vertical justification of the text object in which you paste it.



Vertical justification settings

You can choose vertical justification settings in the Justification submenu.

Top Sets all lines of type starting from the top of a text object. This is the traditional vertical alignment for text objects. For example, if a text object contains three lines of type, they appear at the top of the text object. Spacing between lines is controlled by the Line Spacing, Before Paragraph, and After Paragraph settings of the text.

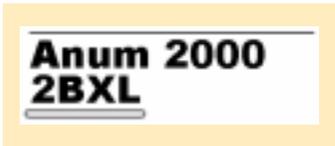
Vertical Center Sets all lines of type so they are spaced evenly above and below the vertical center of a text object. If a text object contains three lines of type, for example, the lines appear at the center of the text object. Spacing between lines is controlled by the Line Spacing, Before Paragraph, and After Paragraph settings of the text.

Bottom Sets all lines of type at the bottom of the text object. If a text object contains three lines of type, for example, the lines appear at the bottom of the text object. Spacing between lines is controlled

by the Line Spacing, Before Paragraph, and After Paragraph settings of the text.

Vertical Full Sets all lines of type so they are evenly spaced between the top and bottom borders of the text object. If a text object contains three lines of type, for example, one line appears at the top, one appears at the center, and one appears at the bottom of the text object. Because it distributes type from the top to the bottom of a text object, Vertical Full justification can cause very wide spacing between lines if a large text object contains a little text. You can drag a handle at the top or bottom of a text object to adjust its height and alter the spacing between lines of text.

Paragraph rules

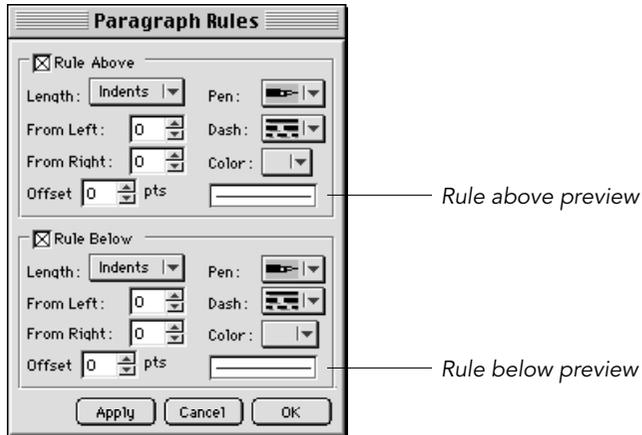


Rules can go above and below paragraphs. Rules can be solid, dashed, or neon strokes.

Paragraph rules are horizontal lines that Canvas draws above a paragraph, below a paragraph, or both. You can select pen type, dash, color, length, and offset for paragraph rules.

To apply paragraph rules

- 1 Place the insertion point or make a selection in the paragraph. You can highlight multiple paragraphs to select them. The Paragraph Rules command is not available unless a text object is in edit mode.
- 2 Choose Text > Rules. In the Paragraph Rules dialog box, select Rule Above or Rule Below. You can select either or both options. The options for Rule Above and Rule Below can be set independently.
- 3 Select rule options, then click Apply to preview the rules. Click OK to apply the rules and close the dialog box.



Paragraph Rules options

When you configure a paragraph rule, a preview of the rule appears in the box in the Rule Above or Rule Below section of the Paragraph Rules dialog box.

Rule Above and Rule Below Draws rules above or below selected paragraphs. Both can be selected. The size, placement, and attributes of rules are based on the settings in the dialog box. If a paragraph has rules and you clear the checkboxes, Canvas removes the rules.

Length Use the pop-up menu to choose an option for the length of paragraph rules.

- **Indents** sets the rule length based on the values in the From Left and From Right boxes. These values set the distances from the ends of the rules to the right and left borders of the text object (independent of paragraph indents).
- **Text** makes the rule length equal to the first line (for rules above) or last line (for rules below) of a paragraph. The From Left and From Right options are not available when the Text option is selected.

Offset Enter a value in points to space the rule away from the adjacent line of text. The position for rules above is measured from the descenders of the last line of the previous paragraph. For rules below, the position is measured from the descenders of the last line of the current paragraph. You can enter a minimum value of -10 points to

move the rule closer to the text. You can enter a maximum value of 72 points to move the rule away from the text.

Pen Select a stroke for the rule from the Pen pop-up palette. You can select a solid pen, neon, or parallel stroke.

Dash To apply a dash to the rule, select a dash style from the Dash pop-up palette.

Color Select a color for the rule from the Color pop-up palette.

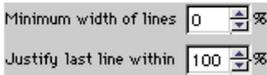
Adjusting letter and word spacing

Depending on the type of justification you choose, you might want to adjust letter and word spacing to reduce raggedness or eliminate unusual spacing. For example, left-justified paragraphs might appear too ragged on the right edge, and full-justified paragraphs might have large spaces between characters and words.

You can specify a minimum line width for a paragraph to reduce raggedness. In addition, Canvas has letter- and word-spacing parameters to let you specify minimum, maximum, and desired spacing guidelines.

To adjust letter- and word-spacing

- 1 Depending on how you want the letter- and word-spacing settings to apply, do one of the following:
 - To change existing text, select the paragraphs or text objects. To set spacing for only one paragraph, place the insertion point anywhere in the paragraph.
 - To set the spacing before typing a new paragraph, place the insertion point at the beginning of the paragraph.
 - To apply the spacing settings to the preset format, deselect all objects.
- 2 If necessary, open the Type palette by choosing Text > Type.
- 3 To set line-width options, click the Paragraph tab to bring it to the front, if necessary.

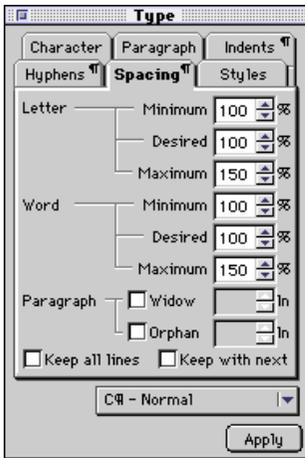


Spacing settings on the Paragraph tab

4 Depending on the type of justification applied to the text, use the following options on the Paragraph tab:

- For right-, left-, and center-justified text: To set the “Minimum Width of Lines,” enter a percentage in the text box. The percentage tells Canvas to adjust letter and word spacing so that each line is at least as wide as you specify. For example, if you create a two-inch wide, left-justified paragraph and set the minimum line width to 75%, Canvas adjusts the spacing so that each line is at least 1.5 inches wide. Only the last line in a paragraph is unaffected by the “Minimum Width of Lines” setting.
- For full-justified text: To tell Canvas when the last line of a paragraph is wide enough to be justified (flush with both right and left margins), enter a percentage in the “Justify Last Line Within” box. For example, you create a two-inch wide, full-justified paragraph and tell Canvas to justify the last line within 75%. If the last line is less than 1.5 inches wide, Canvas does not justify the line. However, if the last line is wider than 1.5 inches, Canvas justifies the line.

5 To set letter and word spacing parameters, click the Spacing tab to bring it to the front, if necessary. Set the minimum, desired, and maximum spacing in the Letter and Word areas. Specify each setting as a percentage of the current spacing. The desired spacing must be greater than the minimum and less than the maximum. The maximum spacing cannot be less than the minimum.



Canvas will try to adjust spacing to the desired percentage, but might not be able to depending on minimum line width and justification settings. In these cases, Canvas will then try to adjust the spacing within the minimum and maximum percentages you specify. However, if the minimum and maximum spacing parameters are still in conflict with minimum line width or full justification settings, Canvas will ignore the spacing parameters.

To change the spacing of a paragraph by a set amount, you can set the minimum, desired, and maximum percentages to the same value. This has a similar effect to kerning the entire paragraph.

Note: If you applied kerning to characters within the selection, Canvas adjusts the spacing as a percentage of the kerning.

6 Click Apply to implement the settings.

Automatic hyphenation

Canvas can insert a hyphen in the last word of a line to give text objects a more balanced, even appearance. You can also control the hyphenation properties so that Canvas only hyphenates under specific circumstances.

Note: Hyphenation settings apply to entire paragraphs. To hyphenate a specific word, you can manually insert a hyphen.

To set hyphenation for paragraphs

1 Depending on how you want the hyphenation settings to apply, do one of the following:

- To change existing text, select the paragraphs or text objects. To set hyphenation for only one paragraph, place the insertion point anywhere in the paragraph.
- To allow Canvas to insert hyphens as you type a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply hyphenation settings to the preset format, deselect all objects.

2 Configure the hyphenation settings as described below.

Hyphenation settings

If necessary, open the Type palette by choosing Text > Type. Click the Hyphens tab to bring it to the front. Turn hyphenation on and configure the following settings.

After word beginning. Specify the minimum number of letters that must precede a hyphen.

Before word ending. Specify the minimum number of letters that must follow a hyphen.

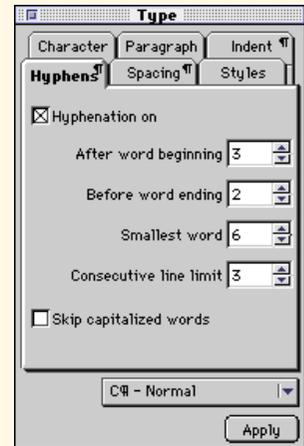
Smallest word. Specify the minimum number of letters

that a word must have to be hyphenated.

Consecutive line limit. Specify the number of consecutive lines that can end in hyphens. For example, if four consecutive lines could end in hyphens but the limit is three, Canvas does not hyphenate the last word of the fourth line.

Skip capitalized words. Turn this option on to prevent proper names and other words beginning with a capital letter from being hyphenated.

Click Apply to implement the hyphenation settings.



Specifying text flow options

You can set text flow options to avoid leaving just a few lines at the top or bottom of a column of flowed text. The term *widow* describes the first line of a paragraph that appears at the bottom of a column, and *orphan* refers to the last line of a paragraph that appears at the top of a column. Canvas can prevent widows and orphans in a text flow by moving the page or column break higher and sending lines to the next page or column. In addition, you can specify that all lines in a paragraph stay together, or that certain pairs of paragraphs always remain together in the same column.

To modify a column break in a particular paragraph, keep all lines in a paragraph together, or keep two paragraphs together, you should change the text flow settings for the specific paragraph only. In most cases, you won't want these settings to apply to every column break.

To prevent widows and orphans

1 Depending on how you want the text flow settings to apply, do one of the following:

- To change existing text, select the text. To change one paragraph, place the insertion point anywhere in the paragraph.
- To change the preset format, deselect all objects.

2 If necessary, open the Type palette and click the Spacing tab. Configure the widows and orphans settings (described next).

Widow and orphan settings

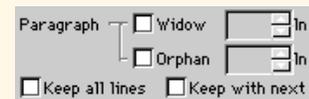
Use the Paragraph area of the Spacing tab to configure widows and orphans protection properties. If an "X" appears in a checkbox, that feature is active.

Widow. Turn on to activate widow protection. You can specify the minimum number of lines that can appear in the last paragraph of a column.

Orphan. Turn on to activate orphan protection.

You can specify the minimum number of lines that can appear at the top of a column in a linked flow.

Keep all lines. To prevent Canvas from inserting a column break in a paragraph, turn on this option. This prevents widows and orphans, but might leave a lot of blank space at the bottom of a column.



Keep with next. To prevent two paragraphs from being separated by a column break, turn on this option. This option is useful for keeping a one-line paragraph, such as a heading, together with its section.

Click Apply to implement the text flow settings.

Note: Although you can specify widow and orphan settings for individual paragraphs, you should apply these settings to entire objects. This way, as you edit and move paragraphs, the location of the column break can change without causing widows and orphans.

Setting drop caps



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Drop caps are large characters that extend below the normal baseline of the first line of an opening paragraph. Canvas indents the text below the first line to make room for the drop caps. You can format drop caps for any selected paragraphs.

To set up a drop cap

1 Depending on how you want the drop cap to apply, do one of the following:

To apply to	Do this
First paragraph in a text object	Select the object or place the insertion point anywhere in the first paragraph
All other paragraphs	Place the insertion point in a paragraph, or select a paragraph. You can also select multiple consecutive paragraphs
A new paragraph you are about to type	Place the insertion point at the beginning of the paragraph
The preset format	Deselect all objects. Canvas will apply drop caps to the first paragraph of all new text objects you create with the Text tool

2 Configure the drop cap options described below.

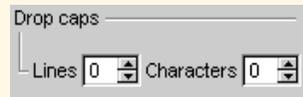
Drop cap settings

If necessary, open the Type palette by choosing Text > Type. Click the Indents tab to bring it to the front.

Lines. Specify the number of lines you want the drop caps to

occupy. This determines the vertical height of the drop cap.

Characters. Specify the number of characters to enlarge for drop caps. Canvas always applies this setting beginning with the first character in a paragraph.



Click Apply to implement the drop cap settings.

USING TYPE STYLES

You can save type formatting settings as named character and paragraph type styles using the Styles tab in the Type palette. Canvas stores type styles with documents. When you open a document, Canvas loads the associated styles so you can apply them.

Type styles make it easy to apply formats and maintain consistency throughout a document. You can base styles on each other to form a “family” of styles, so that styles inherit the character and paragraph attributes of a parent style. Organizing styles in this manner makes global style changes a simple matter of changing the parent style.

When you change a style, text using the style also changes. In the case of style families, when a parent style changes, Canvas updates the entire style family and all text using styles in the family.

Creating new type styles

You can create two kinds of styles, character and paragraph, which incorporate different formatting attributes. After establishing character and paragraph styles, you can apply them independently to create new combinations.

Character style attributes

Font

Type size

Font style

Capitalization style

Baseline position

Kerning

Colors (optional)

Paragraph style attributes

Leading

Indents

Justification

Drop caps

Hyphens

Letter and word spacing

Text flow settings

Character attributes and colors (optional)

To create a type style

To save the attributes of existing text as a style, place the insertion point in the text and choose Text > Type to open the Type palette. You can also save current Type palette, Text menu, and Text Ruler settings as a style, without first applying them to text.

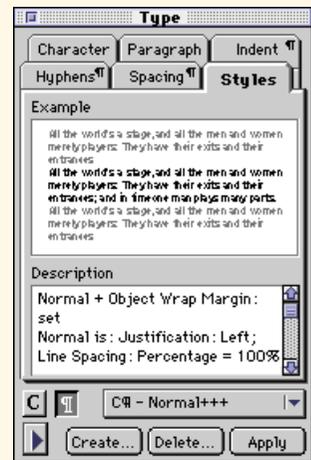
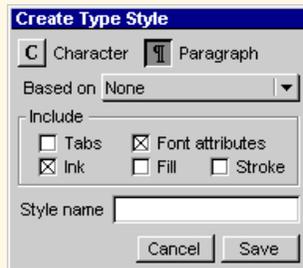
After you choose settings for a type style, click the Styles tab in the Type palette to bring it to the front.

Example. Displays a sample of text with the current formatting settings applied.

Description. Lists the current character or paragraph attributes. The **C** and ¶ buttons toggle between descriptions of character and paragraph attributes.

To save a type style, click Create to open the Create Type Style dialog box. Configure the following settings.

Character or Paragraph. Click one of these buttons to specify what kind of style you want to create.



Based on. Choose a style name in this pop-up menu to base the style you are creating on an existing style. To disable this feature, choose None. See “Using style families,” page 464, for more information.

Include. Select the attributes you want to save as part of the style. You can include ink settings (fill and stroke attributes that have been applied to existing text) in character and paragraph styles. For paragraph styles, you can also

include font attributes and tab settings.

If a text selection has more than one fill ink, pen ink, or stroke, you can’t include these attributes in a style. In addition, when text doesn’t have a stroke, you can’t include strokes in a style.

Style name. Type a name for the style. Click Save to store the style and close the dialog box.

Using style families

When you base a style on another, the style “inherits” the attributes of the parent style. When the parent style changes, Canvas also updates all related styles. In addition to inherited attributes, the style possesses its own attributes, which you specify. A style’s own attributes always take precedence over attributes inherited from the parent style.

For example, you create a style, Body2, based on a parent style, Body1. The fonts are the same, but the type sizes are different. Body2 uses 10 point type, while Body1 uses 12 point. If you change the font for the parent style, the font also changes for Body2. However, if the *point size* changes for the parent style, Body2 does not change, because Body2's own attributes take precedence. To make Body2 always use the same point size as Body1, you must set the point sizes equal, base Body2 on Body1, and save the style again.

In addition, if you later change Body2's *font*, this style will no longer inherit fonts from the parent style. Body2's font will override Body1's font setting.

Careful planning will save you from time-consuming corrections when basing styles on each other. In some cases, changing a parent style's attributes may cause unwanted changes throughout the style family. For example, if you base ten styles on Body1, and later decide that you want Body1 (but not the whole family of styles) to be double spaced, you must first change the leading for Body1, then *remove* the leading setting from each of the other ten styles.

Saving and loading type styles

You can save type styles to files on disk and then load them into other documents. This feature helps maintain consistency between documents, and lets you share type styles with other Canvas users.

◆ **To save a type style to disk:** Press the triangle at the bottom-left of the Styles tab and choose Save Style in the pop-up menu. In the directory dialog box, type a file name and specify a location to save the file, then click Save.

◆ **To load a type style:** Press the triangle at the bottom-left of the Styles tab and choose Load Style in the pop-up menu. In the directory dialog box, locate and select the style, then click Open.

Copying type styles between documents

You can copy named type styles from one Canvas document to another by copying text that uses the style and pasting it into a different document. Canvas transfers the style with the text. When you save the document, Canvas also stores the transferred style.

A type style based on another style cannot inherit attributes across documents. For example, Body2 is based on a parent style, Body1, and you copy only Body2 to a new document. Body2 in the new doc-

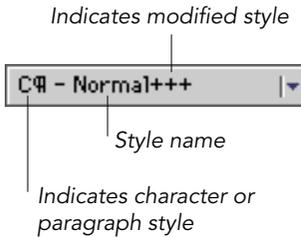
ument no longer inherits attributes from Body1, which is still in the original document.

However, if you copy both Body1 and Body2 to a new document, the relationship is preserved, and Body2 will inherit attributes from its parent style.

Note: When you do this, Canvas changes style names in the new document. For example, a style named “Body 2” will become “Body 2 - 2.”

Applying type styles

Applying type styles is similar to applying individual character or paragraph formats using the Type palette. However, instead of configuring settings on each of the tabs in the palette, you can simply choose style names in the pop-up menu at the bottom-right corner of the Type palette.



The pop-up menu displays the current type style name. The **C** and **¶** indicate if the style is a character or paragraph style, or both. If “+++” appears to the right of a style name, the style has been modified but not saved. If you choose a style in the pop-up menu when “+++” appears next to the current style, you will lose the modifications to the style. Therefore, if you want to use the settings again, you should save the modified style with a new name before applying other styles.

◆ **To apply a style to selected text or text objects:** Select the text or text object(s) to which you want to apply a style. Choose a style in the pop-up menu at the bottom-right of the Type palette. Click Apply to implement the style.

If the text you selected already had a style applied, Canvas replaces the style with the style you choose. In addition, if you apply a paragraph style with font attributes to highlighted text, the font attributes affect the selection only, and the paragraph attributes affect the entire paragraph.

◆ **To use a type style as the current format setting:** If necessary, deselect all text objects by pressing Enter (Mac) or Esc (Windows). Choose a style in the pop-up menu on the bottom-right corner of the Type palette and click Apply. Canvas formats new text objects with the specified style.

Tip

To set current inks (other than black) for new text, save the inks as a type style attribute and use the type style as the current text format. These inks don't affect the current inks for vector objects.

Modifying type styles

You can change the attributes of a type style and save the style with the same name. When you change a style's attributes, all styles in the family automatically inherit the new attributes and Canvas updates any existing text that uses the family of styles.

To modify a type style

- 1** In the Type palette, choose the style you want to edit in the pop-up menu at the bottom of the palette.
- 2** Use the Type palette to change the style's attributes. Canvas displays “+++” after the style name at the bottom of the palette to indicate that changes were made to the style.
- 3** Click the Styles tab to bring it to the front, and click Create.
- 4** In the Create Type Styles dialog box, Canvas displays the current style name in the Based On pop-up menu and Style Name box. To replace the style, do not change these settings.
- 5** If you want, you can include ink settings. For paragraph styles, you can also include font attributes.
- 6** Click Save. Canvas asks you to confirm that you want to replace the existing style with the new style. Click OK.

Deleting type styles

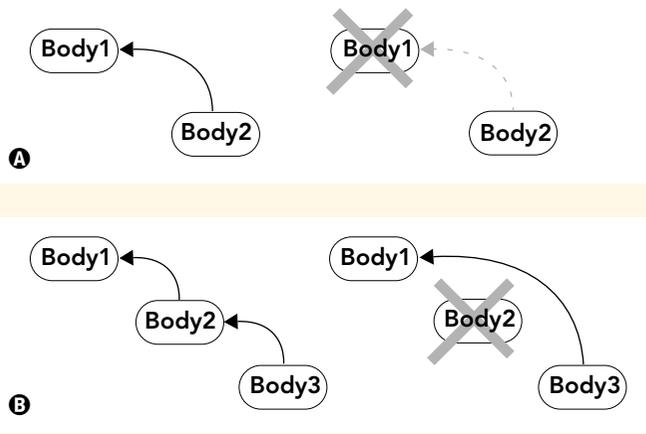
To minimize confusion when choosing styles to apply, you can delete type styles you don't use. Text using a deleted type style retains its formatting, but no longer has a named style. In addition, any text using a style based on a deleted style also loses its named style. See the illustration below for other effects of deleting a type style that is part of a style family.

Deleting parent styles

The diagram shows the results of deleting type styles on which other styles are based. Arrows indicate how these type styles are based on each other.

A Body2 is based on Body1. Deleting Body1 makes Body2 an independent style.

B Body3 is based on Body2, which in turn is based on Body1. Deleting Body2 makes Body3 based on Body1.



◆ **To delete a style:** Click Delete on the Styles tab in the Type palette. Choose the style you want to delete in the pop-up menu and click OK.

Tips on using type styles

By putting some forethought into the purpose and design of type styles, you can ensure that you are using this feature effectively. This planning will be especially useful when editing styles and documents, allowing you to make a few modifications that update entire documents.

Design a template. If several people need to use the styles, you might want to save the styles in a template document. This way, everyone uses a common source for the styles.

Create a “normal” type style. This will make it easy to revert formatted text to a basic style. When you apply the normal style, it will have the effect of removing or overriding other styles.

Name styles by their function. For example, a heading style might consist of boldface type.

Rather than name this style “Bold,” name it “Heading,” or something that similarly describes its usage. This will make it easier to remember when to use which style.

Always apply a style. If you choose to use styles in documents, be sure to use them throughout. If you apply styles only sometimes, you might encounter difficulties maintaining consistency and performing global style changes.

Create style families when possible. You might want to use the Based On feature (see “Creating new type styles” on page 463) to create style families for styles that share some attributes. This will make global changes easier. See “Using style families” on page 464, for more information.

TYPE EFFECTS

This chapter explains how to apply various effects to type. In Canvas, you can wrap text inside objects, repel text from objects, bind text to the path of an object, and slant the margins of a text object.

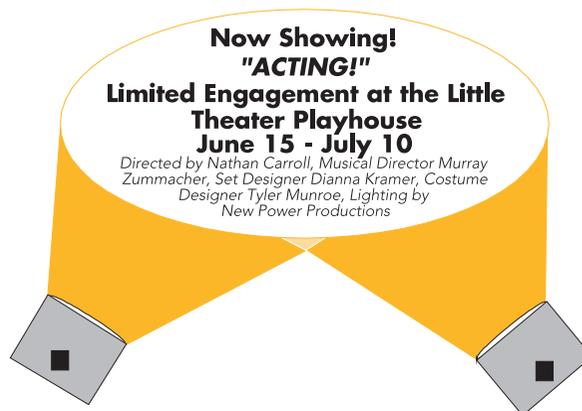
Wrapping and repelling text

You can make text flow around or inside objects by using the Wrap submenu commands.

Wrapping text inside an object

When you wrap text inside a paint or vector object, Canvas adjusts the text object's margins so that text fits within the boundaries of the object. A text object can be wrapped inside only one object at a time.

Canvas has two methods of wrapping text inside an object. You can select an existing text object and a vector or paint object and choose the Text > Wrap > Inside Shape. You can also select an existing paint or vector object and simply begin typing; the text will stay inside the boundaries of the object.



Center-justified text wrapped inside an oval

If you wrap text inside an open vector object, such as an arc, the text wraps between the bounding box and the concave side of the arc. If you try to wrap text to a line or a narrow arc, the text will not be visible. If this occurs, choose Text > Wrap > Remove Wrap or choose Edit > Undo to make the text visible again.

◆ **To wrap existing text inside an object:** Select an object and a text object. Choose Text > Wrap > Inside Shape. Canvas places the text inside the object.

If there is more text than can fit inside the shape, Canvas inserts a column break in the text object and displays an overset symbol. You can resize the object to fit the text, or flow the excess text to another column; see “Flowing overset text into new text columns” on page 407.

◆ **To type new text inside an object:** Select a vector or paint object and begin typing. Canvas adjusts margins so that text you type remains within the left and right borders of the object.

If the object is too small to contain all the text you type, the text object extends below the object. You can resize the object to fit the text. You can also resize the text object to fit the shape, and then flow any excess text to another column.

Repelling text from objects

To make text flow around an object, you can apply a repel setting to the object. You also can set the amount of space between the object and text it repels.

An object with a repel setting repels all text. You can move the object and it will repel text wherever you place it.

You can apply repel settings to objects before any text has been created or placed in a document. You can also apply a repel setting to a text object to make it repel the text in other text objects. To make a text object repel text in other text objects, the repel text object must be at the front of the stacking order. Select a text object and choose Object > Arrange > Bring to Front to put the object in front of all other objects on the same layer.

An object can repel text that is contained in text objects. A repel setting does not repel text that has been bound to a path with the Path Text tool or the Bind Text command.

Repelling text from paint objects

When you repel text from paint objects, the text wraps to dark areas of the image. Off-screen, Canvas converts the image to black and white; text wraps around areas that are black and overlaps areas that are white.

Examples of repelled text



One object repelling text



Two objects repelling text



Two objects repelling two columns of text

To make objects repel text

- 1 Select one or more objects that you want to repel text.
- 2 Choose Text > Wrap > Repel. Canvas applies the repel setting. The initial repel amount is zero points.

To set repel space

Use this procedure to set the amount of space between an object and text that it repels.

- 1 Select the object that has a repel setting and choose Text > Wrap > Repel Options.
- 2 Enter a value from -30 to 30 points in the four boxes. These values specify the amount of space between the top, bottom, left, and right sides of the object and text that the object repels.
- 3 Click Apply to view the effect of the current settings. Click OK to apply the settings and close the dialog box.



To remove a repel setting

Select an object that you do not want to repel text. Choose Text > Wrap > Remove Wrap. Canvas removes the repel setting from the selected object.

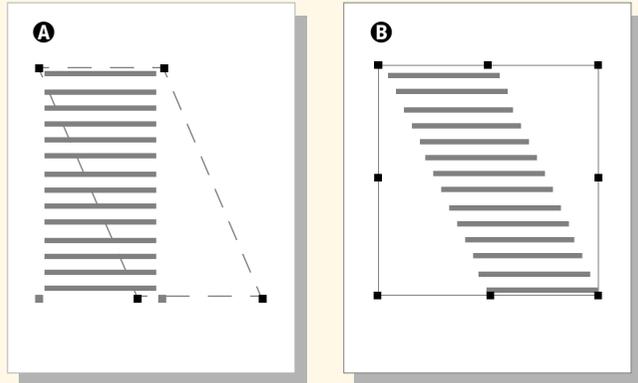
Slanting text columns

The Text > Wrap > Slant Margin command lets you change a text column's margins to form a parallelogram.

Setting the column angle

When you choose Text > Wrap > Slant Margin, you can drag selection handles to specify the angle of margins.

- A** The bottom right handle of the text column is dragged to specify the angle of the margins (shown by the dashed lines).
- B** Canvas adjusts the margins to slant the text column within the bounding rectangle. (The bounding rectangle is represented by the eight selection handles.)



To slant right and left margins

- 1 Select a text object.
- 2 Choose Text > Wrap > Slant Margin. The text object's selection handles change to four corner handles.
- 3 To slant margins away from the bottom line of text, drag either of the text object's top two selection handles horizontally.
- 4 To slant margins away from the top line of text, drag either of the text object's bottom two selection handles horizontally.
- 5 Press Enter (Mac) or Esc (Windows) when you are finished.

Removing wrap effects

You can restore text margins to the standard rectangular shape by choosing Text > Wrap > Remove Wrap.

- ◆ **To remove a wrap effect:** Select a wrapped text object. Choose Text > Wrap > Remove Wrap.

Binding text to vector objects

You can bind the baseline of text to the path of most types of vector objects. Canvas adjusts the vertical orientation of each character to match the path. You cannot bind text to objects drawn with the Concentric Circles, Spiral, or Grid tools.

Path Text tool



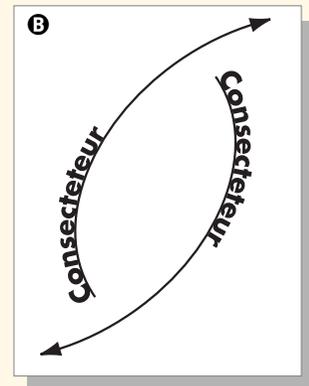
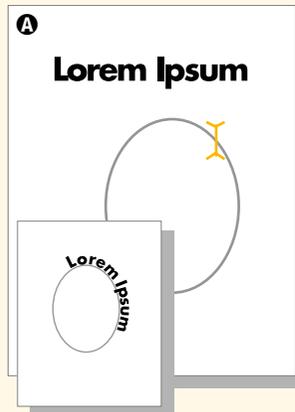
Depending on how you want to bind text, you can use the Bind Text command in the Effects menu or the Path Text tool in the toolbox. The Bind Text command lets you bind existing text to an object, and the Path Text tool lets you type new text directly on the path of a selected object.

Canvas lets you bind multiple text objects to one vector object, but a text object can bind to only one vector object at a time. Also, you can bind only one text object to a vector object using the Path Text tool. To bind additional text objects to the same vector object after using the Path Text tool, you must create a separate text object with the Text tool and use the Bind Text command.

Position and direction of bound text

Whether you use the Bind Text command or Path Text tool, the location where you click the pointer determines the alignment position.

A This text is center-justified. The I-beam pointer (which appears after choosing the Bind Text command or the Path Text tool) determines where text will bind. In the example, the pointer is clicked in the upper-right quadrant of the oval. The inset shows the bound text, centered around the point where the pointer was clicked.



B For open-ended objects, such as arcs, bound text initially flows in the direction the object was drawn. In this example, the

arrows indicate the direction the arcs were drawn. Text objects bound to these arcs follow the direction of the arcs.

To bind existing text using a menu command

- 1** Select a text object and a vector object.
- 2** Choose Effects > Bind Text. When the pointer is on the edge of the selected object, the pointer becomes an I-beam.
- 3** With the pointer, click to place the selected text on the path. Text aligns to the point where you click. For example, if the text is center-justified, Canvas binds the text so that it is centered around the point you click.
- 4** To change the alignment and position of bound text, see “Working with bound text,” next.

To type on a path using the Path Text tool

- 1** Select the Path Text tool in the Text tools toolbar. When the pointer is on the edge of an object, the pointer becomes a crosshair.
- 2** With the crosshair pointer, click where you want to start typing on the path. An insertion point appears.
- 3** Begin typing. Text you type aligns to the location where you placed the insertion point and follows the path of the object.
- 4** To change the alignment and position of bound text, see the procedure below.

Working with bound text

Once you bind text, you can change its starting position, alignment, baseline position, and flow direction. In addition, you can edit the shape and location of the vector object to which text is bound, and Canvas will fit the text to the new path.

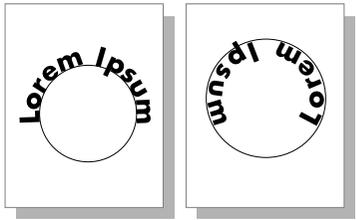
You can also edit bound text by selecting the Path Text tool and clicking the text object, or by double-clicking a bound text object with a Selection tool. However, text editing might be difficult and slow while the text is bound to an object; you might want to remove the text bind, make changes, and re-bind the text.

Bound text and its binding object move together, just like grouped objects. However, unlike grouped objects, you can select and change attributes (such as stroke and ink) individually for the text and the object.

To position and align bound text

Canvas has three Bind Position handles (shown in color below) that you can drag to place text anywhere on, above, or below an object. The handles appear when you select a bound text object.

Bind Position handles

Handle	Description	Example
	Reverse Flow handle Click to switch the vertical orientation of type relative to the object path and reverse the flow direction.	
	Alignment handle Drag to specify the point where you want type to align. For example, center-justified text will center around the location of this handle. Canvas spreads full-justified text along the entire path or object starting at the location of the handle.	 <i>Text is centered around the alignment handle</i>
	Baseline Shift handle Drag to change the elevation of the baseline relative to the vector object. Baseline Shift lets you insert space between bound type and the object.	

Changing the appearance of bound text

Once you bind text to a path using the Path Text tool or the Bind Text command, you can use the context menu to change the orientation of the text characters relative to the path, and to make the path visible or not visible. The bound text commands appear in the context menu when a bound text object is selected. To use the context menu, press

Ctrl and the mouse button (Mac), or press the right mouse button (Windows).

Bound text commands

The following commands appear in the context menu:

Show Path / Hide Path Choose Show Path to make the path visible. Choose Hide Path to make the path not visible.

Vertical Text Choose Vertical Text to keep the baseline of the text characters horizontal, rather than perpendicular to the path. This also keeps the vertical axis of each character vertical, rather than angled to follow a curved path. The Vertical Text command is available when the text is bound with the Tangent Text option.

Tangent Text Choose Tangent Text to keep the baseline of the text characters tangent to the path, rather than horizontal. This angles the vertical axis of each character away from vertical as needed to follow the path. By default, Canvas uses the Tangent Text option when it first binds text to a path. The Tangent Text command is available in the context menu when the text is bound with the Vertical Text option.

Removing a text bind

You can remove a bind effect by selecting a bound text object and choosing Remove Effects in the Effects menu. Canvas straightens the text baseline and separates it from the vector object.

Binding text to a circle

You can create circular logos with text on top flowing clockwise and text on the bottom flowing counterclockwise. You can create this effect by binding two text objects to a circle and using the Bind Position handles to arrange the text.

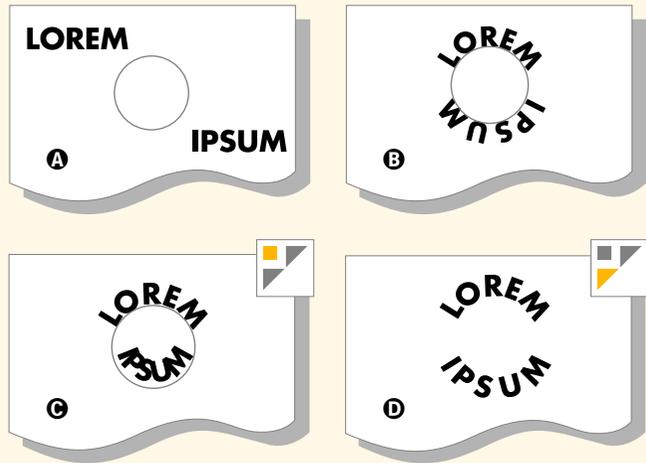
To create a circular logo

- 1** Create a circular object using the Oval tool in the toolbox.
- 2** Create two text objects and bind them to the circle. You can use the Path Text tool to create and bind the first text object, but you must then bind the second text object using the Bind Text command.

- 3 Center the text objects on the top and bottom of the circle by selecting each one and dragging its Align handle. Centering text objects is easier if the text is center-justified.
- 4 Click the Reverse Flow handle of the bottom text object so the text reads from left to right inside the circle.
- 5 Now shift the bottom text object outside the circle by dragging its Baseline Shift handle outward from the center of the circle. As you drag, Canvas displays a circle to show the baseline location.

Binding text to a circle

- A The design consists of a circle and two text objects.
- B One text object is bound to the top of the circle, the other to the bottom of the circle. Text initially flows clockwise.
- C Clicking the Reverse Flow handle (highlighted in inset) makes “Ipsum” flow counter-clockwise inside the circle.
- D Dragging the Baseline Shift handle (highlighted in inset) positions “Ipsum” outside the circle. Removing the circle completes the design.



Using text as clipping paths

You can make a pattern, gradient, or image appear to span an entire selection, rather than begin and end within each character. For example, instead of a gradient completing a blend pattern within each character of a word, you can make a gradient begin a blend in the first character and finish the blend in the last character.

In Canvas, you create these kinds of “continuous” fills using background objects and foreground text object clipping paths. The intersection of the background and foreground objects provides the appearance of a continuous fill. This method lets you use elaborate background designs, including paint objects, to fill characters. For more information, see “Using clipping paths” on page 362.

To use text as a clipping path

- 1 Position the text object in front of the object to be clipped, and then select both objects.
- 2 Choose Object > Clipping Path > Make.



Text object in front of gradient



Clipping path appears filled with gradient

Applying vector effects to type

You can apply the following vector effects to text objects:

- Envelope
- Extrude
- Rotate
- Freeform rotate and skew
- Flip
- Shadow
- Path editing

You can use effects to add dimension to type and create striking designs. This section describes briefly how to apply each of these effects. For more information, see “Vector effects” on page 361.

Before applying vector effects to type

Depending on the number and kind of effects you apply to type, you might not be able to edit the text afterwards. For example, you can edit text after rotating and skewing, but if you also extrude the type, Canvas converts the text to vector objects. In addition, depending on the speed of your system, editing rotated and skewed text might be slow. Therefore, you might want to finish all text editing, formatting, and layout before applying effects.

Freeform and rotate effects

In Canvas, you can place a text object in freeform mode and then drag any of the hollow selection handles of the bounding box to rotate and skew text. You can also perform exact rotations using the Rotate command in the Effects menu.

- ◆ **To freeform edit a text object:** Select a text object using a Selection tool. Choose Effects > Freeform. You can drag a circular selection handle to rotate the text object, or a square handle to skew the text.
- ◆ **To rotate a text object an exact amount:** Choose Effects > Rotate to open the Rotate dialog box. You can specify the degrees of rotation and the center of rotation. Click Apply to see the effect of the settings, or click OK to accept the settings.

This design consists of rotated (black) and skewed (color) type. Each word was divided into two text objects, which were arranged to create the effect.



Flipping text

You can use the Flip options in the Effects menu to create mirror-image copies of text. In Canvas, you can flip text horizontally, vertically, or both.

- ◆ **To flip text:** Select the text object(s) you want to flip. Depending on the direction you want to flip text, choose Horizontal, Vertical, or Both Axes in the Flip submenu in the Effects menu. Canvas implements the setting immediately.



Shadow effects

In Canvas, when you apply a shadow to text, the shadow is a separate text object that you can color, edit, and apply effects to independently of the original text object. By applying the right combination of effects, you can create oblique shadows and other lighting effects.

Because Canvas creates a separate text object for the shadow, changes to the original text object do not change the shadow. You should finalize text before applying shadows to ensure that the text is the same for both objects.

◆ **To create a shadow:** Select the text object(s) you want to apply shadows to. Choose Effects > Shadow to open the Shadow dialog box. Specify vertical and horizontal offset amounts and a color for shadows. Canvas creates the shadows and arranges them behind the original text object(s).

Text shadow effects

By combining Canvas effects, you can create different types of shadows.

- Ⓐ A standard shadow, slightly offset and shaded black.
- Ⓑ The shadow text object was skewed to create an oblique shadow.

This example consists of three objects: the original text, a slightly offset shadow, and an oblique shadow. To blur the shadow, convert the text to a paint object with the Area > Render option in the Image menu. Then, choose Filter > Blur > Gaussian Blur in the Image menu and set the radius to 3.0.





The "M" and "A" are separate text objects that have been "warped."

Envelope text effects

You can use the Envelope effect to warp and distort type to create new character forms and stretch text like rubber. When you apply this effect to a text object, Canvas lets you drag selection handles to reshape text. Depending on the type of envelope you apply, text stretches in different ways. Using this effect, you can add perspective to text or simulate stretching type around a three-dimensional object.

Note: You cannot edit text after applying an envelope effect. In addition, you cannot extrude an object after changing its envelope. However, you can change the envelope of an extruded object.

◆ **To edit the envelope of a text object:** Select a text object and choose Effects > Envelope. Choose a type of envelope effect in the pop-up menu and click Apply. Then, drag the envelope handles to reshape the text.

Extruding text

You can extrude text and add lighting effects to make text appear three-dimensional. As with vector objects, you can rotate and scale extruded text to change the apparent depth, size, and orientation. For text, you can use only the Parallel option in the Extrude palette. You can also choose a color and position for the light source.

Note: You cannot edit text after extruding it. Also, Canvas removes stroke and fill attributes before extruding text because they can interfere with the three-dimensional effect. You can add color to extruded objects by choosing a fill color in the Inks palette and a color for the light source in the Extrude palette.



Extruded text with lighting effects

- ◆ **To extrude text:** Select a text object and choose Effects > Extrude to open the Extrude palette. Choose Parallel in the pop-up menu, configure the settings and click Apply. Use the extrusion handles to shape and rotate the text.

Converting text to paths

Canvas can create path outlines of characters so you can edit the shape of each character. Once you convert text to paths, Canvas treats the paths as objects. You cannot edit the objects as text (apply fonts to, change the type size of, or spell check, for example).

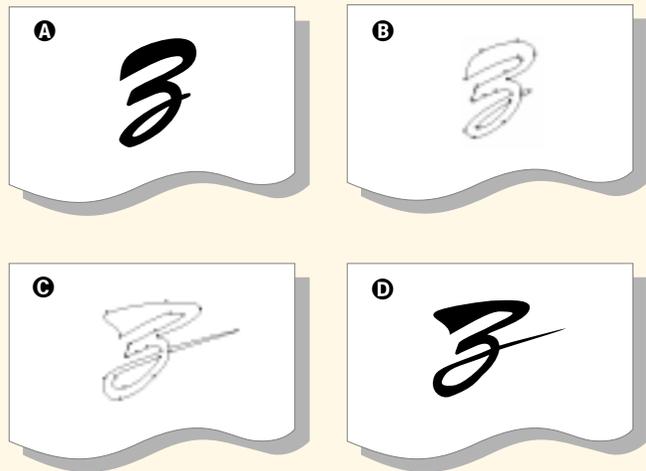
To edit character paths

- 1 Select a text object and choose Object > Path > Convert to Paths. If the text object contains multiple characters, Canvas groups the converted text together.
- 2 To edit individual character outlines, choose Object > Ungroup, or use the Direct Selection tool to select shapes.
- 3 Double-click a character outline to place it in path edit mode. To put several shapes in path edit mode at the same time, you can select multiple character outlines and choose Object > Path > Edit Path.
- 4 Use path-editing techniques to change the outline, and then press Esc to exit edit mode.

Editing character paths

You can create your own characters and type shapes using path-editing techniques.

- A** A type character converted to paths.
- B** The object in edit mode, with anchor points displayed.
- C** The path's anchor points have been edited to create this shape.
- D** The finished type character.



V

PAINTING & IMAGE EDITING

PAINTING AND IMAGE-EDITING

Canvas provides a full palette of painting tools, including the digital equivalents of markers, airbrushes, and paintbrushes, plus tools for creating effects like neon and blends. The toolbar of painting tools also provides tools to select, retouch, color-correct, and clone images. This chapter explains how to use these painting tools, choose image modes, and convert objects into images.

Paint objects and images

A paint object is a special type of Canvas object that contains an image. Paint objects are always rectangular and are the same size as the images they contain.

An image is a picture made up of many tiny squares, called pixels. A scanned photo, a TIFF or Photoshop file, and a picture you paint in Canvas are examples of images.

Each pixel in an image is a solid color. Pixels can also be semi-transparent or completely clear. You can adjust the color, opacity, and transparency of pixels by using painting tools and commands.

At the object level, you can use tools and commands such as the Selection tool and Align command to affect entire paint objects.

About paint objects and images in Canvas

“Images” are pictures defined by tiny dots, called pixels. A scanned photo, a TIFF or Photoshop file, and pictures you paint in Canvas are all images composed of pixels.

In a Canvas document, an image is contained in a *paint object* the same size as the image. Painting tools operate on the pixels within images,

while object tools and commands, such as the Selection tool or Align command, apply to entire paint objects.

You can perform common object operations, including move, copy, and duplicate, on paint objects. For details, see the chapter titled “Working with objects” on page 187.

You can create images entirely in Canvas by making a new paint object that you can paint

in, or creating an image from vector or text objects, as described in this chapter.

You can also import images into Canvas documents using the following methods:

- Place an existing image in a document using the Place, Paste, or Acquire commands.
- Scan a photo using the Acquire command. See “Using scanners to acquire images” on page 527.

Almost anything you can do to objects, you can do to paint objects. This includes selecting, moving, copying, duplicating, deleting, rotating, skewing, and flipping. You can assign URLs to them and make proxies from them.

Creating paint objects

You can make new paint objects containing blank images. You can convert objects into images by rendering them.

To insert existing images into a document, you can use the Place, Paste, and Acquire commands. You can also scan images directly into a Canvas document. See “To open or place a file” on page 82; “Acquiring images” on page 87; and “Using scanners to acquire images” on page 527.

Creating paint objects with painting tools

Paint Object Creator tool



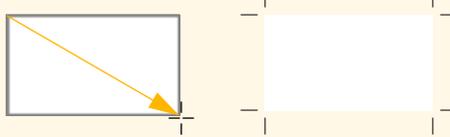
The Paint Object Creator tool creates new, blank paint objects. This tool lets you set the image mode, resolution, and background transparency for new paint objects. The Paint Object Creator tool is located in the Painting Tools toolbar.

You can use other tools to create new paint objects. You can select any painting tool (except Crop) and drag in the document to create a paint object. The Paint Object Creator tool settings for image mode, resolution, and background are applied to new paint objects you create with any painting tool.

To create a paint object

- 1 Select the Paint Object Creator tool or another painting tool.
- 2 Drag diagonally in the document to create a rectangular paint object.
 - To constrain the height and width proportionally, press Shift as you drag.
 - To constrain the height and width symmetrically from the center, press Option (Mac) or Ctrl (Windows) as you drag.
 - To constrain the height and width proportionally and symmetrically, press Option+Shift (Mac) or Ctrl+Shift (Windows) as you drag.
- 3 A blank paint object appears in edit mode. You can begin painting in the image. When you finish, press Esc to end edit mode.

Drag any painting tool (except Crop) to create a new paint object



A paint object in edit mode, indicated by crop marks at each corner.

Settings for new paint objects

You can specify the image mode, resolution, and background type before you create paint objects with painting tools.

◆ **To change settings for new paint objects:** Press the Paint Object Creator tool icon and a menu appears. Choose a mode, resolution, or background type in the pop-up menu. To change another setting, repeat the procedure. Check marks in the menu indicate the current mode, resolution, and background type.

Background You can choose Opaque Background or Transparent Background in the Paint Object Creator tool's pop-up menu. Opaque Background creates an image made of white pixels. Transparent Background creates an image made of clear pixels. This type of image is transparent, so you can see other objects through it.

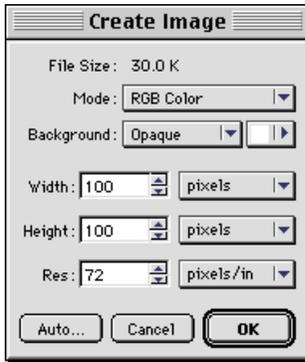
You can use a transparent image like a clear overlay. For example, you can place a transparent paint object in front of a vector graphic, and then paint in the image to give the appearance of paint strokes on the graphic.

Image mode You can choose an image mode in the Paint Object Creator tool's pop-up menu. The image mode controls the number of colors that can be stored in an image. See "Image modes for Canvas paint objects" on page 514.

Resolution You can choose several common resolution settings in the Paint Object Creator tool's menu. To set any other resolution, choose Custom. In the dialog box, type a resolution from 1 to 2,540 pixels per inch, and then click OK.

Black & White	
Grayscale	
✓ RGB Color	
CMYK Color	
Lab Color	
<hr/>	
✓ 72 PPI	
150 PPI	
300 PPI	
Custom...	
<hr/>	
Opaque Background	
✓ Transparent Background	

Current settings are checked in the Paint Object Creator tool menu



Using the Create command

The Create command creates new paint objects using the mode, size, resolution, and transparency settings that you specify.

You can use the Create command to create paint objects that are opaque or clear. Opaque paint objects are the same as paint objects in previous versions of Canvas. Clear paint objects let you see through unpainted areas. They are similar to transparent layers in image-editing programs such as Photoshop.

To create a paint object

- 1 With no objects selected, choose Image > Area > Create.
- 2 In the Create Image dialog box, set the image mode, type of background, background color (for an opaque image), size, and resolution of the image.
- 3 Click OK. The new paint object appears in the center of the view and is selected.

Setting paint object dimensions

When you use the Create command, you can set the dimensions of a paint object using relative or absolute values, depending on what you choose in the pop-up menus next to the Width and Height text boxes.

If you choose pixels to set the dimensions of the paint object, the size of the object is relative to its resolution; higher resolution makes pixels smaller, so the resulting object is smaller at the same width and height values.

If you choose inches, centimeters, picas, or points, you can enter absolute values for the paint object's dimensions.

Create options

The Create Image dialog box has options for new images.

File Size. The amount of memory required by the paint object, based on resolution, size, and image mode. Black & White mode requires the least memory; CMYK Color requires the most.

Mode. Choose an image mode. See “Image modes for Canvas paint objects” on page 514.

Background. Choose Transparent or Opaque.

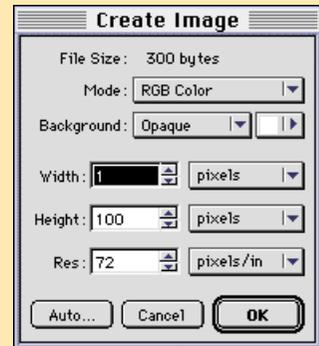
Opaque creates an image filled with opaque pixels. You

can select a color from the adjacent palette. To specify a custom color, see “Creating custom colors in pop-up palettes” on page 253.

Transparent creates a clear image with a visibility mask. When you choose this option, the color palette is not available.

Width and Height. Type the paint object’s width and height. In the adjacent menus, choose pixels and enter relative dimensions, or choose a unit of measurement and enter absolute dimensions.

Res. Enter the image resolu-



tion. Choose pixels per inch or pixels per centimeter in the adjacent menu.

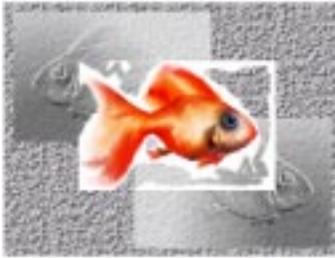
Auto. Click Auto to calculate the resolution based on half-tone screen frequency.

Adding visibility masks to images

If a paint object has a visibility mask, you can erase to a clear background. Also, Canvas can protect transparent areas when you paint or edit in the image.

You can add a visibility mask to a paint object that was created with an opaque background in Canvas or imported from another application.

Paint objects can look the same whether they have visibility masks or not. However, a visibility mask changes the way that the Eraser tool works and the effect of deleting or moving a selection.



White areas of the fish image erased to a clear background

In a paint object that has a visibility mask, you can erase or delete pixels to reveal a clear background. For example, you can erase at the edge of an image to create faded or torn edges. You can delete or move selections to create transparent areas.

If a paint object does not have a visibility mask, areas where you drag the Eraser tool, and selections you delete or move, become filled with the current background color and are opaque, not clear.

When you create paint objects with painting tools or the Render or Create commands, you can select an option to include visibility masks.

To add a visibility mask

- 1 Select a paint object that does not have a visibility mask.
- 2 Choose Image > Add Visibility Mask. This command is not available if a Duotone, Indexed, or Multichannel image is selected.

Adding a visibility mask does not change the appearance of a paint object. White pixels do not become transparent, for example. When a paint object has a visibility mask, you can select Preserve Visibility in the Channels palette. When this option is selected, Canvas protects clear areas from the effects of painting and image editing.

Paint object backgrounds

You can create a paint object in which the image "background" is transparent or opaque.

An opaque paint object contains opaque pixels. If the pixels are white and the paint object is on a white background, you won't notice that the image is opaque. Still, the rectangular paint object will block objects behind it (A).

A transparent paint object can have a clear background that does not block other objects (B).

Painting in an opaque image is like painting on a wall. Painting in a transparent image is like painting on a window.

A

A rectangle and text are blocked by an opaque paint object in front



B

A transparent background lets objects show through it



Rendering objects and images

Rendering converts objects into paint objects. For example, you can use the Render command to create a paint object from text, and then use the Airbrush tool to paint highlights on the image of the text.

Rendering is also referred to as “rasterizing” because the process produces a raster image -- an image composed of pixels arranged in a grid. All paint objects in Canvas contain raster, or pixel-based, images.

You can create paint objects by rendering selected vector objects, text objects, and group objects. You can render a paint object to create a new paint object that has different characteristics than the original.

When you use the Render command, you can create a transparency mask or visibility mask for the resulting paint object.

When you render a vector object, it’s a good idea to select a visibility mask if you want to isolate an object against a clear background.

To render objects

- 1 Select one or more objects and choose Image > Area > Render. If you select multiple objects, they will be rendered as one paint object.

- 2 The Render Image dialog box lets you specify resolution and other settings for the resulting paint object. Click OK to render the selection.

Canvas creates a paint object containing an image of the original objects. The paint object appears in front. The Render command does not change the original selected objects.

To see the original objects, you can drag the paint object away.

Pasting into images

You can render objects by copying them to the Clipboard and then pasting them into paint objects in edit mode. When an image is in edit mode and you paste into it, the Clipboard content is rendered and appears as a selection in the image.

If you select the “Anti-aliased Clipboard” option in the Preferences dialog box, Canvas anti-aliases vector and text objects that you paste into paint objects.

Rendering exported files

If necessary, Canvas renders selected objects or an entire document when you use the Save As command to export to a raster file format. For example, if you select vector objects, and then save in GIF format, Canvas renders the selected objects because GIF files store raster images.

When Canvas is saving a file, some options might not be available in the Render Image dialog box because the file format doesn't support them.

Render Image settings

When you use the Render command, you can specify image mode, resolution, and other settings in the Render Image dialog box.

Dimensions. Displays the width and height of the paint object Canvas will create.

A Choose the measurement for the Width and Height values in the Dimension area; inches, centimeters (cm), points, or picas.

Mode. Choose the color mode for the resulting image: Black & White, Grayscale, Indexed Color, RGB Color, CMYK Color, or LAB Color.

Width and Height. Enter the pixel dimensions for the paint object. When you change a value, Canvas adjusts the others to maintain the size and proportions of the original objects.

Res. Choose pixels per inch or pixels per centimeter in the pop-up menu. The value shown after "Size" is the amount of data in the image, based on the

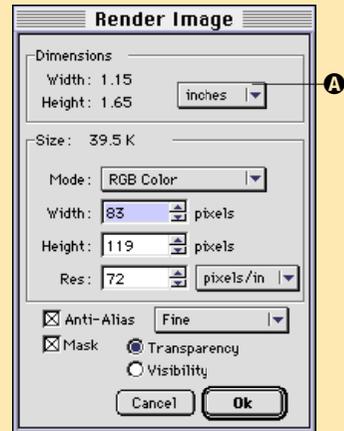
mode, resolution, and dimensions.

Anti-Alias. Blurs edges while rendering to make the edges of text characters and vector objects appear smoother in the resulting image. Choose Fine, Medium, or Coarse in the pop-up menu.

Coarse uses 16 shades for anti-aliasing and is the fastest option. Medium uses 64 shades for anti-aliasing. Fine uses 256 shades for anti-aliasing. Fine produces the softest edges and is the slowest option.

Mask. Select this option if you want the resulting paint object to have a visibility mask or a channel mask. Then choose the type of mask.

Transparency creates a channel mask. The channel mask is based on the silhouette of the rendered objects. In other words, if there are spaces between the objects, the channel mask will create transparent spaces.



Visibility creates a visibility mask in the paint object. The result is a clear background in areas not covered by objects.

If you do not select Mask, areas not filled by rendered objects within the paint object's bounding rectangle will be white and opaque. If you select Mask and either Transparency or Visibility, areas that are not filled by rendered objects will be transparent.

Using painting tools

Painting tools let you apply color, make selections, edit, retouch, color-correct, and clone images. These tools are located in the Painting toolbar.

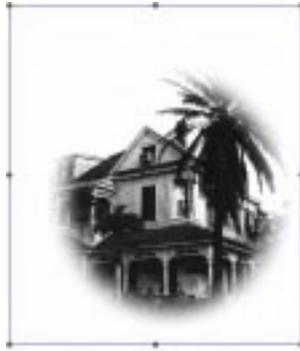
For some painting tools, you can adjust opacity, pressure, exposure, or other settings. See the specific tool entries in this chapter for details.



To use a painting tool

This general procedure applies to all painting tools.

- 1 To place a paint object in edit mode, either:
 - Double-click the object with the Selection tool.
 - Click the paint object with a painting tool. When you point to a paint object with a painting tool, the pointer displays a hand. If another paint object is in edit mode, press Tab and click to place a paint object in edit mode.
- 2 Select a foreground or background color to paint with. See the topics in this chapter for more information.
 - To swap the foreground and background colors, press the letter “X” while using a painting tool. To set the foreground color to black and the background color to white, press ‘ (open single quote).
- 3 Select a brush shape in the Brushes palette. You can also choose a mode or other option for most tools.
- 4 Click in the image to apply a spot of color, or drag to paint a brush stroke, depending on the tool.
 - To constrain a brush stroke to horizontal or vertical, press Shift as you drag.
 - You can start dragging outside an image; a tool’s effect begins when the pointer is inside the image.



Selected paint object



Paint object in edit mode

Painting options

When you use a painting tool, you can use the context menu to gain quick access to common commands. The commands that are available vary, depending on the selected painting tool and whether there is a selection in the image.

To use the context menu

With a Painting tool selected, press the right mouse button (Windows), or press Control and the mouse button (Mac). When the menu pops up at the pointer, choose a command. Canvas applies the command and hides the menu.

The context menu contains some common commands that are available from the regular menus. The following commands are available in the context menu only.

Selecting brushes

You can select a brush in the context menu based on the location of the brush in the Brushes palette.

Next Brush Selects the brush shape in the Brushes palette to the right of the current brush.

Previous Brush Selects the brush shape in the Brushes palette to the left of the current brush.

First Brush Selects the brush at the upper-left of the palette.

Last Brush Selects the brush at the lower-right of the palette.

Brush shape display

The default pointer for painting is a symbol of the selected painting tool. You can change the pointer to a cross hair or the current brush shape. All tools use the pointer you select, not just the current tool. To change the pointer, choose an option in the context menu.

Note: Changing the pointer using the context menu is the same as changing the pointer using the brush options in the Painting tab of the Preferences dialog box.

Standard Pointer Displays the icon of the selected painting tool. This is the default pointer.

Precise Pointer Changes the pointer to a cross hair. The intersection of the cross hair is the center of the current brush.

Brush Size Pointer Changes the pointer to an outline of the current brush.

Fat Bits

The Fat Bits feature displays pixels as individual tiles in a grid at high magnifications. This display was standard in Canvas 3.5 and earlier.

- ◆ **To show Fat Bits:** Press the Plus key or choose Show Fat Bits in the context menu to display pixels as individual tiles in a grid.
- ◆ **To hide Fat Bits:** Press the Plus key or choose Hide Fat Bits in the context menu to display pixels without the grid of individual tiles.

When you choose Show Fat Bits, the resolution and magnification affect the display. Fat Bits are visible when the ratio of magnification to resolution is about eight to one. For example, if the image resolution is 72 ppi, fat bits appear at 600 percent magnification and higher. If the image resolution is 144 ppi, fat bits appear at 1,200 percent magnification.

Selecting colors for painting



The palette icons when a painting tool is selected

Painting tools use the foreground or the background color, or both. Instead of pen and fill ink icons, two brush color icons appear in the toolbox when you select a painting tool. The top icon shows the foreground color and the bottom icon shows the background color.

You can use any solid color for painting. However, you can't paint with multi-colored inks, such as gradients, symbols, textures, or hatch inks. For example, if the current pen and fill inks (for drawing

objects) are gradients, when you edit an image, the foreground color is black and the background color is white.

Also, if you choose a spot color and edit pixels with a painting tool, Canvas converts the spot color to the image color mode (RGB, CMYK, and so on); see “Image modes for Canvas paint objects” on page 514. You can arrange paint objects in a document with vector and text objects that use spot colors, but only the vector and text objects will produce spot color separations.

◆ **To select a color for painting:** Press the foreground or background color icon in the toolbox to open the Inks palette; choose a color on the Color tab. If you tear the Inks palette away from the toolbox, it becomes a floating palette you can keep open as you work. When the palette is floating, you can select colors by clicking color tiles in the Color tab. You can also create new colors in the Color manager. See “Creating color inks” on page 248.

You can quickly switch the foreground and background painting colors by pressing “x” when a paint object is in edit mode. To restore the foreground color to black and the background color to white, press the single open quote key (‘) on the keyboard.

Picking colors from images and objects

You can use the Color Dropper tool to pick up color from an image or object. The color you select becomes the current background or foreground color that you can use for painting.

◆ **To select the background color:** Select the Color Dropper tool in the Effects Tools toolbar in the toolbox and click a color in an object or image.

◆ **To select the foreground color:** Select the Color Dropper tool in the Effects Tools toolbar and Option-click (Mac) or right-button click (Windows) a color in an object or image.

Note: When a paint object is in edit mode and you change the foreground or background color, the color you select stays in effect, becoming the current color for subsequent drawing and painting.

Color Dropper tool



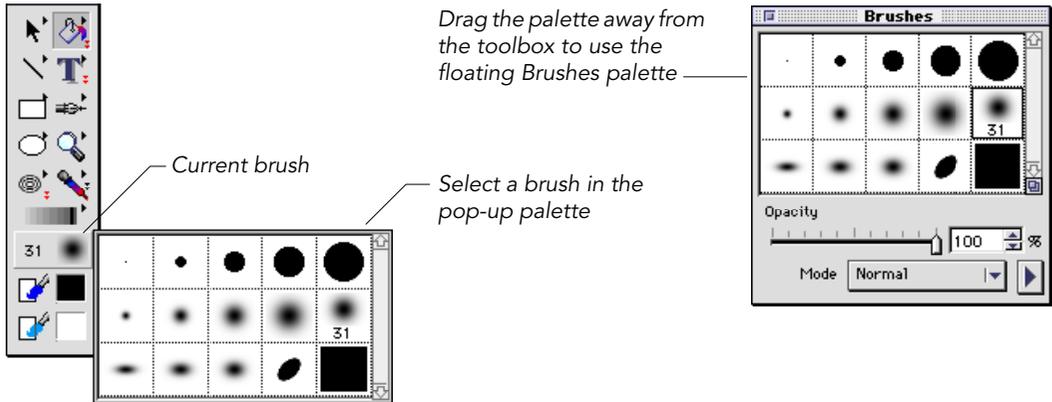
✓ Tip

You can select the Color Dropper in image edit mode by pressing Option (Mac) or Alt (Windows).

Selecting brushes and painting options

The Brushes palette provides brushes and options for painting and image-editing. You can select preset brushes and create new brushes. The Opacity slider lets you adjust opacity for painting. The Mode

menu lets you choose painting modes to control color application and target tonal ranges.



To select a brush

Mac: Select a painting tool and then press the Brushes icon in the toolbox. A palette of preset brushes appears. Drag to a brush to select it and the palette closes.

Windows: Select a painting tool and then click the Brushes icon in the toolbox. A palette of preset brushes appears. Click a brush to select it and the palette closes.

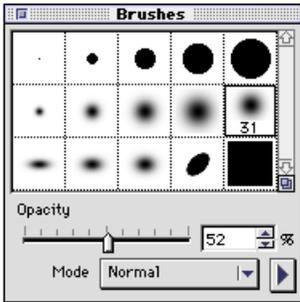
Note: The Brushes icon appears in the toolbox in place of the Strokes palette when one of the following painting tools is selected: Eraser, Paintbrush, Marker, Airbrush, Neon, Rubber Stamp, Smudge, Blur, Sharpen, Dodge, Burn, Sponge.

The Brushes icon is not available in the toolbox when one of the following tools is selected: Crop, Wand, Lasso, Marquee, Oval Marquee, Row Selection, Column Selection, Pencil, Remote Move.

While painting, you can use the context menu to change brushes and select painting options.

✓ Tip

To quickly change the slider setting in the Brushes palette, you can press a number key; "1" sets the slider to 10%, "2" to 20%, and so on. "0" equals a setting of 100%.



Floating Brushes palette

When the Brushes palette is floating you can click brushes to select them. You can also use the Opacity slider, select painting modes, and create or delete brushes.

To use the floating Brushes palette, press the Brushes icon in the toolbox and drag the palette away from the toolbox. You can dock the Brushes palette on the Docking bar.

Painting opacity

Painting opacity affects the intensity of painting. You can adjust this setting in the floating Brushes palette for the following painting tools: Eraser, Marker, Paintbrush, Bucket, Blend, and Rubber Stamp.

Painting opacity can be set from 1 to 100%. Higher opacity makes the color you apply more opaque. Lower opacity makes color appear more transparent.

Painting opacity works together with painting modes (described next). In general, reducing opacity reduces the strength of the painted color and the effect of a tool.

For example, if you use the Paintbrush tool to apply black at 100% opacity in Normal mode, black replaces the original color wherever you paint. At 50% opacity, the strength of the black is reduced, so it mixes with the underlying color. If you also use a different painting mode, the strength of the mode's effect is reduced.

◆ **To set painting opacity:** Select a painting tool that uses the painting opacity setting. In the floating Brushes palette, drag the Opacity slider or enter a percentage in the text box.

Canvas remembers each tool's painting opacity setting. For example, if you use the Blend tool at 30% opacity and then use the Paintbrush tool at 100% opacity, the setting changes back to 30% when you select the Blend tool again.

Note: The Opacity slider in the floating Brushes palette affects subsequent brush strokes by the current painting tool only. It is not the same as the Opacity sliders in the toolbox and the Transparency palette, which are linked and control overall opacity of selected objects.

Painting modes

You can use various painting modes when you paint and edit images. Painting modes can create special effects and let you control color mixing and the tonal range affected by painting.

Choosing painting modes

When you use a painting tool, choose a mode in the Mode pop-up menu in the floating Brushes palette, or in the Mode submenu in the context menu. Not all modes are available for all painting tools.

Mode options are available when you use the following tools: Marker, Paintbrush, Airbrush, Bucket, Blend, Blur, Sharpen, and Rubber Stamp.

Some unique options for painting tools are described with the individual tools in this chapter. Painting modes that are available for most painting tools are listed here.

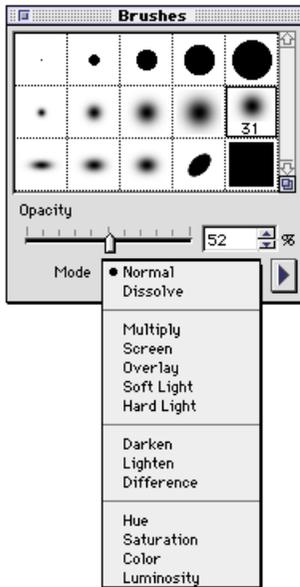
Normal The default painting mode applies color to all pixels uniformly. When the painting opacity is 100%, the applied color replaces the original color. If you paint in a Black & White or Indexed image, Normal mode is labeled Threshold.

Dissolve This mode applies color with a random diffused pattern within the brush shape. The effect is similar to drawing with chalk. The diffused effect is stronger when the painting opacity is less than 100%.

Multiply Darkens all pixels by multiplying the value of the applied color and the underlying color. Painting with darker colors intensifies the effect. Painting with black results in black; painting with white does not affect the original color. When you apply a color with multiple strokes in the same area, the strokes become darker, similar to the effect of making multiple strokes on paper with an ink marker.

Screen The Screen mode is the opposite of Multiply mode. Screen mode lightens all pixels by multiplying the inverse values of the applied color and the underlying color. Painting with lighter colors intensifies the effect. Painting with black does not affect the original image; painting with white results in white.

Overlay Applies color without destroying the underlying shadows and highlights. Overlay mode blends the applied color with the underlying color; the amount of blending depends on the lightness of the underlying color.



Painting modes

Soft Light Lightens or darkens underlying colors depending on the lightness value of the applied color. If the lightness of the applied color is less than 50% gray, painting lightens the image. If the lightness of the applied color is greater than 50% gray, painting darkens the image. Painting with white or black has the most intense effect, but does not completely replace the underlying color.

Hard Light Paints in Multiply or Screen mode, depending on the applied color's lightness value. This mode is similar to Soft Light. However, painting with black produces black; painting with white produces white.

Darken Compares the underlying color and the applied color, and the result is whichever color is darker. In other words, pixels in the image will be painted if the paint color is darker, while pixels that are darker than the paint color will remain unpainted.

Lighten The Lighten mode is the opposite of Darken mode. Lighten compares the underlying color and the applied color, and the result is whichever color is lighter. In other words, pixels in the image will be painted if the paint color is lighter; pixels that are lighter than the paint color will remain unpainted.

Difference Compares the brightness of the original and applied colors, subtracts the brightness value of the darker pixel from the lighter one, and applies that value to the original image.

Hue Applies the hue of the paint color without changing the brightness and saturation of the underlying image.

Saturation Changes the saturation of the area painted to match the saturation of the applied color, without changing the hue or luminance values. Applying gray does not affect the original image.

Color Changes the hue and saturation of the painted area to the hue and saturation of the applied color, without affecting the shadow, highlights, or midtones of the original image.

Luminosity Changes the lightness of the underlying color to the lightness of the applied color, without affecting the hue or saturation of the image.

Painting individual pixels with the Pencil

Pencil tool



You can use the Pencil tool to apply the foreground color to a single pixel or create a one-pixel, freehand line. If the pixel already uses the foreground color, the Pencil applies the background color instead.

You can use the Pencil tool for precise image editing at high magnifications.

- ◆ **To paint a straight line:** Shift-drag the Pencil to confine the line to 90 degree angles.

Painting in the background color with the Eraser

Eraser tool 

You can paint with the background color using the Eraser tool. If a paint object has a visibility mask, the Eraser clears the pixels it touches, revealing a clear background. If the paint object does not have a visibility mask, the Eraser applies the background color.

Note: Opacity and painting mode options are not available with the Eraser.

Painting with the Marker

Marker tool 

The Marker tool paints with the foreground color, applying a hard-edged stroke.



1 To configure the Marker tool, double-click the tool to open its dialog box.

2 Select the options you want to use in the Fade area. In the “Fade within” text box, enter the distance in which Canvas will complete the fade.

- To fade the brush size, choose Size.
- To fade the color to transparent, choose Opacity.

3 To make a pressure-sensitive stylus affect the marker size or opacity, turn on these options under “Pressure Varies.”

4 Click OK and use the procedure “Using painting tools” on page 493.

Painting with the Paintbrush

Paintbrush tool 

The Paintbrush tool applies the foreground color. You can apply a soft (anti-aliased) brush stroke by choosing a soft-edged brush in the Brushes palette.



- 1 To configure the Paintbrush tool, double-click the tool to open its dialog box.
- 2 Select the options you want to use in the Fade area. In the “Fade within” text box, enter the distance in which Canvas will complete the fade.
 - To fade the brush size, choose Size.
 - To fade the color to transparent, choose Opacity.
- 3 To make a pressure-sensitive stylus affect the paintbrush size or opacity, turn on these options under “Pressure Varies.”
- 4 Click OK and use the procedure “Using painting tools” on page 493.

Spraying soft strokes with the Airbrush

Airbrush tool



Using the Airbrush tool, you can apply the foreground color with a very soft (anti-aliased) stroke. The Airbrush tool paints as long as you press the mouse button. The Pressure setting in the Brushes palette controls how fast the Airbrush applies color.



- 1 To configure the Airbrush tool, double-click the tool to open its dialog box.
- 2 Select the options you want to use in the Fade area. In the “Fade within” text box, enter the distance in which Canvas will complete the fade.
 - To fade the airbrush size, choose Size.
 - To fade the amount of color applied, choose Pressure.
- 3 To make a pressure-sensitive stylus affect the airbrush size or pressure, turn on these options under “Pressure Varies.”
- 4 Click OK and use the procedure “Using painting tools” on page 493.

Filling areas with color

Bucket tool



You can use the Bucket tool to pour color on an image. The Bucket applies the foreground color where you click. You can adjust its tolerance so the color covers adjacent pixels of the same color only, or adjacent pixels of similar colors.



- 1 To configure the Bucket tool, double-click the tool. In the Bucket dialog box, adjust the settings as needed.
 - To affect only identically-colored pixels, type 0 in the Tolerance text box. Type a larger number to affect more pixels.
 - To soften the edge of the filled area, turn on Anti-Aliased.
- 2 Click OK and use the procedure “Using painting tools” on page 493.

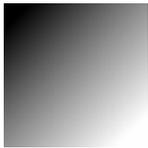
Painting color gradients

Blend tool

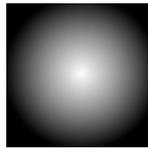


You can paint a blend of colors with the Blend tool. By default, dragging the Blend tool in an image paints a blend from the foreground color to the background color.

The Blend tool is very useful for creating blends from black to white in channels, to make selection masks that fade gradually from full selection to no selection.



Linear blend



Radial blend

- 1 To configure the Blend tool, double-click the tool to open its dialog box. For more information, see “Blend options,” next.
- 2 Set the Mode and opacity in the Brushes palette; see “Creating paint objects with painting tools” on page 486.
- 3 Put the image in edit mode, if necessary. Then, select the Blend tool and drag to apply the blend, depending on the style selected:
 - For linear blends, drag in the direction of the blend. Shift-drag to confine the blend’s direction to a 90- or 45-degree angle. Canvas fills the remaining area (if any) with the foreground color and background color.
 - For radial blends, drag from the center of the blend.

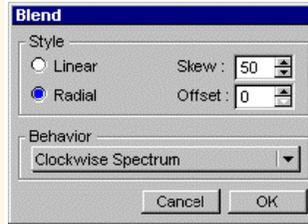
Blend options

Style. Choose Radial or Linear.

Offset. For Radial style, enter a value to set the percentage of starting color in the blend. To use more of the starting color in the blend, enter a number from 50 to 100.

Skew. To set the midpoint between blend colors, enter a number from 13 to 87. The default is 50.

Behavior. Choose a blending method. Foreground and Background refer to the current colors in the toolbox. Transparent options fade from the fore-



Original



ground color to transparency. Spectrum blends create rainbow blends in a clockwise or counter-clockwise direction around the color wheel.

A Example of a blend used to vignette a photograph. The following Blend options were

used:

Radial-style blend
Behavior = Transparent to Foreground
(Foreground color white)
Offset = 10
Skew = 70

Painting two-toned “neon” strokes

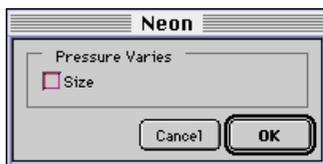
Neon tool



You can paint a neon-tube stroke, with the foreground color inside and the background color outside, with the Neon tool. Use the Glow setting in the Brushes palette to adjust the color ratio. Painting modes aren't available with the Neon tool.

If you are using a pressure-sensitive tablet, double-click the Neon tool to open its dialog box. You can make the stylus pressure affect brush size by turning on the Size in the “Pressure Varies” area and clicking OK.

To paint with the Neon tool, follow the basic procedure in “Using painting tools” on page 493.



Copying areas with the Rubber Stamp tool

Rubber Stamp tool



You can make a copy (“clone”) of an image area with the Rubber Stamp tool. This tool is very useful for retouching scanned photographs, removing lines and scratches, and hiding seams when compositing images.



Rubber Stamp pointer with Option (Mac) or Alt (Windows) pressed



Rubber Stamp pointer without modifier key

- 1 To configure options for the Rubber Stamp tool, double-click the tool to open its dialog box. Adjust the settings and click OK.
 - To fade the brush size or opacity of the cloned image, turn on the appropriate option in the Fade area and enter a number of pixels in the “Fade within” text box to tell Canvas the distance in which to complete the effect.
 - Select an option in the Style pop-up menu; see “Choosing a cloning style” on page 505.
 - With a pressure-sensitive tablet, you can make the stylus pressure affect size and opacity by turning on the appropriate option in the “Pressure Varies” area.

2 Select the Rubber Stamp tool and click an image with the hand pointer () to put it in edit mode, if necessary.

3 Choose a brush shape, mode, and opacity setting in the Brushes palette; see “Creating paint objects with painting tools” on page 486.

4 Option-click (Mac) or Alt-click (Windows) in the image to set the reference point for sampling an image area.

5 Drag in the image to paint a copy of the sampled area around the reference point.

Choosing a cloning style

The effect of dragging the Rubber Stamp tool in an image depends on the option you choose in the Style pop-up menu of the dialog box.

Clone (aligned) The first time you drag the Rubber Stamp tool in the image after setting the reference point, Canvas establishes a fixed direction and distance from the reference point to the pointer. The Rubber Stamp tool copies any area of the image that is this distance and direction from the pointer.

Clone (non-aligned) Dragging the Rubber Stamp tool always begins copying the image from the same reference point.

Impressionist This option smears pixels to create an impressionistic effect. You don’t need to set a reference point to use this effect.

Option-click (Mac) or Alt-click (Windows) to set the reference point for the area you want to clone with the Rubber Stamp tool



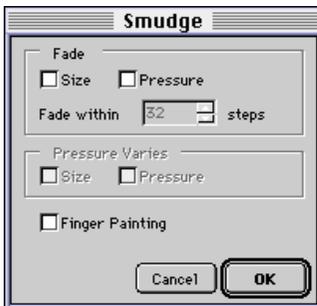
Clone (aligned) option



Clone (Non-aligned) option

Smudging colors

Smudge tool



With the Smudge tool, you can pull color from one area of an image and drag it into adjacent areas. You can adjust the Pressure setting in the Brushes palette to control the distance that the tool smudges a color.

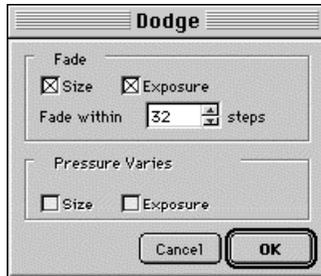
- 1 Select the Smudge tool and click a paint object to put it in edit mode, if necessary.
- 2 To configure the Smudge tool, double-click the tool. In the dialog box, adjust the following settings and click OK.
 - To gradually diminish the brush size as you drag, turn on Size; to reduce the smudge effect as you drag, turn on Pressure in the Fade area. For both options, you can also type a number in the “Fade within” text box to set how quickly the effect fades.
 - To smudge the foreground color into the image, turn on the Finger Painting option.
 - If you use a pressure-sensitive tablet and want stylus pressure to affect size and pressure, turn on Size and Pressure in the Pressure Varies area.
- 3 Select a brush shape in the Brushes palette. For more information, see “Creating paint objects with painting tools” on page 486.
- 4 Adjust the Pressure setting in the Brushes palette. A setting of 1 affects the image slightly; 85 drags the color through many pixels.
- 5 Drag the Smudge tool in the image area you want to edit.

To lighten ('dodge') areas

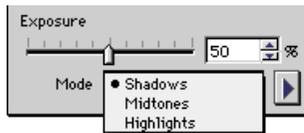
Dodge tool



You can lighten specific areas of an image with the Dodge tool.



- 1 Select the Dodge tool and click a paint object to put it in edit mode, if necessary.
- 2 To configure the Dodge tool, double-click its icon. In the Dodge dialog box, select the options in the Fade area, if desired, and type a number in the Fade Within box to set the length of the fade effect.
- 3 If you use a pressure-sensitive tablet, you can make stylus pressure affect brush size and exposure by selecting the Size and Exposure checkboxes in the Pressure Varies area.
- 4 After configuring the Dodge tool the way you want, click OK.
- 5 Choose a brush shape in the Brushes palette. For more information, see “Creating paint objects with painting tools” on page 486.



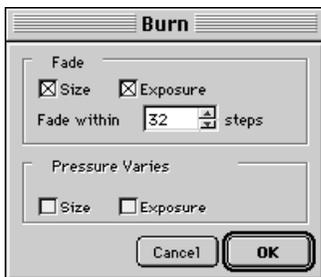
- 6 Adjust the Exposure setting in the Brushes palette. Increasing the Exposure increases the lightening effect of the tool. Decreasing the setting decreases the effect.
- 7 Choose Shadows, Midtones, or Highlights in the Mode pop-up menu. The Dodge tool lightens pixels that fall within the selected range only.
- 8 Drag the Dodge tool in the image area you want to edit.

To darken ('burn') areas

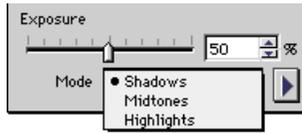
Burn tool



You can darken specific areas of an image by dragging the Burn tool over the pixels you want to darken. The tool's effect can be controlled by your selection of brush and adjustment of the tool's Fade setting.



- 1 Select the Burn tool and click a paint object to put the image in edit mode, if necessary. To configure the Burn tool, double-click its icon.
 - Select Fade options, if desired, and type a number in the Fade Within box to set the length of the fade effect.
 - If you use a pressure-sensitive tablet, select the Size and Exposure checkboxes in the “Pressure Varies” area to vary size and exposure based on stylus pressure.
- 2 After configuring the Burn tool the way you want, click OK.



- 3 Choose a brush shape in the Brushes palette. For more information, see “Creating paint objects with painting tools” on page 486.
- 4 Choose an Exposure setting in the Brushes palette. Increasing the Exposure setting increases the darkening effect of the tool. Decreasing the setting decreases the effect.
- 5 Choose Shadows, Midtones, or Highlights in the Mode pop-up menu. The Burn tool darkens pixels that fall within the selected range only.
- 6 Drag the Burn tool in the image area you want to edit.

To blur areas



You can soften specific areas in an image with the Blur tool. The Blur tool decreases the contrast between pixels the tool drags over.



- 1 Select the Blur tool and click a paint object to put the image in edit mode, if necessary.
- 2 To configure the Blur tool, double-click the tool. In the dialog box, adjust the following settings and click OK.
 - To diminish the brush size gradually as you drag, turn on Size; to reduce the blur effect as you drag, turn on Pressure in the Fade area. For both options, you can also type a number in the “Fade within” text box to set how quickly the effect fades.
 - If you use a pressure-sensitive tablet and want stylus pressure to change size and pressure, turn on Size and Pressure in the Pressure Varies area.
- 3 Select a brush shape in the Brushes palette. For more information, see “Creating paint objects with painting tools” on page 486.
- 4 Adjust the Pressure setting in the Brushes palette. A setting of 1 affects the image slightly; 85 softens the image greatly.
- 5 Drag the Blur tool in the image area you want to edit. Canvas applies the effect to pixels touched by the tool.

To sharpen areas

Sharpen tool

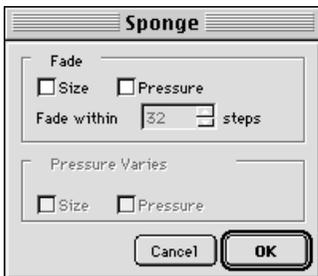


You can increase the contrast between specific pixels in an image with the Sharpen tool.

- 1 Select the Sharpen tool and click a paint object to put the image in edit mode, if necessary.
- 2 To configure the Sharpen tool, double-click the tool. In the dialog box, adjust the following settings and click OK.
 - To gradually diminish the brush size as you drag, turn on Size; to reduce the sharpening effect as you drag, turn on Pressure in the Fade area. For both options, you can also type a number in the “Fade within” text box to set how quickly the effect fades.
 - If you use a pressure-sensitive tablet and want stylus pressure to affect size and pressure, turn on Size and Pressure in the Pressure Varies area.
- 3 Select a brush shape in the Brushes palette. For more information, see “Creating paint objects with painting tools” on page 486.
- 4 Adjust the Pressure setting in the Brushes palette. A setting of 1 affects the image slightly; 85 dramatically sharpens the image.
- 5 Drag the Sharpen tool in the image area you want to edit. Canvas applies the sharpening effect to pixels touched by the tool.

Saturating and desaturating colors

Sponge tool



With the Sponge tool, you can add or remove gray content from specific areas of an image.

- 1 Select the Sponge tool and click a paint object to put the image in edit mode, if necessary.
- 2 To configure the Sponge tool, double-click the tool to open its dialog box.
 - To gradually diminish the brush size as you drag, turn on Size; to reduce the Sponge effect as you drag, turn on Pressure in the Fade area. For both options, you can also type a number in the “Fade within” text box to set how quickly the effect fades.

- If you are using a pressure-sensitive tablet, you can make the stylus pressure affect size and exposure by turning on the appropriate option in the “Pressure Varies” area.

3 After configuring the Sponge tool the way you want, click OK.

4 Choose a brush shape in the Brushes palette. For more information, see “Creating paint objects with painting tools” on page 486.



5 Adjust the Pressure setting in the Brushes palette. Increase the pressure to increase the effect.

6 Choose Saturate or Desaturate in the Mode pop-up menu. Saturate removes gray; desaturate increases the amount of gray.

7 Drag the Sponge tool over the image area you want to edit.

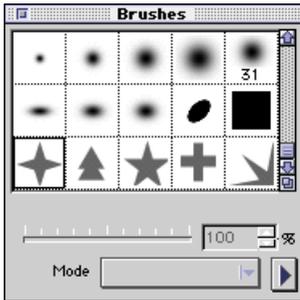
Customizing brushes for painting tools

You can use the Brushes palette to create brushes, save brushes in files on disk, modify existing brushes, and delete unwanted brushes.

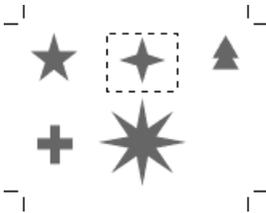
You can add custom brushes to the list of preset brushes in the palette. When you exit Canvas, it stores the brush presets. The same set of brushes are available whether you work with new documents, documents you created, or documents created by another Canvas user.



Brushes palette pop-up menu



New brushes appear in the Brushes palette



You can select image areas to make brushes. This image contains rendered vector objects.

To create a new brush

- 1 Press the right-arrow button in the Brushes palette and choose New Brush in the pop-up menu.
- 2 In the New Brush dialog box, adjust the settings for the brush. For more information, see “New brush options,” page 512.
- 3 After entering the settings you want, click OK. The new brush shape appears in the Brushes palette.

To delete brushes from the palette

You can permanently remove brush shapes from the Brushes palette. If you think you might want to use the brush shape again, you should first store it in a brushes file so you can later load it back into the palette. See “Saving and loading brushes,” page 512.

- ◆ **To delete a brush:** Select the brush you want to delete. Choose Delete Brush in the Brushes palette pop-up menu, or Command-click (Mac) or Alt-click (Windows) a brush in the palette to delete it.

Using a selection to define a brush shape

You can make a new brush shape from a selection in an image. This lets you create non-elliptical brush shapes.

- 1 Select all or part of an image; see “Selecting pixels in images,” page 545.
- 2 Choose Define Brush in the Brushes palette pop-up menu. The selection becomes a brush in the Brushes palette. Canvas uses the shape and lightness values of the selection to define the brush. Brush shapes do not contain color.

Modifying brush shapes

You can edit any brush shape. For brush shapes created from selections, you can change only the spacing.

- 1 In the Brushes palette, double-click the brush shape you want to modify.
- 2 In the Brush Options dialog box, adjust the settings you want and click OK; see “New brush options,” next.

New brush options

You create brush shapes by specifying diameter, hardness, spacing, roundness and angle. These same options are available in the Brush Options dialog box.

Diameter. Enter the diameter in pixels of the new brush.

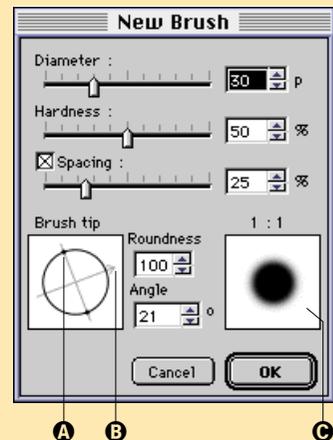
Hardness. Enter a percentage to tell Canvas how much of the brush shape is solid.

Spacing. This percentage sets the amount of brush overlap when you drag a painting tool. Turn off Spacing to make the brush velocity-sensitive, so it skips pixels when dragged fast.

Roundness. Enter 1 to 100. To create a circle, enter 100.

Angle. Enter a number to rotate the brush shape.

- A** Drag to change Roundness.
- B** Drag to change the Angle.
- C** Preview of the brush shape.



Saving and loading brushes

You can save brushes in a file, and load brushes from a saved file into the Brushes palette. Saving brushes to disk lets you customize the Brushes palette for particular projects or exchange brushes with other Canvas users. The file format that Canvas uses to save brushes on disk is also compatible with the file format used by the Photoshop image-editing program for saving brushes.

To save brushes in a file

- 1 In the Brushes palette, add or remove brushes until you have the collection you want to save.
- 2 Choose Save Brushes in the Brushes palette pop-up menu.
- 3 In the directory dialog box, type a name for the brushes file, select a location, and click Save (Mac) or OK (Windows).

To load brushes from a file

When you load brushes, you can replace the current set of brushes with the contents of the file, or add the brushes to those in the palette.

- 1 In the Brushes palette, choose one of the following commands in the pop-up menu:
 - To replace the current brushes with those in the brushes file, choose Load Brushes.

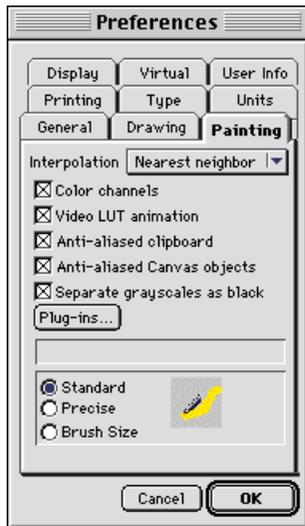
- To add the presets in the brushes file to those currently in the palette, choose Append Brushes.
- 2 In the directory dialog box, locate the brushes file you want to open and click Open (Mac) or OK (Windows).

Using vector and text tools in paint objects

After placing a paint object in edit mode, you can use vector tools and the Text tool to add shapes and type to an image.

When you draw or type text within a paint object in edit mode, Canvas rasterizes the objects according to the image mode and resolution of the paint object, and makes a floating selection in the image.

When you type within a paint object in edit mode, you can modify the font, size, and style of the type before Canvas rasterizes it. For more information, see “To set type within images” on page 514.



To set anti-aliasing for objects placed in images

You can set a preference so Canvas softens the edges of objects you draw in an image or paste into an image from the Clipboard.

- 1 Choose File > Preferences and click the Painting tab in the Preferences dialog box.
- 2 Set the preferences you want to apply to objects placed in images and click OK.
 - To soften selections pasted from the Clipboard, select “Anti-Aliased Clipboard.”
 - To soften objects or type created in paint objects in edit mode, select “Anti-Aliased Canvas Objects.”

For more information, see “Painting preferences” on page 162.

To draw objects within images

You can use any of the drawing tools in a paint object in edit mode to “paint” shapes. When you finish drawing the shape, Canvas rasterizes it, based on its shape and colors.

- 1 Double-click the paint object with the Selection tool to put it in edit mode, if necessary, and select a drawing tool.
- 2 Select ink and stroke settings. For more information, see “Inks: colors and patterns” on page 239 and “Strokes: outline effects” on page 265.

3 Drag the selected tool to draw within the paint object. For more information, see “Drawing basics” on page 313. The object you draw becomes a floating selection and you can change its opacity, set the mode, or apply filters; see “Changing the opacity of floating selections” on page 554 and “Image filters and effects” on page 601.

4 When you finish editing the selection, press Enter (Mac) or Esc (Mac or Windows) to make the selection part of the image. Press Enter (Mac) or Esc (Mac or Windows) again to deselect the area.

To set type within images

You can type text within a paint object in edit mode and then modify the attributes before Canvas converts the type to a floating selection.

1 Double-click the paint object with the Selection tool to put it in edit mode, if necessary, and select the Text tool in the toolbox.

2 Click the I-beam pointer in the image and type the text, which appears in a white box.

- You can use the Text menu, Type palette, or Text Ruler to set typographic attributes.

3 Press Enter (Mac) or Esc (Windows) to make the type a floating selection.

- You can change the opacity, set the mode, and apply filters to the selection; see “Changing the opacity of floating selections” on page 554 and “Image filters and effects” on page 601.

4 When you finish, press Enter (Mac) or Esc (Windows) to make the type selection part of the image. Press Enter (Mac) or Esc (Mac or Windows) again to deselect the area.

Image modes for Canvas paint objects

In Canvas, image modes define the color model and the number of colors that can be used in images. When you create a new paint object in Canvas, you select an image mode: Black & White, Grayscale, RGB Color, CMYK Color, or LAB Color. When you select a paint object, Canvas displays the image mode in the information area at the right end of the Status bar.

How image modes affect image filters

Filters produce different results depending on the image mode. When you paint, the opacity setting of a brush acts differently on images in different modes. For the most predictable results with filters and paint tools, use RGB Color mode.

Posterizing a LAB image introduces color to light areas.



Original



*RGB image
posterized 4 levels*



*LAB image
posterized 4 levels*

How Canvas assigns image modes

When you import an image from another source either by opening, placing or pasting an image file, Canvas assigns an image mode based on the number of colors and the color model used in the image.

The following table shows the image modes that Canvas assigns when you import images in some common image formats.

Imported format	Assigned image mode
TIFF	RGB Color, CMYK Color, or Grayscale
BMP	256-color image: Indexed 24-bit image: RGB Color
MacPaint	Black & White
Photoshop	Same as original image mode

Changing image modes

The Mode submenu lets you change the mode of selected paint objects.

You might want to change modes so you can use certain features, or to reduce memory requirements. For example, you might want to convert an Indexed image to RGB Color mode to apply image filters.

You might want to convert an RGB Color image to Grayscale mode to save memory when a document is printed without color.

◆ **To change image modes:** Select one or more paint objects. Or, with a paint object in edit mode, choose the mode you want in the Image > Mode submenu.

Some modes are available only if the object's current mode is compatible. For example, Black & White mode and Duotone mode are available only when Grayscale paint objects are selected.

If the mode you choose does not support an image's full color range, a message asks you to confirm the change. Click OK to proceed.

If you choose Duotone mode or Indexed mode, you can select options in a dialog box and then click OK to complete the conversion. See "Duotone image mode" on page 523 and "Indexed image mode" on page 517.

Black & White image mode

Black & White image mode is used for scanned line art and black-and-white ("bitmap") images, which contain only black and white pixels. Black & White mode images require the least amount of memory and disk space.

To convert to Black & White mode

Grayscale mode images and Multichannel mode images are the only images you can convert to Black & White mode. If an image is not Grayscale, convert it to Grayscale mode first if you want to convert it to Black & White mode.

- 1 Select the paint objects to convert and choose Image > Mode > Black & White. The Select Halftone Method dialog box lets you choose a conversion option.
- 2 Select Pattern Dither, Diffusion Dither, or Threshold, and then click OK.
 - If you choose Pattern Dither or Diffusion Dither, Canvas "screens" the image, rendering its tones as patterns of tiny dots. Pattern Dither screens an image using a fixed pattern similar to a traditional halftone screen. Diffusion Dither screens an image using a process that creates a random pattern effect.

- If you choose Threshold, Canvas converts the image to a high-contrast black-and-white image. Pixels of lightness values from 0 to 128 become black, and pixels of lightness values from 129 to 255 become white.

When you paste a selection into a Black & White image, Canvas uses diffusion dither on the selection.



Grayscale image mode

Grayscale mode is appropriate for images scanned from black and white photographs, or when the image will never be printed in color. In Grayscale mode, pixels use 256 brightness levels to represent a range of shades from pure black to pure white. Grayscale uses 8 bits per pixel and requires less memory than most color modes.

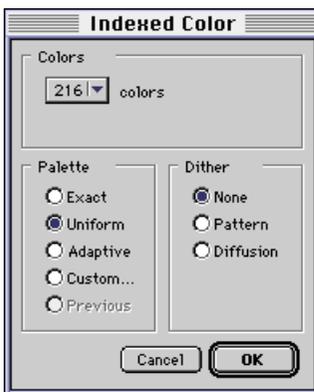
If you convert a color image to Grayscale mode, Canvas discards all color information.

Indexed image mode

Indexed color mode uses a palette of 256 colors for images. Because it stores fewer colors, it requires significantly less memory than RGB Color and CMYK Color modes, both of which support millions of colors. Smaller memory requirements make Indexed mode especially useful for images used on Internet web pages.

An Indexed image includes a color table, or palette, of colors used in the image. When you convert an existing image to Indexed mode, you can specify the number of colors from the image to include in the color table.

Most image filters, effects, and opacity controls aren't available to be applied to Indexed images, except the Offset and De-Interlace filters, as well as some third-party plug-in filters.



To convert an existing image to Indexed mode

- 1 Select paint objects with the Selection tool and choose Image > Mode > Indexed. A dialog box appears.
- 2 In the Indexed Color dialog box, choose an option for the color table:

Exact	Creates a color table from the colors in the image, if the image contains 256 colors or less; otherwise, this option isn't available
Uniform/System	Creates a color table based on the operating system's palette of 256 colors (System), or a subset of these colors (Uniform)
Adaptive	Creates a color table from the most frequently used colors in the image
Custom	Lets you create a color table, load, and save color table files.
Previous	Applies the last color table used in the Indexed Color dialog box during the current Canvas session

- 3 Depending on which method you select, the Colors area in the dialog box displays information about how the color table is computed. Choose the option you want, if necessary:

Exact	If you choose Exact, the Colors area displays the number of colors in the selected image
Uniform/System	If you choose System, the Colors area displays the number of colors in the operating system's palette; if you choose Uniform, a pop-up menu that lets you select 8, 27, 64, 125, 216, or 256 colors appears
Adaptive	If you choose Adaptive, the Colors area displays a text box that lets you enter a number of colors from 2 to 256
Custom	If you choose Custom, the Colors area displays "Custom colors"
Previous	If you choose Previous, the Colors area displays the number of colors in the last color table created by the Indexed Color dialog box during the current Canvas session

4 Choose a color-distribution option in the Dither area:

None	Changes colors to their closest equivalent in the selected color table without dithering
Pattern	Approximates colors not in the palette by arranging palette color in geometric patterns (available for Uniform/System method only)
Diffusion	Approximates non-palette colors by randomly dithering available colors; creates the most natural effect

5 After choosing the settings you want, click OK. If you select the Custom option, the Color Table dialog box appears. To use this dialog box, refer to “Creating custom color tables for Indexed images,” next.

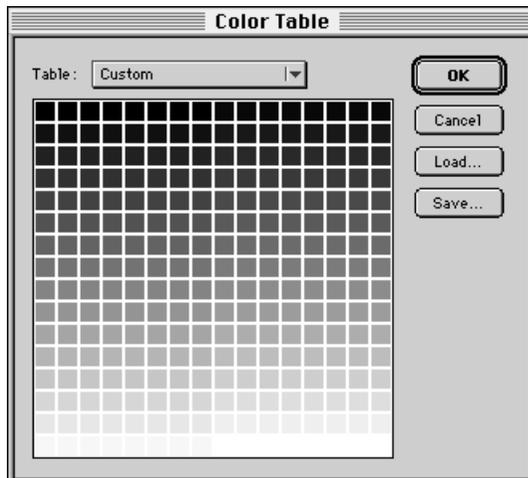
Creating custom color tables for Indexed images

You can create a custom color table for an Indexed image in two ways. You can select “Custom” in the Indexed Color dialog box. Or, with an Indexed image selected, you can choose Image > Mode > Color Table in the Image menu. If you select “Custom” in the Indexed color dialog box, Canvas opens the Color Table dialog box after you click OK in the Indexed Color dialog box.

In the Color Table dialog box, you can edit individual colors in the palette, create a blend of colors, and select from several preset color palettes, including System and Grayscale palettes. You can also save a palette file, or load a palette file.



Table pop-up menu



In the Color Table dialog box, a grid of 256 color swatches appears; each swatch represents one color in the palette. By default, the Custom option appears in the Table pop-up menu, and the color swatches show the last palette used in the dialog box.

The Table pop-up menu lets you choose among preset color tables:

- Black Body is a range of sunset-like colors.
- Grayscale is a ramp from pure black to pure white.
- Macintosh System is the palette of colors supported by the Mac OS.
- Spectrum is a set of rainbow colors.
- Web Browser is a set of 216 colors that can be displayed without dithering by nearly all Internet web browsers, running Mac OS or Windows. This option is also referred to as a “browser safe” palette.
- Windows System is the palette of colors supported by Windows.

You can also create a custom color table. To do this, refer to the sections “To customize individual colors” on page 521, and “To customize a color table by blending colors” on page 521.

Saving and loading color tables

By using the Load and Save options in the Color Table dialog box, you can save color tables to your hard disk, or load a saved color table file into the Color Table dialog box.

To load a custom color table

- 1** Click Load in the Color Table dialog box. A directory dialog box appears (Mac), or a Load Settings dialog box appears (Windows).
- 2** In the directory dialog box, locate the color table file you want to load, and then click Open. Canvas replaces the current palette in the Color Table dialog box with the new palette, and its name appears in the Table pop-up menu.

To save a custom color table

- 1** Click Save in the Color Table dialog box. A directory dialog box appears (Mac), or a Save Settings dialog box appears (Windows).

2 Type a name for the table in the “Save color table in” box (Mac), or the “File name” box (Windows). Before you type the file name, Canvas adds the extension “.ACT” in the text box. It’s recommended that you keep this extension when naming the file.

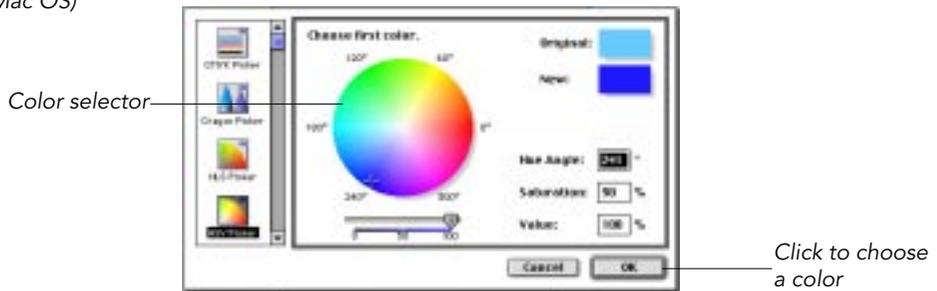
3 Specify a location on your hard disk to save the color table, and then click Save. Canvas saves the color table.

To customize individual colors

After choosing a color table, you can customize individual colors in it using a color picker dialog box

1 Click a color switch to open a color picker dialog box.

Color Picker (Mac OS)



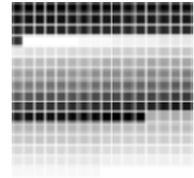
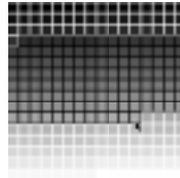
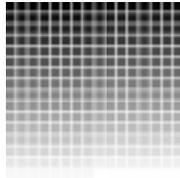
2 In the color picker, select a color to replace the selected swatch in the palette, and then click OK.

To customize a color table by blending colors

Canvas lets you create blends of selected swatches in the color table. When you do this, the first and last swatches you select don’t affect the final blend in the color table. How the blend appears in the color table is determined by the two colors you choose in the Color Picker in step 2 of this procedure.

1 Drag across multiple color swatches to select them (the more you select, the more gradual the blend will be). Selected color swatches appear highlighted with a black border, and then the color picker dialog box opens.

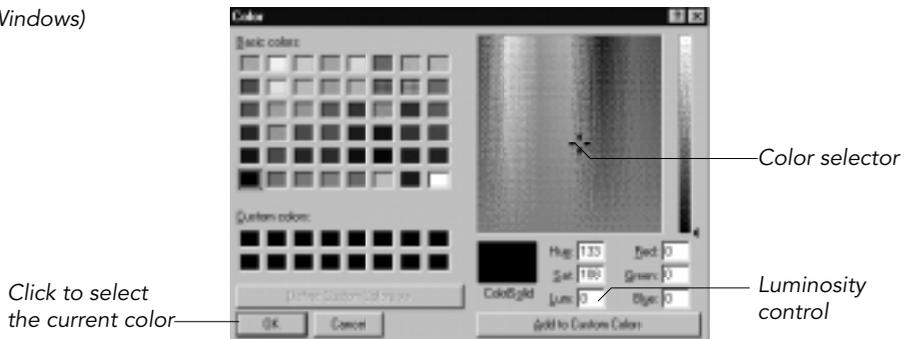
Original Grayscale palette



Drag to select color swatches to replace with a blend

2 In the color picker, choose the first color, and then click OK. The color picker remains open; choose the second color, and then click OK. Canvas fills the selected color swatches in the Color Table dialog box with a ramp of the two colors.

Color picker (Windows)



RGB Color image mode

RGB Color mode is used most often when working with high-quality full-color images, such as those from color scanners and digitized photographs stored on CD-ROM.

RGB Color mode is the most reliable mode to use for images you want to modify with painting tools and filters. However, the full range of RGB colors exceeds the range that commercial printing can reproduce, so you should be aware of the limitations of the printing method that will be used. Also, an RGB Color image is device dependent, which means that the same RGB values can look different when displayed on different monitors.

In RGB Color mode, each pixel has a red, green, and blue component. Each component, referred to as a color channel, has 256 inten-

sity levels. The combination of the intensity value in each channel creates each pixel's color.

CMYK Color image mode

CMYK Color mode is based on the four color inks used in commercial printing (and by some desktop printers): cyan, magenta, yellow, and black. Some color scanners can produce CMYK images.

In a CMYK Color image, each pixel has a cyan, magenta, yellow, and black component. Each of these color channels has 256 intensity levels. The combination of the intensity value in each channel creates each pixel's color. Because monitors are RGB devices, they can't display CMYK colors directly. However, Canvas attempts to display CMYK images as they will appear when printed.

LAB Color image mode

The Commission Internationale d'Eclairage (CIE) developed the LAB Color mode as an international color standard to overcome the device dependency of the RGB and CMYK modes. In a LAB Color mode image in Canvas, each pixel has one lightness and two color components. The Lightness (L) channel has 256 levels of intensity. The two color channels, labeled A and B, provide a color range from red to green and yellow to blue, respectively.

Some companies sell collections of images in LAB Color mode. Editing LAB Color mode images with some filters or painting tools can have interesting and unpredictable effects.

Duotone image mode

In traditional graphics arts reproduction, a "duotone" is a grayscale image printed with black and an additional color. Canvas lets you create duotone images, as well as "monotone," "tritone," and "quadtone" images (printed with one, three, or four colors, respectively).

Printing images as duotones can add interest and increase the tonal range reproduced from grayscale photographs, without the additional expense of printing full-color images. The duotone effect can be subtle or striking, depending on the color used and the amount added to the image. In any case, the additional colors are used to reproduce the gray values in the image, rather than to reproduce specific colors.

To create a monotone, duotone, tritone, or quadtone in Canvas, you must convert a Grayscale image to Duotone mode. Unlike other

image modes, once an image is converted to Duotone mode, you cannot work with individual image channels. Instead, you can adjust curves for each color “channel” in the Duotone Options dialog box.

Note: In this section, the term “Duotone” refers to the Duotone image mode, not just to images printed with two inks. In Duotone mode, an image can be printed as a monotone, duotone, tritone, or quadtone.

To create a Duotone image

1 Select paint object and choose Image > Mode > Grayscale to convert to Grayscale mode. Click OK when Canvas asks to discard color information. Then choose Image > Mode > Duotone.

2 In the Duotone Options dialog box, choose Monotone, Duotone, Tritone, or Quadtone in the Type pop-up menu. Depending on the Type setting, the Ink 1, Ink 2, Ink 3, and Ink 4 Curve boxes, color pop-up menus, and text boxes become available.

3 Choose ink colors by pressing the color palette icons and selecting colors in the pop-up palettes. *Note:* You must have already added the desired colors to the preset colors on the Color tab in the Inks palette for them to be available in the pop-up palette.

✓ Tip

If you plan to export a duotone image to another graphics or page layout program, be sure the color names exactly match the color names in the other application. Otherwise, you might produce more color separations than necessary.

- For a monotone image, choose a single color in the Ink 1 area. For a traditional duotone, leave “Process Black” as Ink 1, and choose a second color in the Ink 2 area. For tritones and quadtones, choose additional colors for Ink 3 and Ink 4.
- Canvas puts the name of the selected ink in the text box.
- To use process colors, type the appropriate name (“Process Cyan,” “Process Black,” “Process Magenta,” or “Process Yellow,”) so colors appear on the correct plates. If you leave the text box blank, Canvas prompts you to enter a name for the ink.
- You should specify ink colors in descending order of lightness value. In other words, darker color inks should appear at the top, and lighter color inks should appear at the bottom of the dialog box.
- You should assign only solid spot colors (PANTONE inks) or individual process colors for duotones. If you assign a color ink made from CMYK components (including a TruMatch color), Canvas treats it like a spot color and prints only one plate for the color when you output color separations.

- 4 If necessary, click the curve boxes to adjust curves for each ink color. In the Duotone Curves dialog box, drag the curve to adjust it, or enter values in the text boxes to map input values to the desired output values, and then click OK.
- 5 Click OK to apply the Duotone Options dialog box settings.

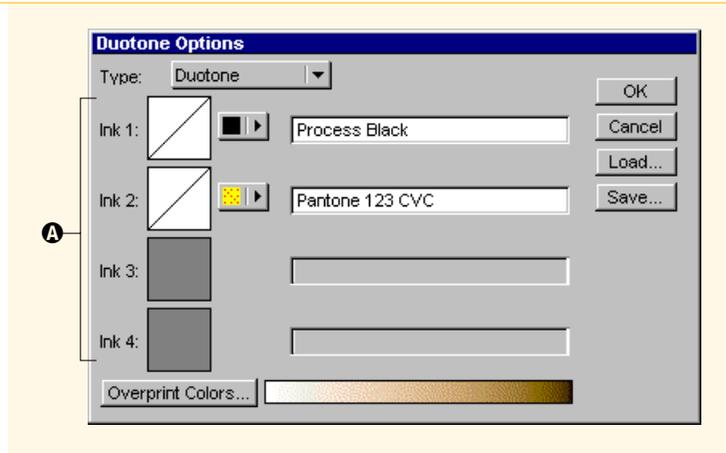
Duotone Options

You can select and change the following ink settings for images in Duotone mode.

Type. Choose Monotone, Duotone, Tritone, or Quadtone.

A Inks. Click the palette icons and select colors in the pop-up palettes for each ink. Type process and spot color names in the text boxes.

Overprint Colors. Click to adjust the screen display of the Duotone inks. Because the appearance of spot-color combinations can't be predicted within Canvas, you can do this if you have an accurate printed reference for the colors you



select. Overprint Colors settings do not affect color separations, but will change the appearance of color composites printed on desktop color printers. In the Overprint Colors

dialog box, click the color squares to open a color selector dialog box. Choose the color you want to represent the ink combination on screen and then click OK.

Adjusting duotone images

After you convert an image to Duotone mode, you can reopen the Duotone Options dialog box to adjust the color curves, change ink colors, and use the Load and Save options.

◆ **To change duotone options:** Select the paint object you want to adjust and choose Image > Mode > Duotone Inks. Adjust the settings in the Duotone Options dialog box and click OK to implement the new settings.

Loading and saving duotone information

Use the Load and Save buttons in the Duotone Options dialog box to work with files of duotone options information. Canvas uses a file

format compatible with the duotone options files used by the Photoshop image-editing program, so you can load files saved from Photoshop, and files saved by Canvas can be loaded into Photoshop.

- Click Save to save the duotone options settings. In the directory dialog box, type a file name and click OK or Save.
- Click Load to use settings from a saved duotone options file. In the directory dialog box, select a duotone options file and click Open. Canvas will apply the ink and curve settings saved in the file to the Duotone Options dialog box.

Multichannel image mode

Multichannel image mode lets you work with multiple channels of grayscale information for a grayscale image. In multichannel mode, each channel contains lightness values as in other image modes, but the values do not relate to color components.

When you convert an image to Multichannel mode, the image data does not change. For example, if you convert an RGB Color mode image to Multichannel mode, the Red, Green, and Blue channels retain the same pixel information, but the channels no longer represent color pixels. The channels in Multichannel mode are labeled numerically (#1, #2, and so on) in the Channels palette.

The Multichannel mode is not available if you select a paint object containing an image in Black & White image mode.

SCANNING, SIZING, AND TRACING IMAGES

This chapter focuses on acquiring and sizing images. It explains how to scan images into Canvas documents, change the size and resolution of images, and auto-trace images to create vector objects from them. It also describes some basic techniques you can use to improve scanned images and photographs imported from Photo CDs.

Using scanners to acquire images

You can scan images directly into Canvas documents using most types of desktop scanners. Canvas supports scanners that work with Photoshop-compatible plug-in acquire modules. It also lets you use scanning devices that are compatible with the TWAIN standard.

Using TWAIN-compatible scanners

Scanner manufacturers created the TWAIN interface to standardize interaction between scanners and computer software. Scanners that comply with the TWAIN standard provide a “source manager” file, which translates scanner information into data that Canvas can use. You must install the TWAIN scanner software on your system before you can select the scanner and scan images in Canvas.

If you aren't sure whether a scanner is TWAIN-compatible, consult the scanner documentation or contact the manufacturer.

To select a TWAIN scanner

- 1 Choose Image > Acquire > TWAIN Select Source. In the Select Source dialog box, a scrolling list contains the names of all TWAIN scanners for which Canvas can locate a data source.
- 2 Select the scanner you want to use and click OK. The Select Source dialog box closes and the scanner you selected becomes the active scanner.

To acquire images using a TWAIN scanner

- 1 When you scan an image, it appears in the active Canvas document. Open an existing document or choose the New command in the File menu to create a new document.
- 2 Choose Image > Acquire > TWAIN Acquire. A dialog box for the scanner you are using appears. Refer to the scanner's user manual for information on scanner options.
- 3 Select the options you want in the scanner dialog box.
 - Click Prescan to view a preview of the image. You can verify that the image is aligned and completely visible and reposition it if necessary.
 - Depending on the available options, you can adjust scaling and brightness of the image.
- 4 Click Scan to begin scanning. When the scanner finishes, the scanned image appears in the active Canvas document.

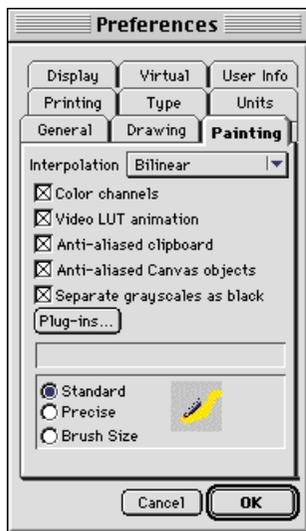
Using scanners with plug-in acquire modules

Canvas is a plug-in host program, which means that you can use scanners that work with acquire modules that are Photoshop plug-in compatible. You first should install the acquire module for your scanner so it is available to Canvas. Once Canvas recognizes an acquire module, its name appears in the Image > Acquire submenu.

To locate the plug-ins folder for Canvas

Canvas looks for plug-ins, including acquire modules, in the Canvas Tools folder. To tell Canvas to look for plug-ins in another location, use the Plug-ins button on the Painting tab in the Preferences dialog box.

- 1 Choose File > Preferences in the File menu.
- 2 In the Preferences dialog box, click the Painting tab and then click the Plug-ins button.
- 3 In the directory dialog box, navigate to the folder where plug-ins are stored on your hard disk. Click the button labeled Select "folder name" (Mac), or select a plug-in module and click Open (Windows).
- 4 Click OK to close the Preferences dialog box.
- 5 Exit and then re-start Canvas to activate the plug-in modules.



On the Painting tab, click "Plug-ins..." to select a folder for plug-in acquire modules

Acquiring multi-frame GIF files

When you acquire a GIF file with multiple frames, Canvas displays a dialog box so you can choose which frames to acquire. Enter a range in the text boxes, and then click OK. Canvas places the specified frames in the document.

Note: You can also acquire multi-frame GIF files from the Colada Animation palette.

To acquire images using plug-ins

1 When you scan an image in Canvas, the image appears in the active Canvas document. Either open the document you want to use, or use the New command to create a new document.

2 Choose Image > Acquire and select a plug-in acquire module in the Acquire submenu.

Note: If you do not see your scanning device in the menu, make sure that its acquire module is in the correct folder; see “To locate the plug-ins folder for Canvas,” above.

3 After selecting a device, a dialog box with options for your scanner appears. Refer to the scanner’s user manual for information on these options and information on using the scanner; some common settings are described below.

4 Adjust the settings in the scanner dialog box and click Scan.

Scanning options

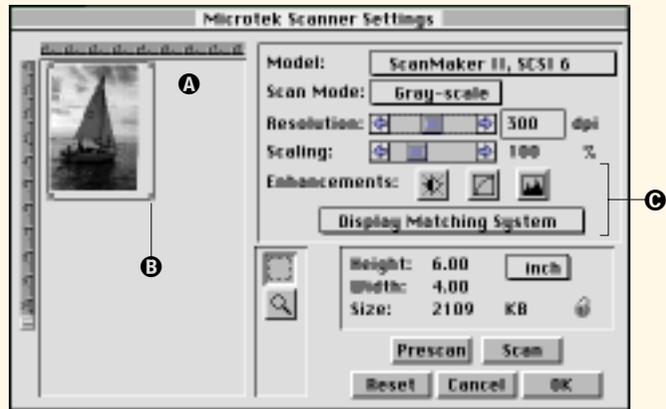
Plug-in acquire modules for scanners offer various options. Some standard scanning options are described here.

Scan Mode or Color Mode.

Choose color, black and white, or grayscale. These options correspond to the RGB Color, Grayscale, and Black & White image modes in Canvas.

Resolution. Specify the scan resolution in pixels (or dots) per inch. Scanning at higher resolution captures more image information and results in higher memory and disk storage requirements.

Scaling. Enter a scaling percentage to reduce or enlarge the image.



A Use the preview area to check the image and make sure the area you want to scan is positioned correctly.

B Many scanners let you drag the corner of a scan rectangle to select the area that will be scanned. The selected area de-

termines the size of the image object in Canvas.

C Most scanners offer brightness or exposure controls. Refer to the scanner documentation for more information on adjusting exposure settings.

Deciding on a scanning resolution

Digital images are composed of square pixels, and pixel size is a major factor affecting image quality. The resolution of an image is expressed as the number of pixels per (linear) inch, abbreviated ppi, or pixels per centimeter. Smaller pixels result in higher image resolution, which generally indicates better image quality. With scanned images, the resolution is also a measure of how much information has been captured from the original artwork.

At relatively low resolution, such as 75 ppi, lines, edges, and character shapes in an image can appear jagged (see “About digital images and resolution” on page 531). Scanning at higher resolution produces smoother images, which also require more memory and disk space.

Use the following questions to help you decide what resolution is appropriate when you scan images.

Are you scanning line art or text? Line art, such as pen and ink drawings, and high-contrast images with sharp edges or type, should be scanned at the highest resolution possible. Text scans that will be processed with character-recognition software should also be scanned at high resolution for accurate translation.

What halftone screen frequency will be used for printing? For continuous-tone images (photographs), a common rule of thumb is to scan at a resolution of 1.5 or at most 2 times the screen frequency. For example, for offset printing on newsprint at a screen frequency of 85 lines per inch (lpi), an image should be scanned at 128 to 170 ppi. For images printed at 133 lpi, scanning resolution should be 200 to 266 ppi.

Talk with service bureaus and commercial printers about the screen frequency used for your projects. With this information, you can let Canvas calculate the optimal resolution for an image. See “Resampling and sharpening images” on page 539.

Will the final image be smaller or larger than the original? If you need to enlarge the image, you should scan it at a higher resolution to retain the most information when you resize it. If you will reduce the size of the image, you can scan it at a lower resolution.

Note: Because resizing tends to blur an image, you can use the Unsharp Mask filter to sharpen it. For more information, see “Using filters to sharpen images” on page 595.

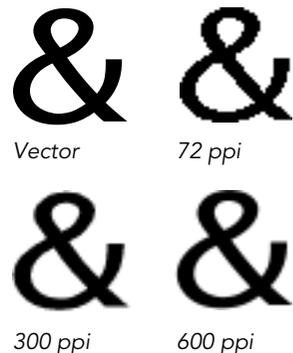
About digital images and resolution

Digital images, also known as raster and paint images, are composed of tiny square pixels.

The number of pixels that fit in a linear inch or centimeter is the image resolution. The resolution indicates how much information is in the image, independent of the resolution

used to display the image on screen or to print it.

Low-resolution images have larger pixels and look more jagged than high-resolution images. However, while high-resolution images look smoother, they also require more memory and disk space.



Changing image size

You can use several methods to resize or scale paint objects and the images they contain.

Keep in mind that altering the size or resolution of a paint object can degrade the quality of an image. Canvas uses interpolation to estimate pixel values when necessary, but this can result in loss of sharpness or detail when large scaling factors are applied.

The best way to avoid image degradation is to avoid changing image size or resolution.

- If an image is too big for a particular layout, consider cropping the image, rather than resizing or scaling it to fit.
- If a photographic image requires higher resolution, try re-scanning the original at a higher resolution, rather than increasing the resolution in Canvas.

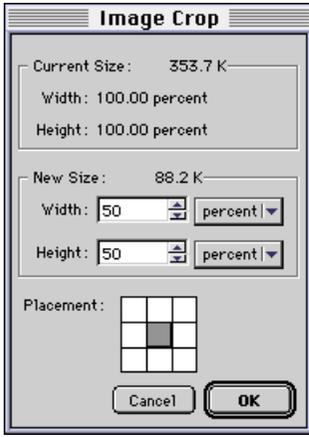
If you resize, skew, or rotate a paint object, you can restore the original shape and resolution by choosing the Remove Effects command in the Effects menu.

Stretching images with the mouse

You can change the size of a paint object by clicking it with the Selection tool and dragging a selection handle. Stretching an image non-proportionately also stretches the pixels, which can cause unwanted distortion to the image.

Scaling images using the Scale command

You can change the size of a paint object by selecting it and choosing Scale in the Object menu. The Scale command lets you maintain the object's proportions, or distort an image by scaling it in one direction. Using the Scale command does not add or remove pixels from an image. For information on using Scale, see "Scaling objects" on page 216.



You can specify relative or absolute measurements in the Image Crop dialog box

Using the Crop command to change image size

You can adjust the overall size of an image using the Crop command.

- When you enlarge an image, Canvas adds white pixels.
- When you reduce an image, Canvas crops out pixels and discards the image data.

- 1 Select a paint object (not in edit mode) and choose Image > Area > Crop. A dialog box displays the current size, width, and height.
- 2 Under New Size, enter the size you want the image to be. You can use percent, pixel, inch, centimeter, point, or pica values.
- 3 To set the position of the resulting image, click a square in the Placement grid. For example, to crop the image from the right side and bottom, click the upper-left square in the Placement grid. To expand the image on all sides, click the center square.
- 4 Click OK to resize the image. If you are reducing the image area, Canvas warns you it will delete pixels; click OK to proceed.

Using the Trim command to remove borders

The Trim command lets you remove same-color pixels that are near the edge of the image area. This feature is useful for removing unwanted white space or other borders that are not part of the main image. For example, you scan a photo that doesn't fill the entire scanner area, and there is a white border around the photo. The Trim command identifies the edges of the image, determines which pixels around the border match, and deletes the unwanted border.

Note: Canvas alerts you if the image can't be trimmed because a border can't be found.

- ◆ **To trim an image:** Select one or more paint objects to trim, and then choose Image > Area > Trim. Canvas removes the border.

Using the Crop tool to change image size

You can use the Crop tool to select a rectangular part of an image and hide the rest. This is called a "soft crop." When you edit a soft-cropped image, the cropped area reappears while the image is in edit mode. When you finish editing, Canvas re-crops the image.

You can also use the Crop tool to "hard-crop" an image, which adds or removes pixels, as an alternative to using the Area > Crop com-

Crop tool



mand. See “To remove pixels when cropping an image” on page 535, and “To add pixels with the Crop tool” on page 535.



The soft crop pointer indicates cropping will be temporary



The hard crop pointer indicates cropping will be permanent



A gavel appears in crop mode when the pointer is in the image. Click to complete the crop.



A hand appears in crop mode when you point to a side of the cropping rectangle. Drag to move the rectangle.



This symbol appears if the pointer is outside the image in crop mode

To crop without deleting pixels

- 1 Select the Crop tool in the Painting Tools toolbar and point to the image you want to crop.
- 2 With the crop pointer, click the image. Canvas displays a rectangle with hollow handles. This cropping rectangle defines the outside edges of the image after cropping.
- 3 Position the cropping rectangle to frame the part of the image that you want to keep.
 - Drag a corner handle to resize the cropping rectangle.
 - Drag a side to move the cropping rectangle. The pointer changes to a hand when you point to a side.
- 4 Press Esc to crop the image, or click in the image. Canvas hides the part of the image outside the cropping rectangle.

To restore a cropped image

You can select a paint object and choose Remove Effects in the Effects menu to remove a soft crop. Or, use the following procedure:

- 1 Click the image with the Crop tool. Canvas displays the full image area and the cropping rectangle.
- 2 Drag the corner handles outward so the entire image is inside the cropping rectangle, and then Press Enter (Mac) or Esc (Windows), or click in the image.

Cropping an image

Adjust the cropping rectangle with the Crop tool by dragging a handle. Enclose the area you want to keep, and then press Esc to hide the cropped part of the image.

Cropping rectangle



✓ Tip

You can quickly crop or expand a paint object using the Selection tool. Select the paint object (don't put it in edit mode), then Ctrl-drag a handle to crop or add pixels to the image. When you drag, the cropping rectangle and handles appear. When you release the mouse, Canvas applies a hard crop.

To remove pixels when cropping an image

In hard-crop mode, the Crop tool discards pixels that are outside the cropping rectangle.

- 1 Select the Crop tool in the Painting Tools toolbar and Command-click (Mac) or Ctrl-click (Windows) the image you want to crop. Canvas displays a cropping rectangle around the boundary of the image.
- 2 Position the cropping rectangle so it frames the part of the image you want to keep.
 - Drag a handle to resize the cropping rectangle.
 - To move the cropping rectangle, point to any side, and the pointer changes to a hand. Drag the cropping rectangle to reposition it.
- 3 Press Esc or click in the image to complete the crop.

To add pixels with the Crop tool

- 1 Select the Crop tool in the Painting Tools toolbar and point to the image you want to crop.
- 2 Command-click (Mac) or Alt-click (Windows) the image you want to enlarge. Canvas displays a cropping rectangle with hollow square handles at the corners.
- 3 Drag the handles of the cropping rectangle to enlarge it
- 4 Press Esc or click in the image to complete the crop.

Note: If the paint object you crop is an Indexed mode object, the color of the added pixels is the last color in the color table associated with the image, which often is black.

Adding a white border

When you press a modifier key and click with the Crop tool, you can expand a paint object. This adds a white border to an RGB Color or CMYK Color image.

Crop rectangle



New border



To quickly crop an image with the Selection tool

You can quickly crop or expand a paint object with the Selection tool.

- 1 When a paint object is selected (not in edit mode), point to a handle, and then press Ctrl and drag the handle. When you drag, a cropping rectangle appears.
- 2 Drag inward to crop (cut away) part of the object. Drag outward to add pixels and expand the object. Release the mouse button to complete the operation.

You can constrain the cropping rectangle as you drag.

- To constrain the height and width of the cropping rectangle proportionally, release the Ctrl key, and then press Shift while dragging.
- To constrain the height and width of the cropping rectangle symmetrically from the center, release the Ctrl key, and then press it again while dragging.
- To constrain the height and width of the cropping rectangle both proportionally and symmetrically, release the Ctrl key, and then press Ctrl+Shift while dragging.

Changing resolution

You can change the resolution of paint objects in two ways:

- If you do not want to change an object's size, you can resample the image. Resampling merges or divides pixels.

- If you want to preserve all the data in an image, you can change the object's resolution and allow its size to change.

Decreasing resolution (“down sampling”) decreases file size by discarding data. This can result in lost detail. However, it's common to reduce resolution in some situations. For web pages and other applications where images are displayed on a monitor, 72 ppi is the standard resolution.

Rarely, an image is resampled to increase resolution. This should be avoided because additional pixels are created by estimating their color values, which does not improve an image.

The Resolution dialog box has compact and expanded states. In its compact state, you can easily change the resolution of multiple paint objects without needing to specify additional options.

Note: When more than one paint object is selected (unless the objects are the same size and resolution), the button that displays additional options in the Resolution dialog box is not available.

To change resolution by resampling

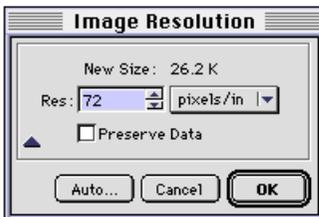
This procedure reduces resolution of paint objects for use on a web page or in a presentation.

- 1 Select one or more paint objects. These objects can vary in size and resolution.
- 2 Choose Image > Area > Resolution. The Image Resolution dialog box appears in its compact state.
- 3 To specify resolution, select pixels per inch or pixels per centimeter and enter the resolution value in the text box.
- 4 Click OK. Canvas changes the resolution of the selected objects, which remain the same size.

To change resolution without resampling

Use this procedure to change the resolution of paint objects without resampling. This changes the size of objects while preserving the image data.

- 1 Select one or more paint objects and choose Image > Area > Resolution.
- 2 In the Image Resolution dialog box, select Preserve Data. Enter the desired resolution in the text box and click OK. Canvas changes the resolution of the selected paint objects.



Compact dialog box

If you reduce resolution, paint objects become larger because the individual pixels are larger. If you increase resolution, paint objects become smaller because the individual pixels are smaller.

To calculate resolution

If only one object is selected, you can calculate an appropriate resolution based on a halftone screen frequency by clicking Auto in the Image Resolution dialog box. Enter the screen frequency and choose Draft, Good, or Best. Canvas calculates the resolution by multiplying the screen frequency by 1 (draft), 1.5 (good), or 2 (best). Click OK to enter the calculated resolution in the Image Resolution dialog box.



Image resolution settings

You can specify the resolution, width, and height for a selected paint object when the Image Resolution dialog box is expanded. You can expand the dialog box when a single paint object is selected; if multiple objects are selected, they must match in size and resolution.

Depending on the options you select, certain settings in the dialog box can't be changed. A bracket and chain icon indicate settings that are linked and fixed.

Preserve Data Prevents resampling, or interpolation, when resolution or size changes. Selecting Preserve Data also selects Preserve Proportions, so width and height can change only in proportion to each other.

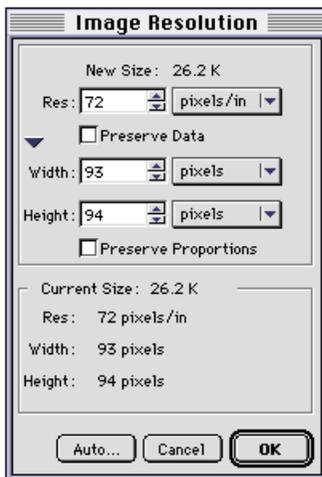
Preserve Data means image resolution and size are relative; changing the resolution will change the object size, and changing the size will change the image resolution.

If you select Pixels in the Width and Height menus, you cannot change these values, because the number of pixels cannot change when Preserve Data is selected.

Width and Height You can specify a size for the paint object by entering values in these text boxes. Select measurement units in the adjacent menus.

The width and height boxes show the size a paint object will become if you change the resolution when Preserve Data is selected.

Preserve Proportions This option links the Width and Height values so that changing one value changes the other and maintains the original proportions of the paint object. Selecting Preserve Data also



Expanded dialog box

selects this option. If you want to stretch a paint object in only one direction, you must deselect Preserve Proportions.

Resampling and sharpening images

Resizing and resampling causes images to appear softer. However, you can apply the Unsharp Mask filter to bring soft images back into focus. For more information, see “To apply the Unsharp Mask filter” on page 596.



Original 300 ppi



Resampled down to 150 ppi



150 ppi image resampled up to 300 ppi



*150 ppi image with Unsharp Mask filter applied
Amount = 80
Radius = 1.6
Threshold = 0*



*300 ppi image with Unsharp Mask filter applied
Amount = 67
Radius = 1.6
Threshold = 0*

To specify how Canvas approximates new pixels

When increasing image resolution, Canvas uses one of two methods to calculate color values for the pixels it adds to an image. To change the method, use the Preferences command.

- 1 Choose File > Preferences. Select the Painting tab in the Preferences dialog box.
- 2 Select an option under Interpolation and click OK. For more information, see “Painting preferences” on page 162.

Auto-tracing images

You can use the Auto Trace command to create vector objects from an image.

The Auto Trace command traces any channel of an image. The command is available when a paint object is selected (not in edit mode).

Auto-tracing is much faster than tracing an image by hand with the Polygon or Curve tool, although you might need to edit the resulting vector paths.

When Canvas auto-traces a channel, it leaves the original image unchanged. Canvas applies the current stroke to the resulting vector objects. When the tracing is complete, you can move the vector objects away from the image.

Canvas auto-traces high-resolution images better than low-resolution images. Auto-tracing an image with a resolution lower than 300 ppi can produce jagged paths.

To auto-trace an image

- 1 Select a paint object to trace and choose Image > Auto Trace.
- 2 In the Auto Trace dialog box, choose the channel to trace from the Channel menu. The menu lists the channels contained in the image, including alpha channels.
- 3 Select other settings to use for tracing, and then click OK to trace the selected channel.

To save custom auto-trace configurations

Canvas provides preset configurations that you can choose from a pop-up menu in the Auto Trace dialog box. You can also save your own tracing configurations so you can use the same settings again.

- 1 Select a paint object and choose Image > Auto Trace.
- 2 In the Auto Trace dialog box, configure the options you want to save. Choose Save Settings in the pop-up menu.
- 3 Type a name for the configuration in the dialog box and click Save. The configuration appears in configuration pop-up menu.

To delete custom auto-trace configurations

- 1 Select a paint object and choose Image > Auto Trace.

- 2 In the Auto Trace dialog box, select the configuration you want to delete from the configuration pop-up menu.
- 3 Press the arrow pop-up menu and choose Delete Settings. In the dialog box, click OK to confirm you want to delete the settings.

Auto Trace settings

You can choose options and preset configurations in the Auto Trace dialog box.

A To use a preset configuration, select its name in the pop-up menu. Preset configurations and those you save appear in the menu.

Channel. Choose a channel of the image to trace.

Curves or Polygons. Click an option to set the trace method. Curves creates paths with smooth anchor points as needed. Polygon creates paths without curved segments. Polygon can be better for tracing straight lines, but can make jagged shapes. Curves makes segments with fewer anchor points.

Fixed End. Aligns the trace with the end points of the image. Available when you select the Curves option.

Corners. Creates corner points that let you modify one curve segment without affecting the other. Use the Round-Sharp slider to control the cor-

ner sensitivity. Available when you select the Curves option.

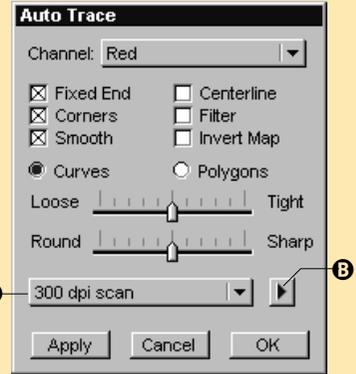
Smooth. Traces without corner points when the Corners option is off. If Smooth and Corners are on, angles within the specified sharpness are traced as corner points. Available when you select the Curves option.

Centerline. Traces one line through the middle of large solid areas instead of tracing along edges. Available when you select the Curves and Polygons options.

Filter. Prevents the tracing of small, random elements, such as tiny lines and dots. Available when you select the Curves and Polygons options.

Invert Map. Inverts lightness values (as in a negative image) of the channel for tracing. Available when you select the Curves and Polygons options.

Loose-Tight. Drag the slider toward Tight for more exact tracing with more anchor



ner sensitivity. Drag the slider toward Loose for a looser tracing with fewer anchor points.

Round-Sharp. Drag the slider toward Round to get rounder corners. Drag the slider toward Sharp to get sharper corners.

B Choose Save Settings to save the current settings as a configuration you can select later. Choose Delete Settings to delete the current configuration. You can delete configurations that you save.

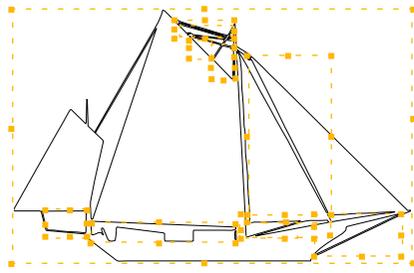
Apply. Click to preview the trace.

OK. Click to trace the image.

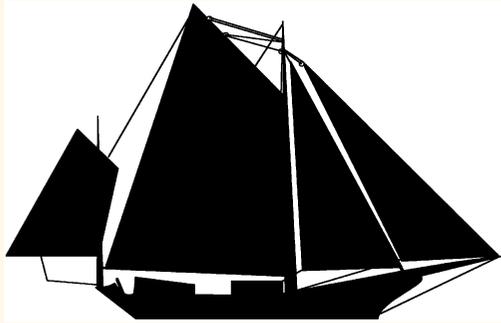
Auto-tracing images

Canvas traces an image with curves or straight path segments. Auto-tracing usually produces several paths that follow various sections of the image.

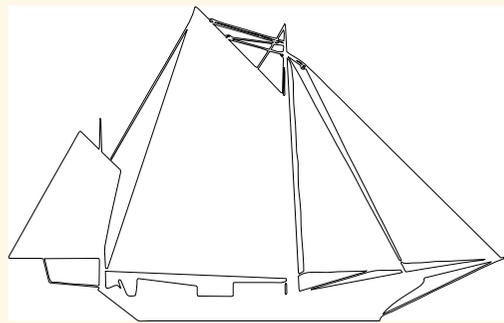
After tracing, you can group and edit the resulting paths.



Selection handles (highlighted) surround the objects produced by auto-tracing the sailboat image



Original scan at 600 ppi resolution



Paths created with the Auto Trace command

Using Photo CD images in Canvas

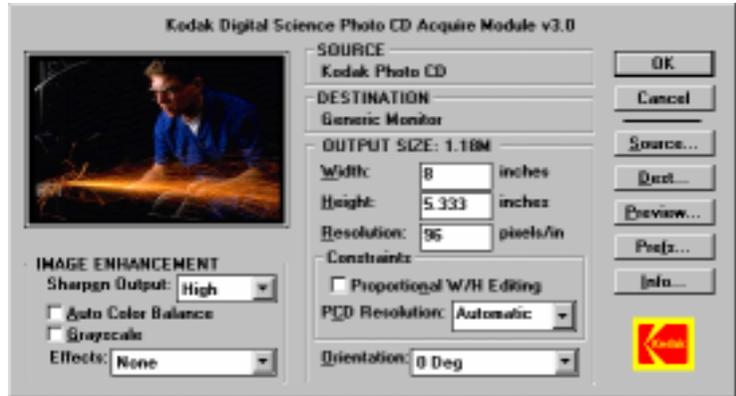
Scanned images are available from many sources in Photo CD format because it's widely supported, relatively inexpensive, and versatile.

When you place or acquire Photo CD images, you can select from a choice of standard dimensions. You can choose 192 by 128 pixels (Base/16 format), 384 by 256 pixels (Base/4), 768 by 512 pixels (Base), or 1,536 by 1,024 pixels (Base * 4).

Canvas imports Photo CD images as 72 ppi paint objects in RGB Color mode. You can use the Resolution command to change a paint object's resolution and dimensions.

To acquire a Photo CD image

- 1 Choose Image > Acquire > Kodak Photo CD. In the dialog box, select the file you want to acquire and click OK. The Kodak Digital Science Acquire Module dialog box opens.
- 2 Use the dialog box to select color correction, resolution, and rotation options for importing the Photo CD image.
 - You can select source and destination image profiles by clicking the Source and Dest buttons.
 - To see details about scanning method and color correction, click Info.
 - To see a larger preview, click Preview.
- 3 To place the image in the current Canvas document, click OK.

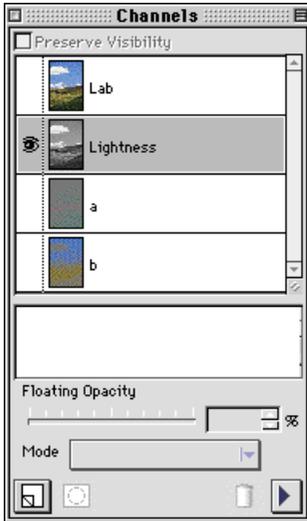


Kodak Digital Science Photo CD Acquire Module dialog box

Improving Photo CD images

Photo CD scans are specifically designed to reproduce photographic images accurately. However, this means that a Photo CD image will exhibit the same problems, such as soft focus and color casts, that can be seen in the original photograph.

Some Photo CD collections provide better-quality images than others, but you can improve almost all images with a few simple steps. The following procedure describes how to apply the Unsharp mask filter to the Lightness (“L”) channel in LAB Color mode to sharpen a Photo CD image.



Lightness (L) channel selected in the Channels palette

- 1** Use the previous procedure to acquire a Kodak Photo CD image into a Canvas document.
- 2** Select the image you just acquired and choose Image > Mode > LAB Color.
- 3** Double-click the image with the Selection tool to put it in edit mode.
- 4** Choose Image > Show Channels to open the Channels palette.
- 5** In the Channels palette, click the Lightness channel to activate it. For more information, see “Activating channels” on page 564.
- 6** Choose Image > Filter > Sharpen > Unsharp Mask. Select the preview option and adjust the Amount and Radius until the channel appears significantly sharper. Click OK.
- 7** If you plan to use special effect filters, choose Image > Mode > RGB Color to convert the image to RGB Color mode.

SELECTIONS AND CHANNELS

Canvas gives you several ways to select pixels in an image. When you select groups of pixels by area or color, you can use painting tools, filters, and special effects to modify the selected pixels without affecting the parts of the image that are not selected.

This chapter describes how to make selections in images, save selections in alpha channels, work with color and alpha channels, and create channel masks, which can make parts of images transparent.

Selecting pixels in images



A dashed border outlines the selected area in a photograph

When a paint object is in edit mode, any filters, commands, and painting tools that you apply can affect the entire image. When you have selected pixels in the image, the effect of a tool, filter, or other adjustment is confined to the selected pixels.

You can select areas in an image using painting tools or menu commands. For example, you can make rectangular selections by dragging the Marquee tool in an image, and you can use the Color Range command to select groups of pixels based on color similarity.

Selection borders

The selected pixels in an image are referred to collectively as a *selection*. When you make a selection, Canvas surrounds the selected pixels with a moving dashed border. You can hide and display the border without affecting the selection. To hide the border, choose Image > Select > Hide Edges. To display the selection border, choose Image > Select > Show Edges.

Deselecting an image selection

When you use a selection tool in normal mode, making a new selection replaces any existing selection in an image. To deselect pixels without making a new selection, choose Image > Select > None. You can also press Enter or Esc (Mac), or Esc (Windows) to deselect a selection. If a selection is floating, pressing Esc once defloats the selection; pressing Esc again deselects all pixels.

Selecting all pixels in an image

You can apply painting tools and filters to an entire image without first making a selection. But you can also select all the pixels in an image when you want to work with them as a selection. To select all pixels, with a paint object in edit mode, choose Image > Select > All. A selection border appears around the entire image.

Using selection tools

You can use the Marquee, Oval Marquee, Row Selection, Column Selection, and Lasso tools to select areas in images.

The Marquee tool selects rectangular areas. The Oval Marquee tool selects oval areas. The Column Selection tool selects a single vertical column of pixels. The Row Selection tool selects a single horizontal row of pixels. The Lasso tool selects areas that you outline.

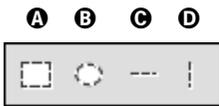
The Marquee, Oval Marquee, Row Selection, and Column Selection tools are located in a toolbar that pops out from the Painting toolbar. The Lasso tool is a separate icon in the Painting toolbar.

These selection tools let you select any part of an image, from one pixel to all the pixels in the image. By using modifier keys with these tools, you can add to and subtract from selections, and select the overlapping area of two selections.

By subtracting a circle from a larger circle, for example, you can make a ring-shaped selection with an unselected area inside. See “Modifying selections” at the end of this section.

To select rectangular or oval areas

- 1 Select the Marquee tool or the Oval Marquee tool. If the paint object isn't in edit mode, click it.
- 2 Drag diagonally in the image; a selection rectangle or oval expands as you drag away from the starting point. When you release the mouse button, a dashed border outlines the selected area.
 - ◆ **To make a square selection:** If no selection exists, press Shift and drag the Marquee tool in an image. If a selection exists in the image, pressing Shift adds to the selection.
 - ◆ **To make a circular selection:** If no selection exists, press Shift and drag the Oval Marquee tool in an image. If a selection exists in the image, pressing Shift adds to the selection.



- A Marquee
- B Oval Marquee
- C Row Selection
- D Column Selection

- ◆ **To expand a selection marquee from the center:** If no selection exists, press Ctrl and drag the Marquee or Oval Marquee tool (on Mac, press Ctrl after you begin dragging). You can press Ctrl+Shift to constrain the selection marquee and expand it from the center.

To select single rows or columns

- 1 Select the Row Selection tool or the Column Selection tool. If the paint object isn't in edit mode, click it.
- 2 Click a single pixel to select all pixels in the same row or column in the image. A dashed border outlines the selected row or column. Or, press and hold the mouse button to see a selection outline, and move the pointer to position the selection outline. Release the mouse button to set the selection, and a dashed border outlines the selected row or column.

When working in high-resolution images, you can zoom to 400% magnification or higher to see the pixels you want to select.

To select areas with the Lasso

- 1 Select the Lasso tool. If the paint object isn't in edit mode, click it.
- 2 Drag in the image to outline a selection. Canvas connects the starting and ending points with a straight line. A dashed border outlines the selected areas.

- ◆ **To define a polygon selection:** Press Option (Mac) or Alt (Windows) as you click several points around the area you want to select. Canvas connects the points you click with straight segments.

Lasso tool



Lasso options

To set options before using the Lasso tool, double-click the Lasso tool icon. In the dialog box, choose from the following options and click OK.



Feather Radius To soften the edge of selections made with the Lasso tool, enter the feather range in pixels in the Feather Radius box.

Anti-Aliased To slightly soften the edge of selection made with the Lasso tool, select the Anti-Aliased checkbox.

Omit Background Color To keep pixels that match the current background color from being selected by the Lasso tool, select the Omit Background Color checkbox. This option can help you isolate

an image that is surrounded by a solid color background. Use the Color Dropper tool to pick up the background color before you use the Lasso tool to make the selection.

Modifying selections

After you make a selection using any selection technique, you can use modifier keys to alter the selection with the Marquee, Oval Marquee, Row Selection, Column Selection, and Lasso tools.

◆ **To add to a selection:** Press Shift when you use a selection tool. A “+” symbol indicates that the tool will add the new selection to the existing selection.

◆ **To subtract from a selection:** Press Command (Mac) or Ctrl (Windows) when you use a selection tool. A “-” symbol indicates that the tool will subtract the new selection from the existing selection.

◆ **To select part of a selection:** Press Shift+Command (Mac) or Shift+Ctrl (Windows) when you use a selection tool. An “x” symbol indicates that the area you select in the existing selection will remain selected. If none of the new selection is part of the existing selection, Canvas deselects all pixels.

You can also use Shift or Ctrl to constrain a selection when you add, subtract, or intersect a selection. To do this, press the keys to add, subtract, or intersect and begin dragging. While still pressing the mouse button, release the keys and then press the constraint keys and continue dragging.

Selecting areas based on color

You can use the Wand tool and the Color Range command to select pixels in an image according to color. To select a contiguous area of similarly colored pixels, use the Wand tool. To select all pixels of a particular color, use the Color Range command.

Wand tool



To use the Wand tool

- 1 Select the Wand tool in the Paint Tools toolbar and point to the object you want to edit. If the paint object is not in edit mode, the pointer becomes a hand (☞). Click the object to put the image in edit mode. The pointer becomes a wand.
- 2 Click the color area you want to select.

- ◆ **To add to a selection:** Shift-click the Wand in the image. The pointer displays a '+' to show that it adds to the current selection.
- ◆ **To subtract from a selection:** Command-click (Mac) or Ctrl-click (Windows) the Wand in the image. The pointer displays a wand with a '-' to show that it subtracts from the current selection.

To adjust the tolerance of the Wand tool

You can broaden or narrow the range of colors the Wand tool selects by adjusting its tolerance. A tolerance of zero, for example, selects pixels that exactly match the color of the pixel you click.



- ◆ **To configure the Wand tool:** Double-click the Wand tool icon. In the Wand dialog box, type a tolerance value from zero to 255. To smooth the edges of the selection, turn on the Anti-Aliased option.

Selecting a color range

You can use the Color Range command to select all areas of similar color in an image. The command creates a grayscale selection mask similar to an alpha channel.

You can use the Load and Save buttons in the dialog box to work with color range selection files. The file format that Canvas uses for these files is compatible with Photoshop Color Range files. On Windows, these files use the extension AXT.

To select a color range interactively

- 1 With a paint object in edit mode, choose Image > Select > Color Range.
- 2 In the Color Range dialog box, choose Sampled Colors in the Select pop-up menu.
- 3 Adjust the Fuzziness setting. To select pixels of exactly the same color, set the Fuzziness to zero. Increase the Fuzziness to widen the range of colors to be selected.
- 4 Click a color in the preview image in the dialog box. Canvas selects a range of similarly colored pixels, depending on the Fuzziness setting.
 - To add colors to the selection, click the '+' dropper icon, then click a color in the image in the dialog box.
 - To subtract colors from the selection, click the '-' dropper icon, then click in the image in the dialog box.

5 To view the selected pixels, click the Selection option. Gray areas indicate pixels that the Color Range command selects at a reduced opacity. Filters and painting tools affect these areas to a lesser degree than areas that are 100 percent selected. Click OK to apply the selection to the image.

Color Range options

Use this dialog box to select image areas based on color.

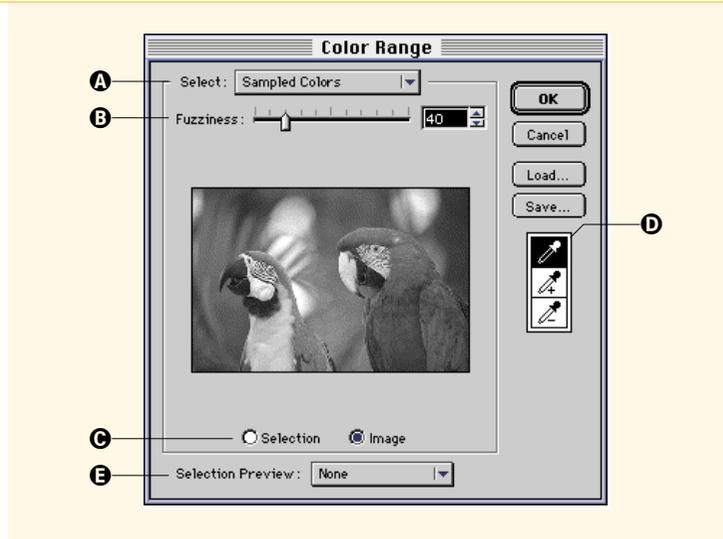
A Select. In the pop-up menu, choose the color (red, green, blue, cyan, magenta, yellow), or tonal range (shadows, midtones, highlights) you want to select.

To select a color interactively by clicking in the preview window, choose Sampled Colors.

B Fuzziness. When using the Sampled Colors option, enter a low value to select a narrow color range; enter a higher value to select a wider range.

C Choose Selection to preview the selection, with white representing selected pixels, in the preview window. Choose Image to see the actual image so you can sample colors with the dropper.

D With Sampled Colors chosen (A), click the dropper in the



preview window to select colors. Use the '+' dropper to add to the selection; use the '-' dropper to subtract from it.

E Selection Preview. Choose an option to preview the selection in the image itself (or choose None for no preview). Grayscale shows the selection as it would appear in a channel,

with white for selected pixels and black showing non-selected areas.

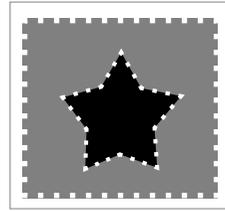
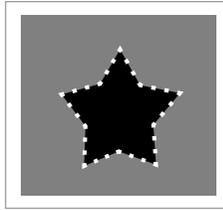
The Matte and Mask options show the original colors in selected areas. In non-selected areas, Black Matte shows black, White matte shows white, and Mask shows transparent red.

Selecting unselected areas

You can use the Inverse command to simultaneously select all pixels not in the current selection while deselecting the current selection.

◆ **To select areas not included in the current selection:** Choose Image > Select > Inverse.

A moving dashed edge surrounds the black star, a selected area/



When the selection is inverted, the gray background becomes selected

Expanding selections with Grow and Similar

The Grow and Similar commands let you expand selections to include similar colors in an image. These commands compare the colors outside a selection to the colors in the selection. Colors that are in a specified range of similar colors are added to the selection.

The Grow and Similar commands are available for all image modes except Black & White.

The Grow command selects similar colors that are contiguous to the current selection. The Similar command selects similar colors anywhere in the image.

The range of colors selected by Grow and Similar is based on the Tolerance setting in the Wand dialog box.

◆ **To select colors contiguous to the current selection:** Choose Image > Select > Grow.

◆ **To select colors throughout an image:** Choose Image > Select > Similar.

You can repeat the Grow and Similar commands to continue expanding a selection. As more colors are added to the selection, more colors are in the range of colors similar to the selection. Therefore, even though the Tolerance doesn't change, repeating Grow or Similar can expand a selection incrementally.

Grow and Similar can help you isolate elements in an image, such as dark objects against a light background. Select part of one dark object with the Marquee tool. Choose Grow to expand the selection to the entire object. Choose Similar to expand the selection to all similar colors in the image.

Working with image selections

✓ Tip

If you want Canvas to recall a selection, be sure to save it before leaving edit mode. See “Saving and loading selections in channels” on page 557.

After you make a selection, you can clear it, soften its edges, make it floating, move it, and change its opacity.

Clearing and copying a selection

You can replace the pixels in a selection with the current background color by pressing the Delete key, or by choosing Cut in the Edit menu. (The Cut command also transfers the selection to the Clipboard.) Canvas replaces the selected pixels with the color currently displayed in the background color icon. Keep in mind that “deleting” a selection doesn’t leave a hole or transparent area in the paint object, unless the paint object has a visibility mask, as described later in this chapter.

To place a copy of a selection on the Clipboard without clearing the area in the original image, choose Edit > Copy. When a selection has been placed on the Clipboard, you can paste it into another paint object in edit mode, where it will become a floating selection, or paste it into the document to create a new paint object.

Feathering the edges of a selection

You can feather (soften) the edges of a selection so that it blends more naturally into the original image. You can use the Feather command to soften the hard edge of a selection and spread the selection over a larger area.



- 1 With a paint object in edit mode, make a selection and choose Image > Select > Feather.
- 2 In the Feather dialog box, enter the number of pixels to feather the selection in the Radius text box. The larger the Radius value, the more Canvas softens the selection edge.
- 3 Click OK to feather the selection.

Pasting into selections

The Paste Into command pastes the Clipboard contents into a selection in an image. This includes a selection in an image channel or a channel mask attached to an object.

The Paste Into command pastes anything that you copy to the Clipboard, including a vector, text, or paint object, an image selection, or a segment of a vector object.

You can use Paste Into to composite images and create effects that would otherwise be difficult to produce. For example, to simulate a picture on a television screen in a photograph, you can select the screen area and paste an image into the selection. You can move the pasted image within the selection to adjust the area that you see.

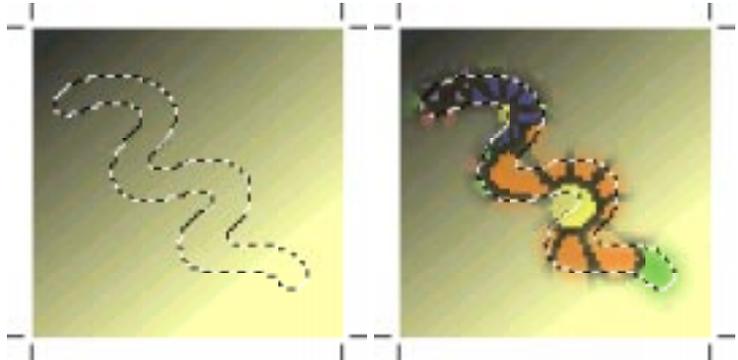
You can paste transparent objects into opaque images, or opaque objects into transparent images. The background of the image determines the opacity of the pasted selection.

To paste into a selection

- 1 Place an object or selection on the Clipboard by choosing Edit > Copy or Edit > Cut.
- 2 Make a selection in an image (or a channel mask), and choose Edit > Paste Into. The Clipboard contents appear in the selection.
- 3 You can drag the pasted item or press the arrow keys on the keyboard to move it, to display the areas you want to see. When you finish adjusting the selection, deselect it to merge it into the image.



Object with a symbol fill ink



Feathered selection

Object pasted into selection

✓ Tip

To float a selection and fill behind it with the background color, hold down Option (Mac) or Alt (Windows) and choose Image > Select > Float.

Floating and moving selections

You can move and manipulate a selection without affecting the original image by making it a floating selection.

When a selection is floating, it sits on an invisible plane above the original image. When you type text in an image, or paste an object from the Clipboard, Canvas makes the text or pasted item a floating selection.

Moving a selection that is part of the original image creates a floating selection, but also leaves behind an area filled with the background color.

◆ **To float a copy of a selection:** Make a selection in an image and choose Image > Select > Float.

Deselecting and defloating selections

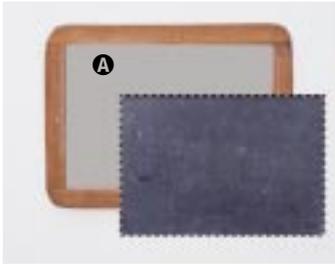
Deselecting a floating selection makes it part of the original image. To deselect a floating selection, press Esc or Enter twice (Mac) or Esc twice (Windows), or choose Image > Select > None.

To make the floating selection part of the image but still retain the selection, you can press Esc or Enter (Mac) or Esc (Windows), or choose Image > Select > Defloat.

Moving selections

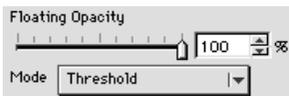
To move a selection, you can press the keyboard arrow keys or drag the selection with the Marquee, Lasso, or Wand tools. If a selection is not floating, it becomes floating when you move it.

To keep the pointer from interfering with your view of a small selection, select the Remote Move tool in the Painting toolbar and drag it anywhere in the drawing area. Canvas moves the selection in the direction you move the pointer.



Dragging a selection floats it and leaves an area filled with the current background color (A).

Remote Move tool



Floating Opacity slider in the Channels palette

Tip

To use the Floating Opacity slider in the Channels palette to lighten a floating selection, fill behind the selection with white or a light color.

Changing the opacity of floating selections

You can change the opacity of a floating selection and make the pixels behind it partially visible. You can also change the mode to produce different effects. *Note:* You cannot make selections partially transparent in Indexed or Black & White image modes.

- 1 With a paint object in edit mode, select part of the image.
- 2 From the background color palette icon in the toolbox, select a color to use behind the floating selection. This color will start to appear when you make the selection transparent.
- 3 Hold down the Option key (Mac) or Ctrl key (Windows) and choose Image > Select > Float. Canvas floats the selection and fills behind it with the background color.
- 4 Choose Image > Show Channels to open the Channels palette. Set the Floating Opacity value to less than 100 percent to make the selection become transparent and reveal the background color behind the selection.

5 To change the mode, choose a new mode from the Mode pop-up menu.

Modifying selections

You can use the Expand, Contract, Smooth, and Border commands to modify selections in images.

These commands make it easy to fine-tune a selection by expanding or contracting the selection border by a specified number of pixels, or by adding or subtracting pixels based on color.

Expanding a selection

You can expand a selection by adding a specified number of pixels to the selection border.

To modify an active selection, choose Image > Select > Modify > Expand. Type a value in the Radius text box and click OK. Canvas adds the specified area to the selection.

Contracting a selection

You can shrink a selection by subtracting a specified number of pixels from the selection border.

To modify an active selection, choose Image > Select > Modify > Contract. Type a value in the text box and then click OK. Canvas subtracts the specified area from the selection and the dashed border contracts.

Smoothing a selection

The Smooth command is useful after you have made a color-based selection that has left stray pixels inside or outside of the selected area. The Smooth command includes or eliminates the stray pixels to even out the selection. The value you type in the text box determines which pixels will be included or excluded in the selection at the border.

To modify an active selection, choose Image > Select > Modify > Smooth. Type a value in the text box and then click OK. Canvas adds or subtracts pixels to the perimeter of the selection based on the radius number of pixels you specified.

Bordering a selection

After you define a selection, you can select the area at the border of the selection by specifying an offset in pixels from the selection edge.

To modify an active selection, choose Image > Select > Modify > Border. Type a value in the text box and click OK. Two dashed borders indicate the selected border.

Once you make a selection, you can use the Grow command or the Similar command to expand the selection to include similar colors.

Creating objects from selections

You can make new paint objects from image selections with the New Image from Selection command. This command converts a selection in an image into a new paint object in the same position on the image you are editing. This can be useful for “layering” image compositions.

The result of New Image from Selection is similar to moving a selection to a transparent “layer,” a procedure used in some image editing programs. In Canvas you can use separate transparent paint objects to create “layered” image compositions.

Note: This operation doesn’t affect the Clipboard contents.

◆ **To create a paint object from a selection:** With a selection in an image, choose New Image from Selection in the context menu. To display the context menu, right-click (Windows) or Ctrl-click (Mac) in the document.

New images from selections and floating selections

When you choose New Image from Selection, Canvas removes the selection from the image or deselects the selection in the image. The selection appears as a new paint object in the same location.

Whether a selection is removed from an image depends on whether the selection is floating. The opacity of the resulting object also differs for floating and non-floating selections.

If a selection is not floating, Canvas deselects it but otherwise doesn’t change the original image when you create an object from the selection. The selected pixels keep their original opacity in the new object.

If a selection is floating, Canvas removes the selection. The effect is the same as deleting a selection: the background color replaces the selected pixels, or, if the object has a visibility mask, a clear background replaces the selected pixels. In the new object, the pixels are opaque, regardless of their original opacity.

Clear backgrounds in new paint objects

A paint object created from a selection always has a clear, rather than opaque background, and a visibility mask.

Paint objects are rectangular. If a selection is not rectangular, Canvas places the selection on a clear background. This is why creating a paint object from a selection is like transferring the selection to a clear overlay on the original image.

If you select Preserve Visibility in the Channels palette, a visibility mask preserves the transparency of all pixels in the image. You can paint or use filters without affecting clear areas.

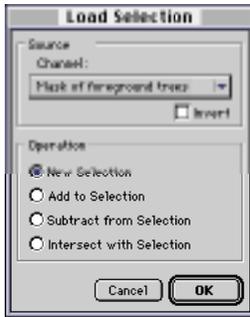
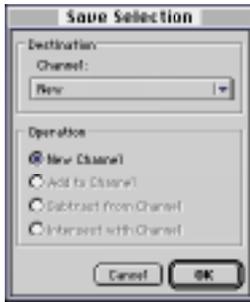
If Preserve Visibility is not selected, you can erase to a clear background and affect all pixels by painting and editing.

Saving and loading selections in channels

When you have made a selection in an image, you can create an alpha channel from the selection. An alpha channel preserves the shape and opacity of a selection, so you can use it to make the same selection in the image again.

You can think of an alpha channel as a mask that selects some areas and protects other areas from painting and image editing. Because alpha channels make precise selections of varying intensities, alpha channels let you control which areas in an image will be affected by painting tools and filters, and the intensity of the effects.

When you view an alpha channel, you see a grayscale image. When the channel is made from a selection, it contains white areas representing fully selected pixels, black areas representing unselected pixels, and gray areas representing pixels that are partially selected, with the gray lightness values corresponding to the selection opacity.



This section describes how to save a selection in a channel, and how to load a channel to make a selection in an image, using dialog boxes. You can also use shortcuts in the Channels palette, as described under “Channels palette options” on page 562.

To save a selection in a channel

- 1 With an active selection in an image, choose Image > Select > Save.
- 2 In the Operation area of the Save Selection dialog box, select New Channel and click OK.

You can also click the Selection button () in the Channels palette to save the current selection in a new channel.

To load a selection from a channel

- 1 With a paint object in edit mode, choose Image > Select > Load.
- 2 In the Load Selection dialog box, choose a channel name in the Channel pop-up menu. To invert the selection, click Invert.
- 3 Choose an option in the Operation area and click OK.

Option	Result
New Selection	Removes any current selections and creates a new selection
Add to Selection	Preserves the current selection and selects additional pixels based on the channel
Subtract from Selection	Removes pixels from the current selection based on the channel
Intersect with Selection	Creates a new selection composed of pixels that appear in both the current selection and the channel you are loading

Preserving channels in exported images

Canvas image channels are compatible with the alpha channels used in other image-editing programs, including Adobe Photoshop. However, you must use the correct procedure to preserve alpha channels when you export an image into Photoshop format.

If you want to export an image into Photoshop format and preserve the image’s alpha channels, be sure to use the Export command in the Image menu, rather than the Save As command.

If you use the Save As command and choose Photoshop format, the resulting file will not contain the alpha channels associated with the image.

To export an image with alpha channels

- 1** Select the paint object in the Canvas document.
- 2** Choose Image > Export > Photoshop. A directory dialog box appears.
- 3** Specify a location to save the file, type a file name, and click Save to export the selected image as a Photoshop file.

Understanding image channels

Canvas uses up to 24 channels to store the digital information that makes up the image in a paint object.

There are three types of channels: color or image channels, alpha channels, and channel masks. All images have at least one channel. An image can also contain one or more alpha channels and a single channel mask, if you create them.

The Channels palette displays the channels of an image. Whenever an image is in edit mode, you can use the Channels palette to select and edit channels. To display the Channels palette, choose Image > Show Channels.

Vector objects and text objects do not have color or image channels. However, you can create a channel mask for any object. If an object has a channel mask, you can place the channel mask in edit mode, and use the Channels palette to work with the channel mask and create alpha channels. Alpha channels are stored with an object as long as the object has a channel mask.

Color channels

Images in RGB Color, CMYK Color, and LAB Color mode have separate color channels. A color channel stores one component of the image. For example, in CMYK Color mode, the Magenta channel stores the magenta parts of the image. This channel contains the image that would appear on the magenta plate if you output color separations.

A paint object's image mode determines the number of color channels. RGB Color images have Red, Green, and Blue color channels.

CMYK Color images have Cyan, Magenta, Yellow, and Black channels. LAB Color images have Lightness, A, and B channels.

In the Channels palette, a composite channel appears above the color channels. The composite channel represents the complete image — the composite of the image’s color channels. The composite channel is labeled RGB, CMYK, or LAB, depending on the image mode.

Other image modes do not have separate color channels. Images in Black & White, Duotone, Indexed, and Grayscale mode have a single image channel.

Alpha channels

Alpha channels are channels you can use to store and edit selections in any image. Because alpha channels are used for image selections, they are also referred to as “selection masks.”

After you make a selection in an image, you can save the selection in an alpha channel. Later, you can load the channel to make the same selection.

An alpha channel is a grayscale channel that is the same size and resolution as the paint object in which it is stored. Pixels in alpha channels can range in lightness from 0 (black) to 255 (white). The lightness levels of pixels in an alpha channel correspond to a range of selection levels.

Black pixels in an alpha channel correspond to masked, or non-selected, pixels in an image. White pixels correspond to selected pixels. Gray pixels correspond to various levels of selection, with lighter grays corresponding to greater selection than darker grays.

Note: If you want black pixels to correspond to selected, rather than masked pixels, click Selected Area in the New Channel or Channel Options dialog box.

Using the Channels palette

The Channels palette displays the channels contained in a paint object when the paint object is in edit mode. The palette also displays the channels contained in any object that has a channel mask when you edit the mask.

You can use the palette to create, duplicate, and delete channels; to change channel options; and to make selections by loading channels.

◆ **To open the Channels palette:** Choose Image > Show Channels.

Composite channel Select the first channel in the palette to make all color channels visible and active. Paint objects in CMYK Color, RGB Color, and LAB Color modes have composite channels. The channel is labeled “CMYK” for a CMYK Color image, “RGB” for an RGB Color image, and “LAB” for a LAB Color image.

Paint objects in Indexed, Grayscale, Black & White, and Duotone modes have single channels. A vector object that has a channel mask has an “object channel.”

Color channels Color channels appear below the composite channel in the Channels palette. Color channels store the color data in an image. The image mode determines the number of color channels. CMYK Color images have Cyan, Magenta, Yellow, and Black color channels. RGB Color images have Red, Green, and Blue color channels. LAB Color images have “A” and “B” color channels and a Lightness channel. Multichannel images have numbered channels that contain grayscale pixels only.

Alpha channels Alpha channels contain grayscale pixels which can represent a selection. You can use alpha channels to create channel masks. Any paint object can have alpha channels. However, paint objects in Black & White mode must have a channel mask before they can contain alpha channels.

Channel mask

A special channel you can add to any object, a channel mask contains grayscale pixels that represent transparency. Drag a color or alpha channel to the channel mask slot to create a channel mask. You can drag a channel mask into the channel list to create a new alpha channel.

Viewing previews in the Channels palette

To view previews in the Channels palette, choose Palette Options in the palette’s pop-up menu. Click the size of the preview you want to display, or click None. Click OK to close the dialog box.

Channels palette options

Use the Channels palette to work with channels when a paint object is in edit mode.

Active channels are shaded. Editing affects the active channels only. To make a channel active, click the channel name.

A Composite channel. Select this channel to make all color channels visible and active.

B Color channels. Color channels appear below composite channels.

C Alpha channels. Alpha channels contain grayscale pixels which represent a selection.

D Channel mask. A special channel you can add to any object, a channel mask contains grayscale pixels that represent transparency.

E An eye indicates that a channel is visible. If a channel is

not visible, click or drag in the column to make it visible.

F Drag to resize the Channels palette.

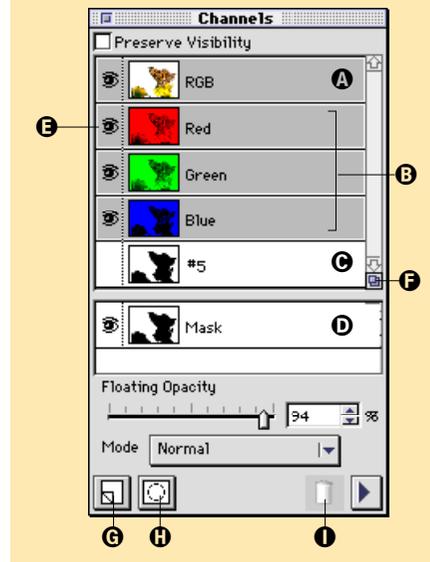
G Click to make a new alpha channel with default settings. Drag an alpha channel here to duplicate it.

H Click to save the current selection in an alpha channel. Drag a channel here to make a selection in the image from the channel.

Floating Opacity. If a selection is floating, drag the slider to change the opacity of the selection.

Mode. If a selection is floating, select a mode from the menu. The default mode is Normal.

I Drag channels to the trash to delete them. You cannot de-



lete color channels.

Preserve Visibility. Select this option to preserve the transparency of clear and partially transparent pixels when you edit an image.



Channel palette pop-up menu

The following commands appear in the Channel palette's pop-up menu.

Palette Options Lets you select the channel preview size.

New Channel Creates a new alpha channel and lets you select channel options.

Duplicate Channel Creates a new alpha channel from a single active color or alpha channel. This command isn't available if a composite channel or more than one channel is active.

Delete Channel Deletes the active alpha channel. You can't delete color channels or a composite channel.

Channel Options Lets you specify options for the active channel. You can change the name, mask tint color, and opacity of an alpha channel. You also can double-click a channel to set options for it.

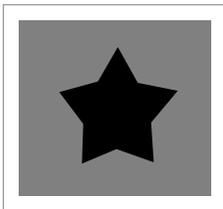
Working with alpha channels



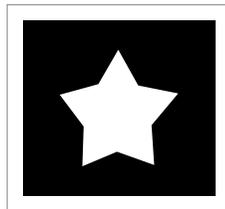
To add to the current selection, Shift-drag a channel to the button.

To subtract from the current selection, Command-drag (Mac) or Ctrl-drag (Windows) a channel to the button.

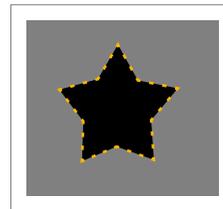
To select the intersection of a channel and the current selection, press Command+Shift (Mac) or Ctrl+Shift (Windows) and drag a channel to the button.



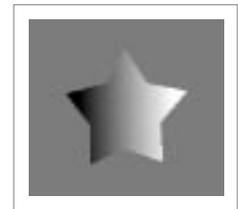
Original image



Alpha channel; white indicates selected area



Alpha channel loaded as selection (in color)



Applied blend affects selected area only

Creating and deleting channels

You can create and delete channels in the Channels palette. To display the Channels palette, choose Image > Show Channels.

To create an alpha channel

- 1 With a paint object in edit mode, choose New Channel in the pop-up menu at the lower-right corner of the Channels palette.
- 2 In the New Channel dialog box, select options for the new channel and click OK. See “To specify channel options” on page 564.

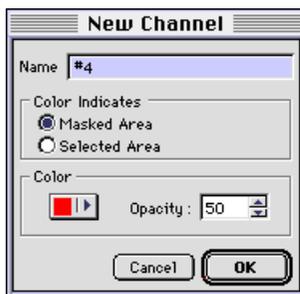
Deleting alpha channels

Although Canvas can store up to 24 channels in an image, you might want to delete unnecessary ones to save memory and disk space. You can delete alpha channels and channel masks, but you cannot delete color channels.

- ◆ **To delete an alpha channel:** With an object in image edit mode, drag the alpha channel you want to delete to the trash can icon at the bottom of the Channels palette



Channels pop-up menu



Customizing alpha channels

You can change an alpha channel's name, color indication, and mask tint opacity in the Channel Options dialog box. By default, Canvas numbers alpha channels, sets the mask tint opacity to 50%, and assigns a mask color.

Note: Canvas provides the mask color and opacity settings in the Channel Options dialog box as visual aids only. These settings do not affect the original image or channel.

To specify channel options

- 1 With a paint object in edit mode, choose Image > Show Channels to open the Channels palette.
- 2 Click an alpha channel and select Channel Options in the pop-up menu, or double-click the channel you want to edit to open the Channel Options dialog box.
- 3 To rename the channel, type a new name in the Name text box.
- 4 The options in the Color Indicates area control whether white or black pixels in the channel will select pixels in the image when you load the channel.
 - If you want white pixels in the channel to indicate selected pixels, choose Masked Area.
 - If you choose Selected Area, the normal operation of the channel will be inverted, so that black pixels in the channel will select pixels when the channel is loaded. If you use this option, keep in mind that the channel will make selections that are the inverse of normal channel selections.
- 5 To change the mask tint color for the channel, select a color from the Color pop-up menu. Canvas displays the tint when an alpha channel and at least one other channel are visible. To change the opacity of the tint color, enter a value from 1 to 100% in the Opacity text box.
- 6 After entering the settings you want, click OK.



Activating channels

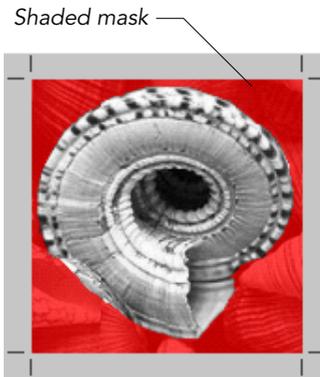
To edit a channel, click the channel name in the Channels palette to make it active. Canvas uses shading to indicate that a channel is active. Painting tools and filters affect active channels only.

- You can make more than one channel active by Shift-clicking the names of the channels in the palette.
- To make a channel visible but not active, click the left column to make an eye icon appear.
- You can make more than one channel visible by dragging in the left column in the Channels palette.

To make all color channels in an image both visible and active, click the composite channel in the Channels palette. The composite channel always appears first at the top of the Channels palette.

Editing an alpha channel

You can apply painting tools, filters, and effects to the image in an alpha channel. By editing the image, you can adjust what the channel will select when you load it as a selection.



Canvas displays a shaded mask representing an alpha channel when the alpha channel and the composite channel are visible

- 1 With an image in edit mode, choose Image > Show Channels.
- 2 Create a new channel to use as a selection mask by doing one of the following:
 - If you have a selection in the image that you want to customize by editing in a channel, use the Save command to create a channel from the selection; see “To save a selection in a channel” on page 558.
 - To start with a “blank” alpha channel, use the New Channel command. Be sure to choose the Masked Area option under Color Indicates in the New Channel dialog box.
- 3 In the Channels palette, click the new channel to activate it. The channel appears shaded in the palette and the image changes to show only the channel. Now click in the left column of the first (composite) channel. The original image appears with a transparent colored “mask” on the image. The color mask indicates the areas that will be masked — not selected — by the channel.
- 4 Use painting tools or filters to edit the image in the channel. The changes you make affect the active channel only.
- 5 To make a selection with the channel, load the channel by choosing Image > Select > Load. Choose the channel name in the pop-up menu and then click OK.

Channel masks

Channel masks apply transparency effects to objects, including paint objects, vector objects, text objects, and group objects. A channel mask creates transparency in proportion to the luminance of its image.

A channel mask is a grayscale image channel. Black pixels in a channel mask produce 100% transparency in corresponding areas of the masked object. White pixels in a channel mask produce 0% transparency in the masked object. Gray pixels in a channel mask produce partial transparency in the masked object. Darker grays produce greater transparency than lighter grays.

Channel masks are powerful because they let you use painting and image-editing techniques to create transparency effects, and because a channel mask can be applied to any type of object. An object's channel mask is the same size as its bounding box. You can detach or delete an object's channel mask to eliminate the transparency effect.

Creating channel masks

You can use the mouse, the New Channel Mask command, the Transparency palette, or the Channels palette to make channel masks.

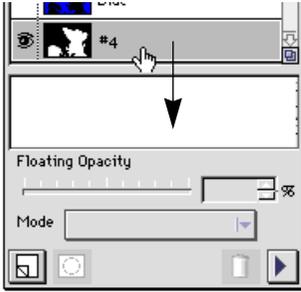
To create a channel mask

Do one of the following:

- Option+double-click (Mac) or Ctrl+double-click (Windows) the object to be masked. (If the object already has a channel mask, Canvas places the channel mask in edit mode.)
- Select the object to be masked and choose Object > Transparency > New Channel Mask.
- Select the object to be masked. In the Transparency palette, choose Channel in the Mask pop-up menu.

Canvas creates the channel mask and puts the new mask in edit mode.

- If the object is a paint object, Canvas creates a channel mask with the same resolution as the paint object.
- If the object is a vector, text, or group object, the New Mask dialog box appears. Type the resolution you want for the channel mask and click OK. Canvas creates the channel mask with the specified resolution.



To use the Channels palette

You can create a channel mask for a paint object from an existing alpha channel or color channel.

With a paint object in edit mode, drag an alpha channel into the channel mask slot in the Channels palette. If the slot already contains a channel mask, the channel you drag there replaces the existing channel mask.

Editing channel masks

You can edit an object's channel mask to change the transparency effects it produces. Generally, you can do anything that you can when editing a color channel, alpha channel, or grayscale image: use painting tools, filters, and image-adjustment commands, make selections, and paste selections into a channel mask.

To edit a channel mask

Do any of the following to place a channel mask in edit mode:

- Option+double-click (Mac) or Ctrl+double-click (Windows) the masked object.
- Select the masked object and choose Object > Transparency > Edit Channel Mask.
- Select the masked object and click Edit in the Transparency palette.

When you finish editing a channel mask, press Esc to leave edit mode.

Detaching and deleting channel masks

If an object has a channel mask, the channel mask controls the transparency of the object. You might want to detach or delete the channel mask to eliminate the transparency effects from the object.

When you delete a channel mask, it no longer exists in the document. When you detach a channel mask, it appears in the document as a separate grayscale paint object.

◆ **To detach a channel mask:** Select the masked object. Choose Object > Transparency > Detach Mask.

When you detach a channel mask, Canvas removes the channel mask from the object and places it in the document as a separate grayscale paint object. If the channel mask was detached from a vector object,

the resulting paint object will contain any alpha channels that were contained in the vector object.

To delete a channel mask

- 1 Select the masked object.
- 2 In the Transparency palette, choose None in the Mask pop-up menu.

Note: Deleting the channel mask of a vector, text, or group object also deletes any alpha channels that were contained in the object. Also, if you ungroup a group object that has a channel mask, Canvas deletes the channel mask.

You can delete a paint object's channel mask when the paint object is in edit mode by dragging the channel mask to the trash can icon at the bottom of the Channels palette.

Transparency effects with channel masks

Channel masks let you add transparency to images without altering them permanently. A channel mask creates transparency without changing any pixels in an image. You can remove a channel mask to eliminate the transparency effect at any time.

To make an image transparent

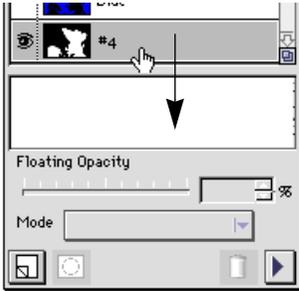
To make parts of an image transparent — to eliminate the background in a photograph, for example — you can create a channel mask from a selection. This procedure explains how to transfer a selection into a channel mask to make selected areas transparent.

- 1 Choose Image > Show Channels to open the Channels palette. Double-click the paint object to put it into edit mode. You can use various techniques to select the areas you want to be transparent:
 - You can click the Wand tool to select similar colors throughout the image. If a photograph has a colored background, for example, click the background to select it. You can also use the Color Range command to make a selection.
 - To soften the edges of the selection, you can use the Image > Select > Feather command.
- 2 Click the Selection button in the Channels palette to save the selection in a new alpha channel. In the alpha channel, white pixels correspond to the selection. (A partial selection produces gray pixels in the channel). Black pixels in the channel correspond to unselected



areas of the image. To create transparent areas from the selection, you need to invert the channel.

3 Press Esc to deselect the selection in the image. Then, click the alpha channel in the Channels palette to make it active. Choose Image > Adjust > Invert. This reverses the white and black areas in the channel.



Drag a channel into the Channel Mask slot

4 Drag the alpha channel into the Channel Mask slot in the Channels palette. Black areas in the channel mask produce transparent areas in the image. White areas in the channel mask produce opaque areas in the image.

5 Press Esc to exit image edit mode. The selection you made is now transparent. If you place the paint object on a background in your document, the background will be visible through the transparent areas of the image.

To create a transparency fade

You can create a transparent fade effect using a channel mask. This procedure explains how to create a blend in an alpha channel, and then create a channel mask to make an image fade to transparency.

1 Choose Image > Show Channels to open the Channels palette. Double-click a paint object to put it in edit mode.

2 Click the New Channel button in the Channels palette. A new alpha channel appears in the palette. Click the channel to make it active.

3 Select the Blend tool. With the foreground color set to white and the background color set to black, drag vertically from top to bottom in the channel. This creates a blend from white to black.

- You can change the distance that you drag the Blend tool in the channel to adjust the length and position of the fade to transparency.
- You might need to use the Blend dialog box to select the Linear option for the Blend tool before you create the blend in the alpha channel. You can also set other options for the Blend tool to fine-tune blends.

4 Drag the alpha channel into the channel mask slot in the Channels palette. White pixels at the top of the channel produce opaque areas. Black pixels produce completely transparent areas. Gray pixels

in the channel mask correspond with partially transparent areas in the image.

To create a channel mask by rendering

Canvas can create a channel mask when you render a vector, group, paint, or text object. To create the mask, choose the Mask and Transparency options in the Render dialog box. Canvas will create a channel mask that makes blank areas around and inside the objects transparent.

When you make a new paint object by pasting a non-rectangular selection copied from an image, Canvas makes a channel mask to hide white pixels surrounding the selection.

To create a vignette

This procedure shows you how to use an alpha channel and a channel mask to create a vignette. You can apply this technique to any paint object.

- 1 Put the paint object in edit mode by double-clicking it.
- 2 Choose Image > Show Channels to display the Channels palette.
- 3 With the Oval Marquee tool, drag in the image to make an oval selection. The edge of the selection area will define the vignette edge.
- 4 Choose Image > Select > Feather. Type 15 in the Radius box and click OK. Feather softens the selection edge for a soft-edged vignette. Larger values produce softer edges than smaller values.
- 5 Click the Selection button in the Channels palette to save the selection in a new alpha channel. The alpha channel preserves the selected and non-selected areas as black and white pixels. Gray pixels represent the partially selected pixels at the feathered edge.
- 6 Drag the new alpha channel into the Channel Mask slot. This creates an oval vignette. In the channel mask, black pixels produce transparency. Gray pixels at the feathered selection edge produce a smooth fade from opaque to transparent.
- 7 Press Esc twice to deselect the selection and leave edit mode.



✓ Tip

To remove a channel mask effect but save the channel, drag it into the channels list. This copies the channel mask into an alpha channel.



Original



Channel mask from alpha channel



Vignette

Preserving transparency in images

You can select the Preserve Visibility checkbox in the Channels palette to preserve transparency when you paint or apply filters to an image. The Preserve Visibility checkbox is available when you edit a paint object that has a visibility mask. A paint object has a visibility mask if it was created with a transparent background, or if you applied a visibility mask with the Add Visibility Mask command.

If a paint object has an opaque background, the Preserve Visibility checkbox is dimmed and can't be selected.



To preserve transparency while editing an image

When a paint object is in edit mode, select Preserve Visibility in the Channels palette. When the option is selected, you can paint and edit the image without affecting clear areas or reducing the transparency of partially transparent pixels.

Note: If an image is completely clear (contains no colored pixels), you cannot alter the image when Preserve Visibility is selected.

The Preserve Visibility option affects all aspects of image editing. When Preserve Visibility is selected, pasted selections do not affect clear areas. Also, a pasted selection will match the transparency of the existing pixels when you defloat the selection.

You must deselect Preserve Visibility to paint in clear areas of an image. Then, if you want to edit the painted areas, select Preserve Visibility again.

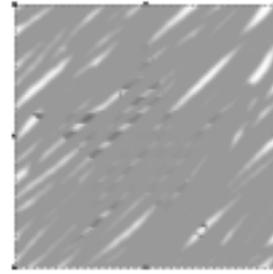
For example, you can deselect Preserve Visibility and paint airbrush strokes in a clear image. Then, select Preserve Visibility and you can paint over the airbrush strokes to change their color, without losing the soft edge or “spilling” color into clear areas.



Original paint object



Painted with Preserve Visibility



Painted without Preserve Visibility

When Preserve Visibility is selected and you use the Eraser tool, pixels you “erase” are painted with the current background color; they are not erased to clear.

Also, when you use any painting tool to apply color, you cannot make pixels more or less transparent. This is why you cannot apply any color in clear areas when Preserve Visibility is selected.

When you select Preserve Visibility, you can paint and apply filters to modify pixels that are less than 100% transparent. You can change the hue, saturation, and intensity of pixels but can't change their transparency.

To paint or apply filters to an entire image, deselect Preserve Visibility. This turns off the visibility mask and lets painting tools and filters affect the entire image.

IMAGE ADJUSTMENT AND CORRECTION

You can adjust images in Canvas using built-in filters and third-party plug-ins. For example, you can use the Levels filter to adjust image highlights and shadows, and sharpen scanned photos with the Unsharp Mask filter.

This chapter describes the commands you can use to adjust image color and brightness. It also describes commands for sharpening, softening, and refining images.

Applying image-editing commands

You can apply most image-editing commands to a single paint object if it's selected or in edit mode. You can also apply most commands to multiple selected paint objects. You can set image modes, apply filters, and adjust settings for multiple paint objects at the same time.

In most cases, a command affects an active selection, or an entire image if nothing is selected in edit mode.

Note: When you apply an image-editing command to more than one selected paint object, you can't use the Preview option if the dialog box has it. Preview is available when a single image is in edit mode.

The following summarizes how image-editing commands can be applied.

- Mode commands let you set the image mode for one or more selected paint objects.
- You can convert multiple objects to image proxies.
- The Crop command and the Proxy Info command can't be applied to multiple objects.
- The Resolution command sets the resolution for one or more selected objects.
- The Trim command trims one or more selected paint objects.

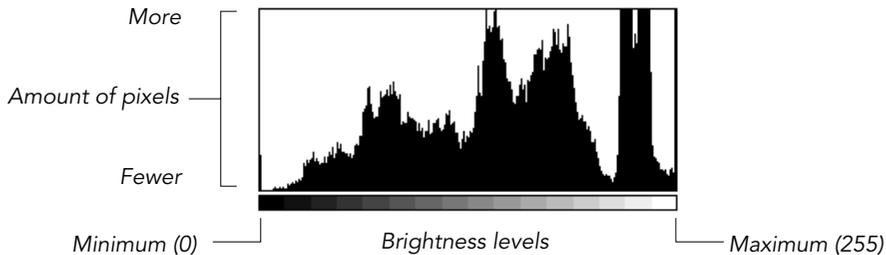
- You can apply filters to one or more selected paint objects. If a single paint object is in edit mode, a filter applies to the entire image or an active selection.
- The Histogram command can be applied to paint objects in edit mode only.
- Many commands in the Adjust submenu can be used to uniformly adjust one or more selected paint objects, or a paint object in edit mode.

Working with image-adjustment dialog boxes

Some dialog boxes for image-editing commands include histograms and preview options to help you achieve the effect you want.

Understanding histograms

A histogram plots the relative number of pixels in each brightness level in an image.



In the histogram above, shorter bars on the left indicate that the image doesn't contain large areas of very dark pixels. Higher bars toward the right of the graph show that the image does contain large areas of medium and very bright pixels.

✓ Tip (Mac OS only)

When working with large images, you can improve speed by using video LUT animation instead of previews; see "Painting preferences" on page 162.

◆ **To view an image's histogram at any time:** With an image in edit mode, choose Filter > View > Histogram.

Using the Preview option

Most dialog boxes for image-adjustment commands include a Preview check box. Select the Preview option to see how settings affect the image. Preview is available only when a single paint object is in edit mode.

Consolidating colors

The Threshold and Posterize commands let you consolidate color values in an image or selection. Besides producing interesting effects with these commands, you can use them in alpha channels to help isolate areas within an image.

If you select an area within an image, Canvas applies the adjustment only to that area. Otherwise, Canvas adjusts the selected paint objects.

Setting a brightness threshold

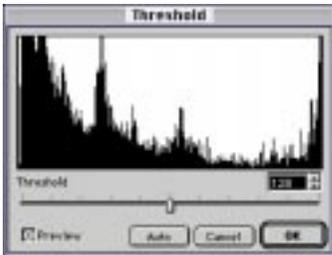
You can use the Threshold command to convert any image to black and white. The Threshold command compares each pixel's brightness value to a threshold value that you set. It changes brighter pixels to white and darker pixels to black. The threshold setting is based on a scale of brightness values from 0 (black) to 255 (white). You can't use the Threshold command on images in Black & White or Indexed mode.

For example, if you set a threshold value of 128, pixels that are brighter than medium gray become white, while pixels darker than medium gray become black.

To map an image to black and white

- 1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image is affected.
- 2 Choose Image > Adjust > Threshold.
- 3 In the Threshold dialog box, enter the threshold value by dragging the slider or typing a number in the text box. If you want Canvas to convert half the pixels to black and half to white, click Auto.
- 4 After entering the setting you want, click OK.

To isolate selections, you can apply the Threshold command in conjunction with the High Pass filter to an image in an alpha channel. See "Isolating areas using the High Pass filter" on page 610.



Creating high-contrast 'posterized' images

You can condense the brightness variations in an image with the Posterize command. If you apply the Posterize command to a photograph, it creates a high-contrast image by compressing hundreds of brightness levels into only a few. You set the number of brightness levels you want to retain, and Canvas reduces each color channel to that number of values.



Original RGB image



Posterize 8 levels



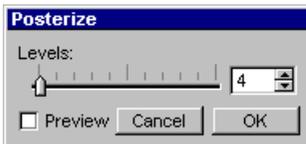
Posterize 4 levels



Posterize 2 levels

The Posterize command's effect depends on the mode of the image you posterize.

For example, if you apply the Posterize command with a setting of 2 levels to a grayscale-mode image, the image becomes black and white. If you apply the same setting to an RGB-mode image (even if it contains only grays), the command converts each pixel's red, green, and blue value to either zero or full color, reducing the image to eight colors — red, green, blue, red-green, red-blue, blue-green, black, and white. You can't use the Posterize command on images in Black & White or Indexed mode.



To posterize an image

- 1 Select one or more paint objects to posterize all the images. You can select an area in one image in edit mode to posterize the selected area only. If you don't make a selection, the entire image is affected.
- 2 Choose Image > Adjust > Posterize.
- 3 Enter a level from 2 to 255. Higher numbers produce subtle effects. Lower numbers produce high-contrast images.
- 4 After you enter the Levels setting, click OK.

Changing color and contrast

You can use the Invert, Desaturate, and Brightness/Contrast commands to create special effects and correct lightness levels in images. These commands apply changes equally to all color values.

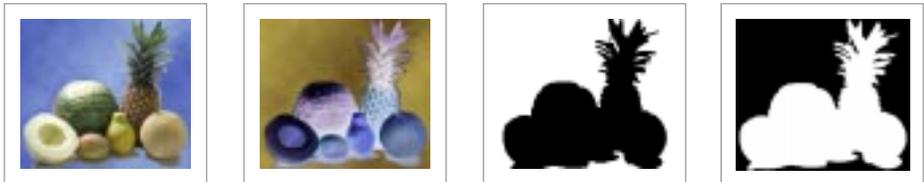
If you select an area of an image, Canvas applies the command to that area only. Otherwise, Canvas applies the command to the entire image in a paint object.

Inverting colors in images

You can use the Invert command to reverse the colors in an image, as in a photographic negative. The command converts each pixel's color into its opposite hue in the color spectrum. It does this by inverting the brightness value of each pixel in each color channel.

For example, if a pixel is pure red, its brightness levels are 255, 0, 0 in RGB mode. When inverted, this pixel's brightness values become 0, 255, 255, changing it to pure blue-green, its opposite in hue.

Invert filter examples



The Invert command can be particularly useful in channel editing, as colored pixels can denote either masked or selected areas.

To invert an image

- 1 Select one or more paint objects to invert all the images. You can select an area in one image in edit mode to invert the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Indexed mode.

- 2 Choose Image > Adjust > Invert.

Desaturating image colors

You can use the Desaturate command to remove color from images completely, while retaining the relative brightness levels of shadows, midtones, and highlights. The command converts an entire image to shades of gray without changing the image mode.

To desaturate an image

- 1 Select one or more paint objects to desaturate all the images. You can select an area in one image in edit mode to desaturate the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command works with paint objects in RGB Color mode, CMYK Color mode, and LAB Color mode.
- 2 Choose Image > Adjust > Desaturate.

Adjusting brightness and contrast

You can adjust the brightness and contrast of an entire image or specific channels with the Brightness/Contrast command. Brightness refers to the lightness of an image. Contrast is the difference in brightness between two pixels.

Because the Brightness/Contrast command adjusts all pixels equally, you should avoid using it to lighten an image that appears too dark, because the image can lose shadow detail. To preserve shadows or highlights when adjusting the brightness of an image, you can use the Levels or Curves commands. See “Using the Levels command” on page 579 and “Adjusting brightness curves” on page 583.

To use the Brightness/Contrast command

- 1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.
- 2 Choose Image > Adjust > Brightness/Contrast.
- 3 Enter a Brightness value from -100 to 100. Higher values can wash out midtones and shadows. Lower values can dull highlights.
- 4 Enter a Contrast value from -100 to 100. Increasing contrast moves the color values of pixels to the extremes of the brightness spectrum. Decreasing contrast moves color values toward medium gray.



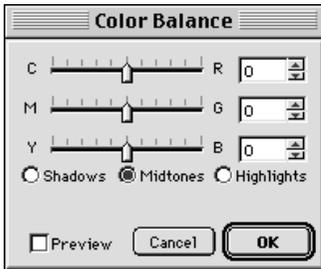
- 5 After entering the settings you want, click OK.

Targeting shadows, midtones, and highlights

You can use the Levels and Color Balance commands to adjust ranges of colors. By adjusting the shadows, midtones, and highlights separately, you can correct color and brightness and maintain the original image integrity.

Adjusting color balance

The Color Balance command lets you adjust color in shadows, midtones, and highlights. You can use it with paint objects in CMYK Color or RGB Color modes.



- 1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected.
 - 2 Choose Image > Adjust > Color Balance.
 - 3 Click Shadows, Midtones, or Highlights to select the tonal range you want to adjust. You can set the color levels independently for each tonal range.
 - 4 Drag a slider toward a color label to increase the amount of that color. The letters indicate the primary color values: Cyan, Red, Magenta, Green, Yellow, and Blue.
- When you increase the amount of a color, you also reduce its inverse, which is the color labeled at the other end of the slider.
- 5 Click Preview to preview the color adjustments. Preview is only available if a single paint object is in edit mode.
 - 6 Click OK to apply the settings.

Using the Levels command

You can adjust the brightness of shadows, highlights, or midtones by using the Levels command. Brightness values range from 0 (zero intensity) to 255 (full intensity). For colored pixels, brightness is the brightness value in each color channel.

To brighten highlights

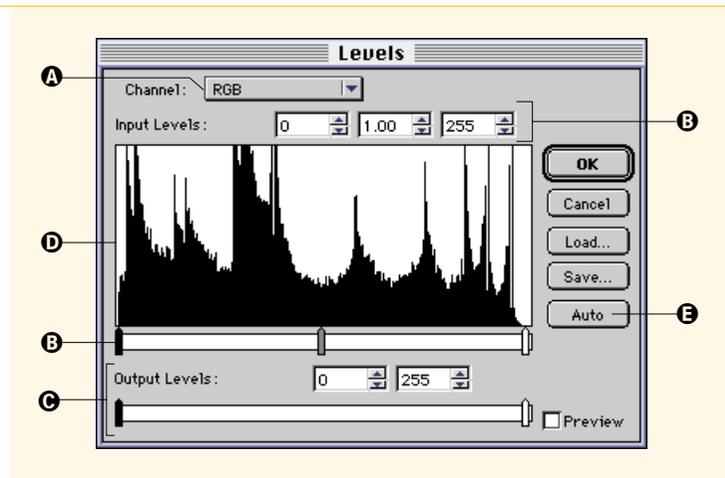
You can vitalize real-life images by brightening highlights.

- 1 Select one paint object to adjust. Or, place a paint object to adjust in edit mode. You can select an area in the image to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or and Indexed mode.
- 2 Choose Image > Adjust > Levels.
- 3 Select a channel or combination of channels in the pop-up menu. The Levels command will affect only the specified channels.
- 4 Enter a positive number less than 255 in the right Input Levels text box or drag the white slider located under the histogram. Canvas assigns the maximum output level to all pixels on the right of the slider.
- 5 After entering the settings you want, click OK.

Levels dialog box

You can use the Levels dialog box to control different aspects of brightness levels.

- A Choose an individual color channel or the composite channel.
- B Type values in the Input Levels boxes or drag the slider under the histogram to set the minimum input level, midtone ratio, and maximum input level.
- C Enter numbers in the text boxes or drag the sliders to set the minimum and maximum output levels.



D The histogram graphs brightness levels for the selected channel.

E Click Auto for Canvas to map the darkest values in the selection to black and the lightest value to white.

To lighten shadows

You can lighten shadows to prevent ink from oversaturating a printed medium.

- 1** Select one paint object to adjust. Or, place a paint object to adjust in edit mode. You can select an area in the image to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.
- 2** Choose Image > Adjust > Levels.
- 3** Select a channel or combination of channels in the pop-up menu. The Levels command will affect only the specified channels.
- 4** Enter a number greater than zero in the left Output Levels text box or drag the black slider under Output Levels to increase the minimum output level. This value becomes the darkest value allowed in the image.
- 5** After entering the settings you want, click OK.

To darken highlights

You can darken the highlights on one particular color channel to bring brighter colors back into the printable color range.

- 1** Select one paint object to adjust. Or, place a paint object to adjust in edit mode. You can select an area in the image to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.
- 2** Choose Image > Adjust > Levels.
- 3** Select a channel or combination of channels in the pop-up menu. The Levels command will affect only the specified channels.
- 4** Enter a positive number less than 255 in the right Output Levels text box or drag the white slider under Output Levels to decrease the maximum output level. This value becomes the brightest value allowed in the image.
- 5** After entering the settings you want, click OK.

To deepen shadows

You can create more contrast in an image by making shadows darker.

- 1** Select one paint object to adjust. Or, place a paint object to adjust in edit mode. You can select an area in the image to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.
- 2** Choose Image > Adjust > Levels.
- 3** Select a channel or combination of channels in the pop-up menu. The Levels command will affect only the specified channels.
- 4** Enter a number greater than zero in the left Input Levels text box or drag the black slider under the histogram. Canvas assigns the minimum output level to all pixels on the left of the slider.
- 5** After entering the settings you want, click OK.

To lighten or darken middle tones

- 1** Select one paint object to adjust. Or, place a paint object to adjust in edit mode. You can select an area in the image to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.
- 2** Choose Image > Adjust > Levels.
- 3** Select a channel or combination of channels in the pop-up menu. The Levels command will affect only the specified channels.
- 4** Enter a value in the center Input Levels text box or drag the gray slider under the histogram to the left:
 - To lighten midtones, enter a value from 1.01 to 9.99 or drag the slider to the left. All pixels on the right of the slider will be brighter than medium gray.
 - To darken midtones, enter a value from 0.1 to 1.00 or drag the slider to the right. All pixels on the left of the slider will be darker than medium gray.
- 5** After entering the settings you want, click OK.

Saving and loading Levels settings

You can save Levels settings on disk to use again. For example, after correcting a scanned photo, you can save the settings and use them to correct other images scanned from the same source.

- ◆ **To save Levels settings:** In the Levels dialog box, click Save. Type a name for the settings file, select a location, and click Save.
- ◆ **To load previously-saved Levels:** In the Levels dialog box, click Load. A directory dialog box opens. Locate the settings file you want to open, and click Open.

Changing specific color values

You can adjust brightness and color with the Curves, Hue/Saturation, and Color Equalization commands. These commands let you fine-tune any color value and make sure all colors in an image fall within the color range of an output device.

Adjusting brightness curves

You can adjust the tonal range of an image with the Curves command. Unlike the Levels command, which limits you to highlight, midtone, and shadow adjustments, curves let you map up to 19 tonal ranges to a specific brightness level. Curves give you much more control than other methods over subtle contrast and brightness qualities of an image.

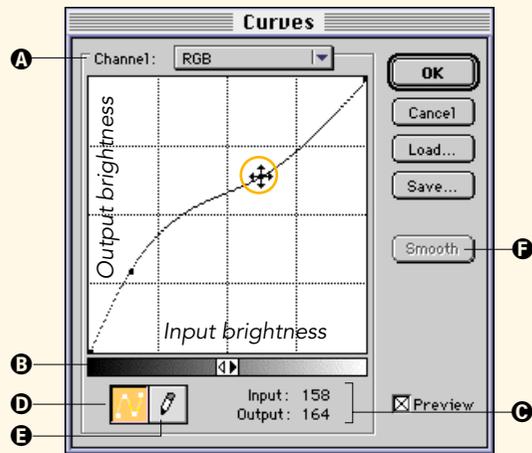
The Curves dialog box uses a line graph to map current brightness values to ones you specify. For RGB images, the default scale of brightness values ranges from 0 to 255 (maximum brightness); for CMYK images, the default scale ranges from 0 percent (maximum brightness) to 100 percent. You can switch the scales for an image, depending on which scale is more intuitive to you.

A typical setting is a gentle S-curve (or inverted S-curve, depending on the scale you use) which adds contrast to an image without appearing too harsh. For wild effects, try using a rounded M-shape curve to create dramatic contrast.

Curves dialog box

The graph shows how Canvas maps input brightness values to output values. Turn on Preview so you can see the effect on the image.

- A** Choose channels to adjust.
- B** The grayscale ramp below the graph shows the input tonal range. By default, RGB images range from 0-255 (dark to light) from left to right. CMYK images range from 0-100 percent (light to dark). You can reverse this ramp and the curve at any time by clicking the ramp.
- C** Brightness values for the pointer's position (circled). Here, pixels of 158 brightness are lightened to 164.



- D** Click this icon and drag a point on the curve to reshape the curve. Click the curve to add up to 19 control points. Drag points off the curve to delete them.
- E** To draw a disconnected segment, click this icon and drag in the graph.
- F** With the pencil (**E**) selected, click to smooth the curve.

To adjust brightness curves

- 1** Select one paint object to adjust. Or, place a paint object to adjust in edit mode. You can select an area in the image to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.
- 2** Choose Image > Adjust > Curves.
- 3** In the Channel pop-up menu, choose the channel(s) you want to adjust. To adjust curves for specific color channels at the same time, Shift-select the channels in the Channels palette before choosing the Curves command.

✓ Tip

To redraw the curve completely, or to create sharp changes in brightness for a tonal range, click the pencil button at the bottom-left and draw a new curve or segment.

- 4 To change the shape of the existing curve, make sure the curve button at the bottom-left is selected.
- 5 If you're adjusting an image in edit mode, turn on Preview so you can see the changes in the image.
- 6 Click any points on the curve that you want to stay the same; drag points on the curve that you want to change. For example, to keep the midtones the same while you adjust other tonal ranges, click the center of the curve, then drag other areas of the curve. To adjust midtones without affecting highlights and shadows, click the quarter and three-quarter points of the curve, and drag the middle.
 - To brighten a tonal range, drag the curve up.
 - To darken a tonal range, drag the curve down.
- 7 If you draw disjointed segments with the pencil, you can click Smooth to create one continuous curve.
- 8 Click OK to apply the current settings to the image.

Saving and loading Curves dialog box settings

You can save Curves dialog box settings on disk to use again. For example, after correcting the brightness curve for a particular Photo CD image, you can save these settings and later apply them to other images from the same source.

- ◆ **To save Curves settings:** In the Curves dialog box, click Save. In the directory dialog box, type a name for the settings file, select a location, and click Save.
- ◆ **To load Curves settings:** In the Curves dialog box, click Load. In the directory dialog box, locate the settings file and click Open.

Modifying colors

You can modify the tint and purity of specific colors with the Hue/Saturation command. In terms of image editing, saturation refers to the amount of gray in colors.

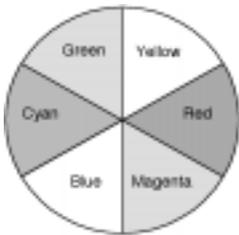
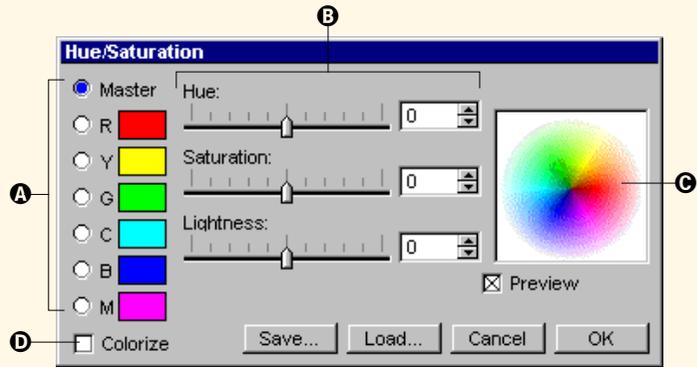
The Hue/Saturation dialog box varies slightly depending on the color mode. For RGB Color and CMYK Color images, you can modify red, yellow, green, cyan, blue, or magenta color ranges. For LAB mode images, you can modify blue, magenta, yellow, or green color ranges.

The Hue/Saturation command is available when you work with CMYK, RGB, or LAB Color mode images. Before choosing the

Hue/Saturation command, make the composite channel active. For more information, see “Activating channels” on page 564.

Hue/Saturation dialog box

- A** Choose the color to adjust. Click Master to affect all colors.
- B** Enter numbers in the text boxes or drag the sliders to adjust hue, saturation, and lightness.
- C** The color wheel illustrates changes made in the settings.
- D** Turn on to add the same hue to the entire image.



Color wheel

To adjust the hue of a color range

- 1** Select one paint object to adjust. Or, place a paint object to adjust in edit mode. You can select an area in the image to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command works with paint objects in RGB Color mode, CMYK Color mode, and LAB Color mode.
- 2** Choose Image > Adjust > Hue/Saturation.
- 3** On the left side of the dialog box, click the color range you want to adjust, or click Master to affect all colors equally.
- 4** To change the selected color, enter the amount of the color shift, from -180 to 180 degrees, in the Hue text box. Negative values indicate a counter-clockwise shift around the color wheel; positive values indicate a clockwise shift. For example, with the Master option selected, setting Hue to 60 changes red to magenta, magenta to blue, blue to cyan, and so on.
- 5** To apply the current settings to the image, click OK.

To adjust the saturation of a color range

- 1** Select one paint object to adjust. Or, place a paint object to adjust in edit mode. You can select an area in the image to adjust the selected area only. If you don't make a selection, the entire

image in edit mode is affected. This command works with paint objects in RGB Color mode, CMYK Color mode, and LAB Color mode.

- 2 Choose Image > Adjust > Hue/Saturation.
- 3 Click the option button of the color you want to adjust, or click the Master option button to affect all colors equally.
- 4 Enter a value from -100 to 100 in the Saturation text box or drag the slider. Positive values decrease the amount of gray in the selected colors. Negative values increase the amount of gray.
- 5 To apply the current settings to the image, click OK.

To adjust the brightness of a color range

- 1 Select one paint object to adjust. Or, place a paint object to adjust in edit mode. You can select an area in the image to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command works with paint objects in RGB Color mode, CMYK Color mode, and LAB Color mode.
- 2 Choose > Image > Adjust > Hue/Saturation.
- 3 Choose a specific color range or choose Master to affect all colors equally.
- 4 Enter a value from -100 to 100 in the Lightness text box or drag the slider. Positive values increase the amount of white in the color range. Negative values decrease the amount of white.
- 5 To apply the current settings to the image, click OK.

For more control of brightness adjustments, use the Levels or Curves command. For more information, see “Using the Levels command” on page 579 and “Adjusting brightness curves” on page 583.

To colorize an image

You can use the Colorize option in the Hue/Saturation dialog box to apply the same color to an entire image.

- 1 Select one paint object to adjust. Or, place a paint object to adjust in edit mode. You can select an area in the image to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command works with paint objects in RGB Color mode, CMYK Color mode, and LAB Color mode.

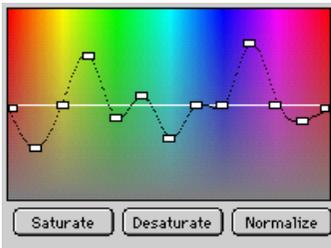
- 2 Choose > Image > Adjust > Hue/Saturation.
- 3 Choose a specific color range or choose Master to equally affect all colors.
- 4 Turn on the Colorize option. This applies the same hue and saturation to all pixels that are not 100 percent black or white. The Colorize option does not affect the lightness levels of pixels.
- 5 Enter a value from -120 to 120 degrees in the Hue text box. With the Colorize option on, a Hue value of zero indicates red. Enter positive values to select colors located clockwise around the color wheel at the specified number of degrees. Enter negative values to select colors located counter-clockwise around the color wheel. For example, changing the hue to 120 creates a “greenscale” version of the original image.
- 6 Enter a value in the Saturation text box or drag the slider.
- 7 After entering the settings you want, click OK.

Adjusting saturation

You can graphically adjust the saturation of different color ranges with the Color Equalization command. This command lets you add or remove gray from various color ranges.

To use the Color Equalization command

- 1 Select one paint object to adjust. Or, place a paint object to adjust in edit mode. You can select an area in the image to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command works with paint objects in RGB Color mode, CMYK Color mode, and LAB Color mode.
- 2 Choose Image > Adjust > Color Equalization.
- 3 Drag the bars in the color equalizer window to change the saturation of the various color ranges:
 - To increase the saturation of a color range, drag the bar toward the top of the window.
 - To decrease the saturation of a color range, drag toward the bottom of the window.
- 4 To increase the saturation of all colors, click Saturate.
- 5 To decrease the saturation of all colors, click Desaturate.



Color Equalization window

- 6 Click Normalize to return all colors to their original saturation.
- 7 When you finish adjusting saturation settings, click OK.

Using blur, noise, and other filters

The Blur, Sharpen, Noise, and Video filters change the contrast between pixels in specific areas of an image. You can use them to correct imperfect scanned images and to refocus scaled images.

Using blur filters

All blur filters soften images by decreasing the contrast between neighboring pixels. The Blur filter only slightly modifies an image. The Blur More filter is about four times stronger than the Blur filter and, therefore, creates a more noticeable effect.

To blur an image

- 1 Select one or more paint objects to blur all the images. You can select an area in one image in edit mode to blur the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.
- 2 Choose Image > Filter > Blur > Blur.

Comparing Gaussian and Average blurs

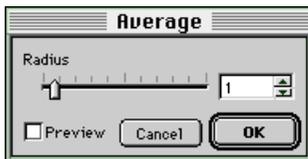
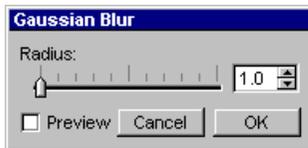
You can create a softening effect by using the Gaussian Blur or Average blur filters. Their effects are similar, but the Gaussian Blur filter creates a more diffused effect than the Average blur filter.

The Gaussian Blur filter changes the color value of each pixel by applying a weighted average based on the color values of pixels within a specified distance. Color values at the edge of the specified distance influence the final color value less than closer pixels.

The Average filter determines the new color value for each pixel by equally averaging all color values within the specified radius.

To apply a Gaussian Blur or Average blur

- 1 Select one or more paint objects to blur all the images. You can select an area in one image in edit mode to blur the selected area only. If you don't make a selection, the entire image in edit mode is



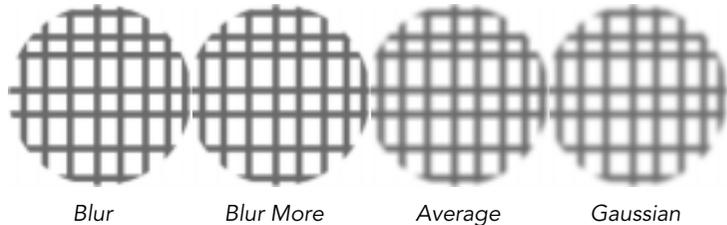
affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.

2 Choose Image > Filter > Blur > Gaussian Blur or Image > Filter > Blur > Average in the Image menu.

3 Specify a radius value from 0.1 to 250.0 in the Gaussian Blur dialog box, or 1 to 16 in the Average dialog box. Smaller radius values produce more subtle effects than larger ones.

4 After entering the setting you want, click OK.

Depending on the size of the radius, applying a Gaussian or Average blur can take longer than other Blur filters.



Motion Blur

With the Motion Blur filter, you can create the effect of linear movement. The filter simulates blurring of a moving object that is photographed with a slow exposure. You can specify the direction and magnitude of the effect.

To apply motion blur

1 Select one or more paint objects to blur all the images. You can select an area in one image in edit mode to blur the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, Indexed mode, and Duotone mode.

2 Choose Image > Filter > Blur > Motion Blur. Adjust the settings in the Motion Blur dialog box, and then click OK to apply the filter and close the dialog box.



Grayscale paint object



Motion Blur: Direction = 0, Distance = 30, Phase = 12

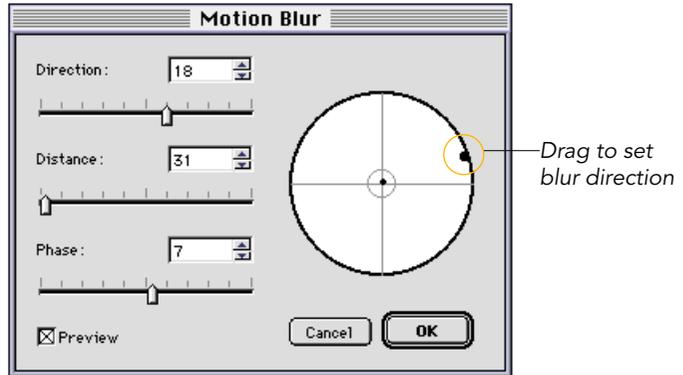
Motion Blur settings

Direction Establishes the angle of the blur and the object “movement.” Enter a value from -90 to 90 degrees. You can drag the slider or drag the solid dot inside the circle to set the Direction value. A value of 0 degrees creates a horizontal blur; 90 degrees creates a vertical blur.

Distance The magnitude of the blur. Enter a number from 1 to 999, or drag the slider to set the Distance. A lower number creates less blurring.

Phase Establishes the apparent direction of movement by creating a blurred trail that follows the object. Enter a number from -100 to 100 or drag the slider to set the Phase. Negative numbers create apparent movement up and to the right. Positive numbers create apparent movement down and to the left.

Preview Displays the current effect before you apply the filter to the image.



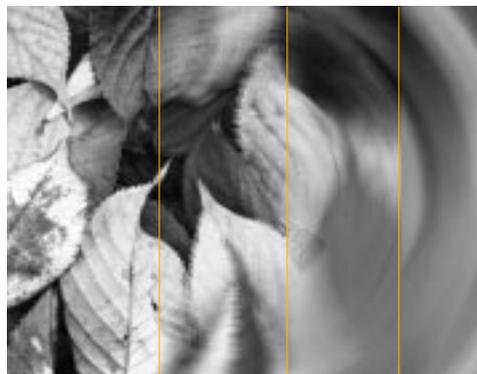
Radial Blur

With the Radial Blur filter you can create the effect of circular movement in an image, similar to a long-exposure photograph of a spinning subject.

To apply radial blur

- 1 Select one or more paint objects to blur all the images. You can select an area in one image in edit mode to blur the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, Indexed mode, and Duotone mode.
- 2 Choose Image > Filter > Blur > Radial Blur. Adjust the settings in the Radial Blur dialog box, and then click OK to apply the filter.

Radial Blur



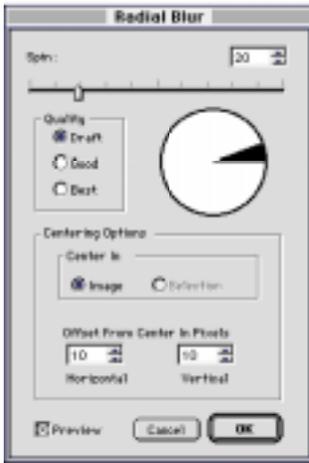
Original

Spin 5

Spin 20

Spin 50

Radial Blur settings



Spin Controls the magnitude of the apparent rotation in the image. Type a number from 1 to 100 or drag the slider to set the value. Or, drag the solid area inside the circle. Drag clockwise to simulate slower rotation; drag counterclockwise to simulate faster rotation and produce more blurring.

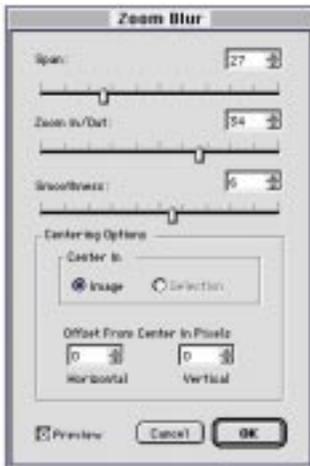
Quality Higher quality creates a smoother image but takes more time. The quality differences become more pronounced when the image is enlarged or printed on standard size paper.

Select Draft for the fastest redraw. Select Good for average redraw speed and quality. Select Best when image quality is most important.

Centering options These options let you set the rotation origin. Center In Image sets the origin at the center of the image. Center in Selection sets the origin at the center of a selection. “Offset from Center in Pixels” lets you type values to offset the origin from the center of the image or selection. Type vertical and horizontal offset amounts in pixels in the text boxes. Negative horizontal offsets move the center to the left. Negative vertical offsets move the center up. Positive horizontal offsets move the center to the right. Positive vertical offsets move the center down.

Preview Displays the current effect before applying the filter.

Zoom Blur



The Zoom Blur filter can create the effect of movement in an image, as if the scene were moving rapidly toward or away from the observer. The filter blurs along an axis perpendicular to the image. You can specify the depth, direction, and smoothness of the blur effect.

To apply zoom blur

- 1 Select one or more paint objects to blur all the images. You can select an area in one image in edit mode to blur the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, Indexed mode, and Duotone mode.

- 2 Choose Image > Filter > Blur > Zoom Blur. Adjust the settings in the dialog box, and then click OK to apply the filter.

Zoom Blur settings

Span Sets the depth, (length) of the zoom effect. Type a number from 1 to 100 or drag the slider to set the value. A larger number simulates a greater zoom depth and a more blurred effect.

Zoom In/Out Establishes the direction of the blur effect toward or away from the viewer. Type a number from -100 to 100 or drag the slider to set the value. Negative numbers make the image appear to move closer; positive numbers make the image appear to move away.

Smoothness Controls the quality of the transition of the blur effect. Type a number from 1 to 10 or drag the slider to set the value. A smaller number creates a smoother blur with fine color blending.

Centering options These options let you set the zoom origin. Center In Image sets the origin at the center of the image. Center in Selection sets the origin at the center of a selection. “Offset from Center in Pixels” lets you type values to offset the origin from the center of the image or selection. Type vertical and horizontal offset amounts in pixels in the text boxes. Negative horizontal offsets move the center to the left. Negative vertical offsets move the center up. Positive horizontal offsets move the center to the right. Positive vertical offsets move the center down.

Preview Displays the current effect before applying the filter.

*Zoom Blur applied to area
selected around center*

*Span: 25
Zoom In/Out: 25
Smoothness: 5*



✓ Tip

Although the Sharpen and Blur filters have opposite effects, they do not negate each other. To reverse the effects of a Sharpen filter, choose Undo in the Edit menu.

Using filters to sharpen images

All sharpen filters increase the contrast between adjacent pixels, which can make an image appear more distinct. The Sharpen filter modifies an image only slightly. The effect of the Sharpen More filter is about four times stronger than the Sharpen filter.

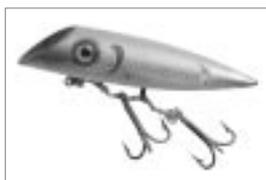
You can use the Sharpen Edges filter to make edges more distinct. This filter affects only high-contrast areas, leaving the rest of the image untouched.

The Unsharp Mask filter provides additional control over the sharpening effect. When you use the Unsharp Mask filter, you can specify the amount, radius, and threshold of the sharpening effect.

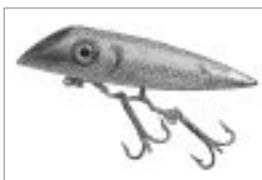
To sharpen an image

1 Select one or more paint objects to sharpen all the images. You can select an area in one image in edit mode to sharpen the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.

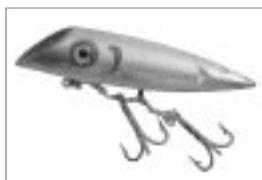
2 Choose Image > Filter > Sharpen, and then choose a filter from the Sharpen submenu.



Original



Sharpen More
applied 5 times



Sharpen Edges
applied 8 times



Unsharp Mask
Amount = 113
Radius = 4.5
Threshold = 0

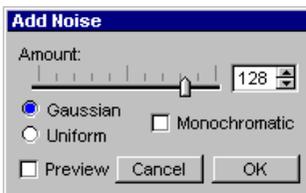


To apply the Unsharp Mask filter

- 1 Select one or more paint objects to sharpen all the images. You can select an area in one image in edit mode to sharpen the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, Indexed mode, and Duotone mode.
- 2 Choose Image > Filter > Sharpen > Unsharp Mask.
- 3 Enter a number from 1 to 500 percent in the Amount text box. Enter a number less than 100 percent to sharpen the image slightly; enter a higher number for more dramatic sharpening.
- 4 Enter a number from 0.1 to 250.0 in the Radius text box. This specifies how far the filter will look to determine the new color value for the original pixel. Small Radius values focus the sharpening effect on high-contrast edges. Greater values spread the sharpening effect over a larger area.
- 5 Enter a number from 0 to 255 in the Threshold text box. Enter 0 to filter all pixels. Enter a larger value to filter only high-contrast edges.
- 6 After entering the settings you want, click OK.

Adding and removing noise

In images, “noise” refers to randomly-colored pixels. Noise can be good or bad. For example, you can apply noise to computer-generated graphics to make them appear more photographic. You can also use a filter that removes noise to minimize the appearance of tiny scratches or other artifacts present in the source material or introduced during digitizing.



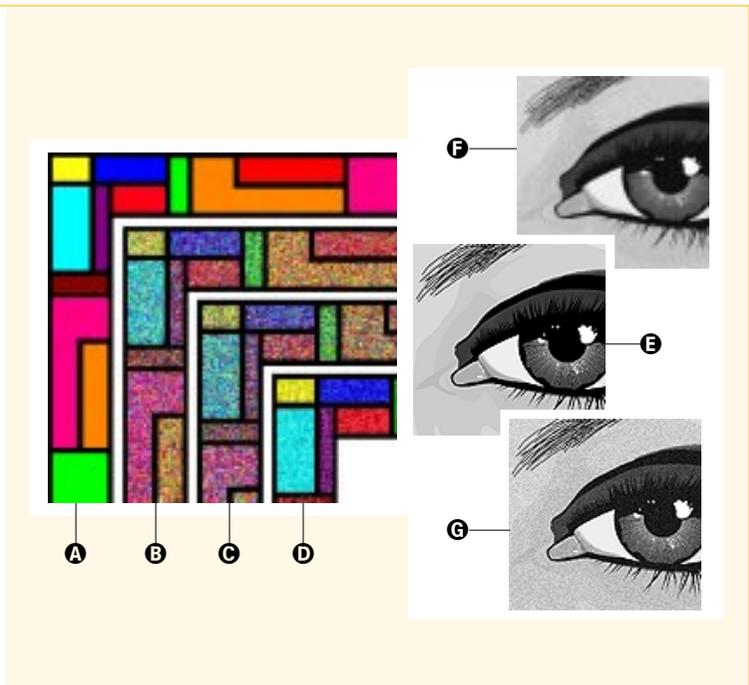
To add noise to selections

- 1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.
- 2 Choose Image > Filter > Noise > Add Noise.
- 3 Enter an amount from 1 to 999 to specify how far the color of the noise can vary from the original color.
- 4 Choose the Uniform or Gaussian distribution option:

- Choose Uniform to apply colors randomly picked within the Amount specified. Canvas evenly distributes the color of the noise across a range of colors. This option gives the smoothest effect.
 - If you want the noise to favor lighter and darker colors within the specified range, choose the Gaussian option. This option creates a more pronounced effect than Uniform.
- 5 If you want all added noise to be different brightness levels of the original color, turn on the Monochromatic option.
 - 6 After entering the settings you want, click OK.

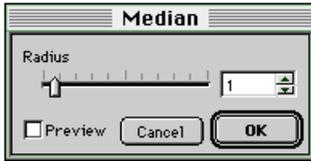
Comparing noise

- A** Original image
- B** Uniform
Amount = 302
- C** Gaussian
Amount = 302
- D** Gaussian
Amount = 80
Monochromatic
- E** Original image
- F** Uniform
Amount = 52
(The white of the eye was not filtered.)
- G** Gaussian
Amount = 52
(The white of the eye was not filtered.)



Removing noise from selections

You can remove noise from an image or selection using the Median, Despeckle, or Dust & Scratches filters. The Median filter removes noise by averaging the color of pixels. The Despeckle and Dust & Scratches filters remove noise by selectively blurring regions of the selection.



To use the Median filter

On a pixel-by-pixel basis, the Median filter applies the median color value of all pixels within the specified radius. Although the filter ignores extreme values in its computations, higher radius values can still wash out an image.

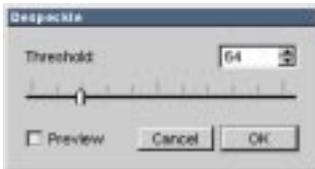
- 1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.
- 2 Choose Filter > Noise > Median in the Image menu.
- 3 Type a value from 1 to 16 in the Radius text box, or drag the slider. Smaller radius values produce subtler effects.
- 4 After entering the setting you want, click OK.

To use the Despeckle filter

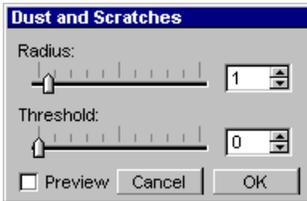
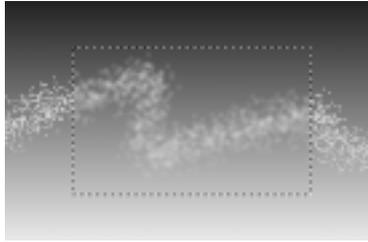
The Despeckle filter can remove defects such as dust and other speckling in images. Despeckle works with all images except Black & White and Indexed mode images. The filter blends pixels with the lightness values of neighboring pixels. It's a good idea to select areas that need correction before applying the filter.

To apply the Despeckle filter

- 1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected.
- 2 Choose Image > Filter > Noise > Despeckle.
- 3 Drag the slider or type a number in the text box to set the Threshold value. Higher values produce greater blending of pixels.



Despeckle filter applied to an Airbrush stroke in a rectangular selected area



To reduce dust and scratch marks from scans

The Dust and Scratches filter can remove dust specks by replacing a pixel's value with a median value. The filter does not change a pixel's value unless the absolute value of the difference of its gray value and the median gray value of its neighborhood is greater than the Threshold. Larger numbers of pixels are replaced by the median value when the Threshold is low. The practical effect of this is that larger pixels regions (larger "specks") are reduced or removed with a lower Threshold. Therefore, you can use the Threshold to control the size of the artifacts you want to remove.

- 1** Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.
- 2** Choose Filter > Noise > Dust & Scratches in the Image menu.
- 3** Enter a value from 1 to 16 in the Radius text box. Smaller radius values produce a subtler effect than larger ones.
- 4** Type a value from 0 to 255 in the Threshold text box. After entering the settings you want, click OK.



Smoothing video images

Because video images contain two interlaced pictures, you can sometimes see a slight banding effect in images acquired from video-recording devices. You can correct this in Canvas by using the De-Interlace filter and then applying the Unsharp Mask filter.

To smooth video images

- 1 Select one or more paint objects to de-interlace all the images. You can select an area in one image in edit mode to de-interlace the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode.
- 2 Choose Filter > Video > De-Interlace in the Image menu.
- 3 Click Odd fields or Even fields to select bands to eliminate.
- 4 Choose a replacement method for the eliminated pixels:
 - Click Duplication to fill the area by inserting a copy of an adjacent band.
 - Click Interpolation to fill the area by inserting intermediate color values based on the color values of neighboring pixels. This option creates a smoother, more accurate fill than Duplication.
- 5 After entering the settings you want, click OK.

IMAGE FILTERS AND EFFECTS

Canvas provides commands that you can use to transform images for a variety of effects. These commands can be used to alter entire images or only selected areas, as well as image channels.

The commands in the Filter submenu are often called “filters” because they “filter” images or selections pixel-by-pixel. This chapter explains how to use these filters as well as other commands in the Image menu.

Applying effect filters

You can use the Render, Stylize, and Offset filters to transform images. The filters in the Render submenu apply forms or textures to an image. The Stylize filters apply a conceptual effect to an image. Stylize filters include Emboss, Trace Contour, and Solarize. The Offset filter shifts the pixels within an image.

Rendering clouds

You can apply texture to areas in an image, such as skies or walls, by applying the Clouds filter. The Clouds filter renders soft swirls of color using the foreground and background colors.

Note: The Clouds filter completely replaces the original image or selection.

To apply a swirl of color to an image

- 1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, and Indexed mode.
- 2 Choose Image > Filter > Render > Clouds.



Image with translucent clouds

To render translucent clouds

You can use alpha channels to render translucent clouds.

- 1 With a paint object in edit mode, choose **Select All** in the **Edit** menu and then choose **Copy** in the **Edit** menu to copy the image to the Clipboard. The paint object in edit mode cannot be **Black & White** mode or **Indexed** mode.
- 2 Choose **Show Channels** in the **Image** menu to open the **Channels** palette. Choose **New Channel** in the palette's pop-up menu. Make sure you select "Masked Area" in the "Color Indicates" area, and then click **OK**.
- 3 Click the new channel in the **Channels** palette to make it active. Choose **Paste** in the **Edit** menu to paste the image into the channel.
- 4 In the areas where you want clouds to replace the original image, apply white using the **Paintbrush** or **Eraser**. In areas where you want a translucent effect, apply gray. The darker the shade, the less the clouds will obscure the original image.
- 5 In the **Channels** palette, click the first item listed to make the composite channel active.
- 6 Choose **Image > Select > Load**. In the dialog box, select the channel you edited in step 4.
- 7 Choose **Image > Filter > Render > Clouds**. The filter renders clouds in the selections made by loading the channel.



Completed alpha channel

Rendering a color wheel

You can fill a selection with a radial blend of colors by choosing **Image > Filter > Render > Wheel**. The rendered effect looks like the color wheel preview in the **Hue/Saturation** dialog box. The **Wheel** filter works with paint objects in **RGB Color** and **CMYK Color**.

Unless you make a selection in the image, the **Wheel** filter replaces the entire image. If you want to apply a translucent wheel effect, follow the steps for the procedure "To render translucent clouds" on page 602, but in the seventh step, choose the **Wheel** command.



Original



Embossed Angle = 163
Height = 5, Amount = 260

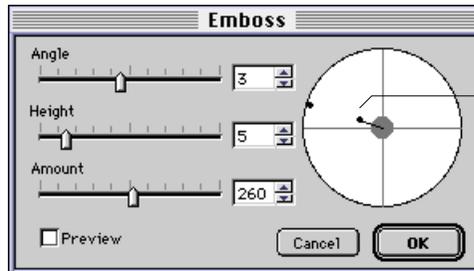
You can adjust the Angle, Height, and Amount individually by dragging the sliders...

Embossing an image

You can make an image appear raised with the Emboss filter. This filter converts low-contrast areas to gray and accentuates high-contrast areas with color (or black and white if the image is Grayscale mode) according to the placement of a theoretical light source.

To apply the Emboss filter

- 1 Select one or more paint objects to emboss. To apply the emboss filter to a limited area in one image, select the area. The Emboss filter doesn't work with paint objects in Black & White mode, and Indexed mode.
- 2 Choose Image > Filter > Stylize > Emboss.
- 3 Enter an Angle from 0 to 360. An angle of 0 is straight right with higher numbers going counter-clockwise.
- 4 Enter a height from 1 to 32 pixels to set the height of the effect.
- 5 Enter a number from 1 to 500 in the Amount text box. To retain more color along high-contrast borders, increase this value.



...or drag the handle to set the Angle, Height, and Amount values simultaneously

Solarizing images

You can create surrealistic effects in an image by applying the Solarize filter. The Solarize filter mimics a photographic darkroom procedure that exposes film to light during development.

You can solarize CMYK Color, RGB Color and Grayscale mode images. If you make a selection, Canvas filters only selected pixels.

To solarize an image

- 1 Select one or more paint objects to solarize. To apply the Solarize filter to a limited area in one image, select the area.
- 2 Choose Image > Filter > Stylize > Solarize.

Original



Solarized

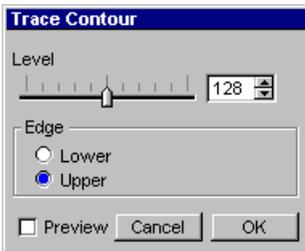


Outlining areas based on color value

With the Trace Contour filter, you can outline image areas that border a particular color. This filter makes color outlines if you are working with a color image, and black outlines if you are working with a Grayscale mode image.

To use the Trace Contour filter

- 1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, and Indexed mode.
- 2 Choose Image > Filter > Stylize > Trace Contour.
- 3 Enter a Level value from 0 to 255. The Trace Contour filter uses this color brightness value to determine the areas to trace.
- 4 Select Upper or Lower in the Edge area. To outline areas with higher brightness levels than the one specified, choose Upper. Choose Lower to outline areas with lower brightness levels.
- 5 To see the effect of the settings, turn on Preview. When the settings are correct, click OK.



Original



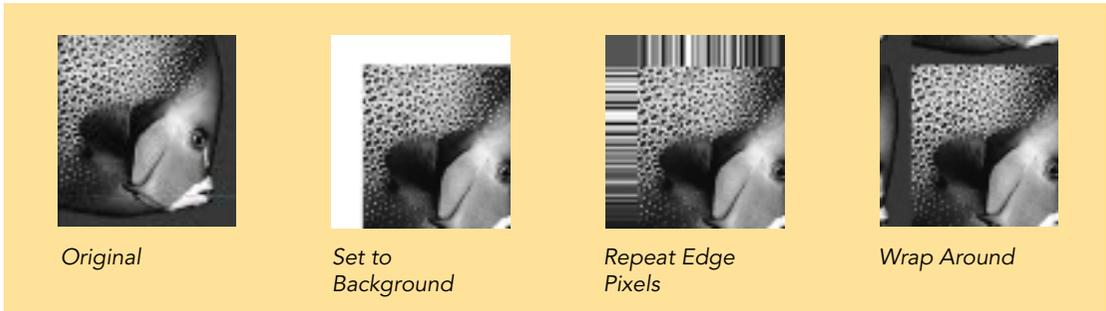
Level = 169
Edge = Lower



Level = 169
Edge = Upper

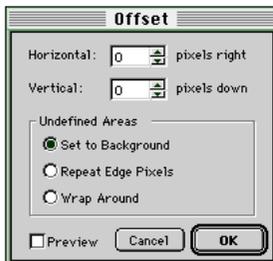
Offsetting selections

You can shift an image area with the Offset filter. Canvas fills the vacated area with color, duplicated pixels, or parts of the offset area.



To offset image areas

- 1 With an image in edit mode, select an image area.
- 2 Choose Image > Filter > Other > Offset.
- 3 Enter horizontal and vertical offset amounts in pixels. Positive values result in offsets to the right and down; use negative numbers (preceded by a minus sign) to offset up and left.
- 4 Choose an option under Undefined Areas.



Choose this option

For this effect

Set to Background

Fills area with the background color

Repeat Edge Pixels

Duplicates edge pixels until they fill the area vacated by the offset

Wrap Around

Moves pixels cut off by the offset into the vacated area

- 5 To see the effect of the settings, turn on Preview. When the settings are correct, click OK.

Ripple effects

With the Ripple filter you can create the impression of ripples in an image, like the ripples made by dropping a stone into smooth water. By varying the controls in the Ripple dialog box, you can produce a range of effects in an image, from slight rippling to extreme distortion.

To apply the Ripple filter

- 1 Select a paint object. To limit the effect to a particular area, select the area where you want to apply the filter. If you don't make a selection, the filter affects the entire image.
- 2 Choose Image > Filter > Other > Ripple. Adjust the settings in the Ripple dialog box, and then click OK to apply the settings and close the dialog box. To close the dialog box without changing the image, click Cancel.

Ripple settings

You can adjust the following settings in the Ripple dialog box.



Spin The Spin value controls the effect of swirling the image around its center point. Type a number from -100 to 100 or drag the slider to set the amount and direction of spin. Positive numbers generate a clockwise spin; negative numbers generate a counter-clockwise spin. Larger values (positive or negative) increase the amount of swirling. If Spin is zero, the filter creates no ripples in the image and none of the other controls produces an effect.

Frequency The Frequency value affects the number of “waves” created in the image. Type a number from 0 to 50. A large number creates more small waves; a small number creates fewer large waves.

Clustering The Clustering option can create interesting interference patterns in combination with some Frequency values. In general, Frequency values of 15 to 50 and Spin values of 25 and higher are most effective. You can enter a Clustering value of 0 to 30. The higher the Clustering value, the more interference ripples appear between the main waves.

Wave Decay The Wave Decay value softens the effect of the Frequency setting by dampening or stretching the waves away from the center of the image. The closer a wave is to the center of the image, the less it is stretched. Wave Decay creates the impression of blending the waves farthest from the center of the disturbance, especially when Include Corners is selected.

Enter a Wave Decay value of 0 to 100. The higher the value, the more the waves appear stretched toward the edge of the image.

High Frequency The High Frequency option causes an approximate doubling of the effect of the Frequency setting.

Bullseye Mode Selecting Bullseye Mode leaves rings of unchanged original image area between the wave distortions. This

creates a pattern of concentric rings like those surrounding the bull's-eye of a target. This mode can provide a means of integrating a recognizable version of the image with its distortion.

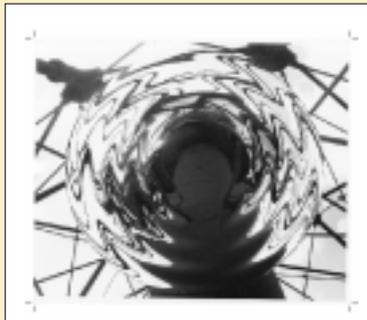
Include Corners This option spreads the filter's effects to the corners of an image or selection. If Include Corners is not selected, the effects are confined to a circular area at the center of the image or selection.

Preview Select Preview to see the effects of the current settings before applying the filter to the image.

Ripple examples



Original



Ripple filter applied in area selected with the Oval Marquee tool

Original



Spin = 30
Frequency = 8
Clustering = 0
Wave Decay = 9



Same settings
(above) with
Bullseye Mode



Twirl effects

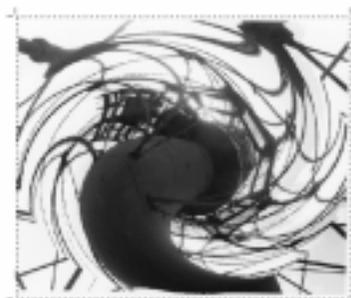
The Twirl filter twists an image around its center to create interesting spiral distortions.

To apply the Twirl filter

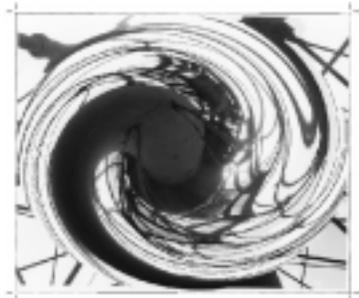
- 1 Select a paint object. To limit the effect to a particular area, select the area where you want to apply the filter. If you don't make a selection, the filter affects the entire image.
- 2 Choose Image > Filter > Other > Twirl. Adjust the Angle settings in the Twirl dialog box. The Angle value specifies the direction and extent of the effect. Type a number in the box or drag the slider to set the Angle value. Higher numbers (positive or negative) create more twists around the center. A positive number twirls clockwise. A negative number twirls counter-clockwise.
- 3 Click OK to apply the settings and close the dialog box. Select Preview to see the effects of the current settings before applying the filter to the image. To close the dialog box without changing the image, click Cancel.



Original



Twirl Angle 90



Twirl Angle 180

Spherical distortion

The Spherize filter can distort an image to simulate a reflection on a curved surface.

To apply the Spherize filter

- 1 Select a paint object. Make a selection if you want to limit the effect to a selected area. If you don't make a selection, the filter affects the entire image.

2 Choose Image > Filter > Other > Spherize. Adjust the settings in the dialog box, and then click OK to apply the filter.



Original paint object



Spherize: Amount = 5



Vignette option selected

Spherize settings

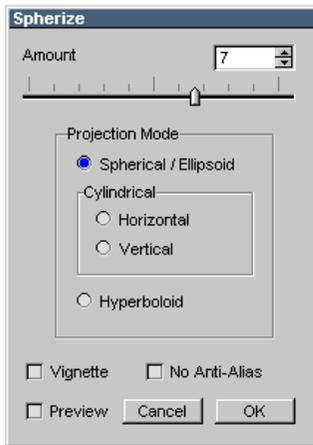
Amount The extent of the distortion. Type a number from 1 to 10 or drag the slider to set the value. A higher number simulates a stronger curve.

Projection Mode The shape of the distortion. Select Spherical/Ellipsoid to simulate reflection on a spherical surface like a globe. Select Cylindrical to simulate reflection on a cylinder, such as a can. Select Horizontal to make cylindrical distortion horizontal. Select Vertical to make cylindrical distortion vertical. Select Hyperboloid to simulate reflection on a concave hyperboloid surface.

Vignette Isolates the shape of a spherical distortion from the rest of the image. If the image has a visibility mask, the areas of the image that fall outside of the distorted area will be transparent. If the image does not have a visibility mask, the areas are filled with the current background color. You can use this option when Spherical/Ellipsoid is selected.

No Anti-Alias Turns off smoothing of edges in the image. Deselect this option for a smoother effect.

Preview Displays the current effect before you apply the filter to the image.



Using the High Pass, Maximum, and Minimum filters

This section describes how you can create selections in alpha channels and resize bright areas in color channels. You can isolate areas in an image using the High Pass filter and Threshold command. You

can use the Maximum and Minimum filters to spread color areas you might need to trap for commercial printing.

Isolating areas using the High Pass filter

The High Pass filter isolates high-contrast edges in an image by removing low-contrast detail. The filter makes pixels located in low-contrast areas gray. In color images, the High Pass filter outlines high-contrast edges in color. Otherwise, it outlines these edges in dark gray.

To apply the High Pass filter

- 1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, and Indexed mode.
- 2 Choose Image > Filter > Other > High Pass.
- 3 Enter a radius from 0.1 to 250.0 pixels. To retain more of the original image surrounding high-contrast edges, enter a high number. If you enter a low number, the filter makes more of the image gray.



Isolating images with the High Pass filter

- 1 With an image in edit mode, choose Select All and then choose Copy in the Edit menu.
- 2 Choose Show Channels in the Image menu. Create a new channel by clicking the button in the lower-left corner of the Channels palette.
- 3 Click the new channel and choose Paste in the Edit menu.
- 4 Choose Image > Filter > Other > High Pass and enter a radius value. Click OK.
- 5 Choose Image > Adjust > Threshold. Adjust the threshold until you outline the areas you want.
- 6 Paint areas white to include them in the selection. Fill the rest of the image with black.



Original Image



High Pass filter



Threshold filter



Editing with painting tools



Finished alpha channel



Isolated subject

- 7 Click the composite channel. Choose Image > Select > Load to load the channel and select an area.
- 8 In this example, the image was finished by choosing Image > Select > Inverse and applying a Gaussian blur of 3.0 pixels.

✓ Tip

To apply a choke or spread to an image manually, use the Maximum or Minimum filters in a color channel.

Maximizing and minimizing bright areas in an image

You can increase or decrease light areas in an image with the Maximum and Minimum filters. The Maximum filter adds light to shadows. The Minimum filter shrinks light areas.

When you apply these filters, Canvas compares each pixel to its neighbors within the radius you specify, then replaces it with the lightest or darkest pixel in the group.



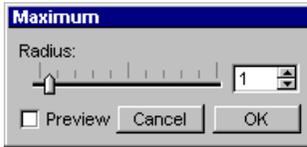
Original



Maximum 4 pixels



Minimum 4 pixels



To use the Minimum and Maximum filters

- 1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, and Indexed mode.
- 2 To maximize the light areas in an image, choose Image > Filter > Other > Maximum and enter a radius from 1 to 16 pixels.
- 3 To minimize the light areas in an image, choose Image > Filter > Other > Minimum and enter a radius from 1 to 16 pixels.
- 4 Turn on Preview to check the settings and then click OK.

Filling selections with color

The Image > Filter > Other > Fill command lets you quickly and uniformly fill a selection with the foreground or background color, black, white, or gray. In addition, you can select an opacity level and transfer mode for application of the color.

To fill a selection with a color

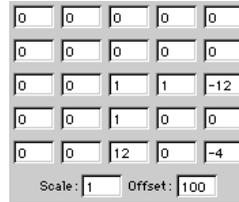
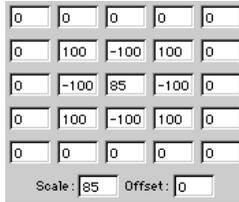
- 1 With an area of an image selected, choose Image > Filter > Other > Fill. The Fill dialog box opens.
- 2 In the Use pop-up menu, choose a fill option. To make the color appear transparent, set the Opacity level to less than 100%. To use a mode effect, choose an option in the Mode pop-up menu.
- 3 Click OK to fill the selection.

Creating custom image filters

You can create your own special-effect and image-correcting filters using the Custom command. You can also save custom filters and use them in future Canvas documents.

Filters work with an image one pixel at a time. Using a mathematical formula and the color values of pixels within a specified radius, filters assign each pixel a new color value. In a custom filter, you supply the numbers the filter uses to calculate the new color values.

The same filter can produce different effects in other images. To get the most out of custom filters, spend time experimenting.



Original

Custom filter

Blurred image

Custom filter

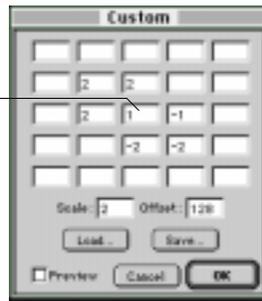
Embossed image

To use Custom filters

1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, and Indexed mode.

2 Choose Image > Filter > Other > Custom. In the Custom dialog box, type values from -999 to 999 in the boxes in the grid. Canvas ignores blank boxes.

This box represents the target pixel in an image



These boxes represent the pixels surrounding a target pixel

3 Enter a Scale value from 1 to 9,999. To retain the general appearance of the original image, the scale should equal the sum of the entries in the configuration grid. For example:

Grid entries	Sum	Scale
2 2 1 -1 -1 3	$2+2+1-1-1+3=6$	6
-15 7 4 -3 2 8	$-15+7+4-3+2+8=3$	3

- 4 Enter an Offset value from -9,999 to 9,999. Positive values increase the brightness of the final outcome while negative values decrease the brightness.
 - 5 Turn on the Preview option to check the filter effect. When the settings are correct, click OK.
- ◆ **To save a custom filter:** In the Custom dialog box, enter the filter settings and click Save. Enter a name and location for the filter and click Save.
 - ◆ **To load a custom filter:** In the Custom dialog box, click Load. In the directory dialog box, select the filter file and click Open.

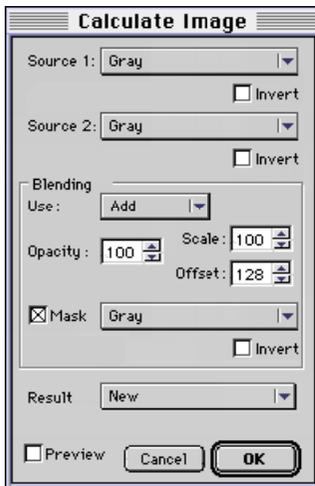
Combining image channels

The Calculate command lets you combine channels to create selection masks for effects like embossing text in an image. By adding, subtracting, and multiplying channels, you can also enhance shadows and highlights.

The Calculate command combines corresponding pixels from two channels by the method you choose. You can place the result in a new or existing channel.

To combine channels

- 1 With an image in edit mode, choose Calculate in the Image menu.
- 2 Choose the first channel in the Source 1 pop-up menu. If you want to invert the channel, turn on Invert. For more information, see “Inverting colors in images” on page 577.
- 3 In the Source 2 pop-up menu, choose the channel you want to combine with the first channel. If you want to invert the channel, turn on Invert.
- 4 In the Blending area, choose an option in the Use pop-up menu. See “Descriptions of Calculate blending options,” next.
- 5 Enter an opacity from 0 to 100 percent for Source 1. Other options are available for some Blending methods.
- 6 If you want to mask Source 1, turn on Mask in the Blending area and choose a channel in the pop-up menu. To invert the mask, turn on Invert in the Blending area.



- 7 Choose the name of a destination channel or choose New in the Result pop-up menu. If you select an existing channel, Canvas replaces the channel with the results of the Calculate operation.
- 8 Click OK to calculate the channel using the current settings.

Descriptions of Calculate blending options

You can select various blending methods in the Calculate Image dialog box.

Normal. Places Source 1 over Source 2 at the specified opacity. 100 percent opacity replaces Source 2 with Source 1.

Multiply. Creates a darker channel than the source channels. Black areas in either source create black areas in the resulting channel. White areas do not affect the result.

Screen. Creates a lighter channel than the source channels. White areas in either source create white areas in the resulting channel. Black areas do not affect the result.

Overlay. Places Source 1 over Source 2 without destroying the shadows or highlights of Source 2.

Soft Light. Lightens or darkens pixels in Source 2 depending on the brightness value of the corresponding pixels in Source 1. Pixels in Source 1 that are lighter than 50% black lighten Source 2. Pixels in Source 1 that are darker than 50% black darken Source 2.

Hard Light. Lightens or darkens pixels in Source 2 depending on the brightness value of the corresponding pixels in Source 1. Hard Light works similarly to Soft Light. However, black in Source 1 produces black in the resulting channel and white produces white.

Darken. Replaces pixels in Source 2 with the corresponding pixels in Source 1, if the pixels in Source 1 are darker.

Lighten. Replaces pixels in Source 2 with the corresponding pixels in Source 1, if the pixels in Source 1 are lighter.

Add. Creates a lighter channel than the source channels. Add is similar to Screen but usually produces a higher-contrast image.

If you select the Add option, you can enter a Scale value from 1 to 2 with a precision of three decimal places. To calculate the average brightness value of two channels, choose Add and enter a Scale of 2.

You can brighten or darken the resulting channel by specifying an Offset value. To lighten the

overall image, enter an offset from 1 to 255. To darken the image, enter an offset from -1 to -255.

Subtract. Creates a darker channel than the source channels. Subtract is similar to Multiply. However, corresponding pixels of the same color produce black in the resulting channel.

If you select the Subtract option, you can enter a Scale value from 1 to 2 with a precision of three decimal places.

You can brighten or darken the resulting channel by specifying an Offset value. To lighten the overall image, enter an offset from 1 to 255. To darken the image, enter an offset from -1 to -255.

Difference. Compares the color value of each pixel in Source 1 with the corresponding pixel in Source 2, subtracts the darker value from the lighter, and then uses this difference in the resulting channel.

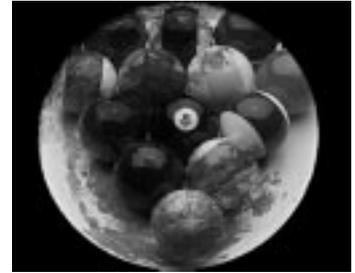
Examples of Calculate blending options



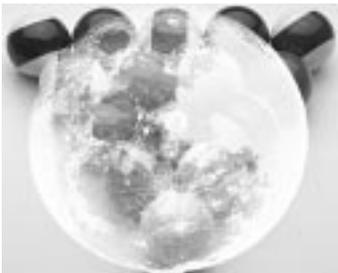
Source 1



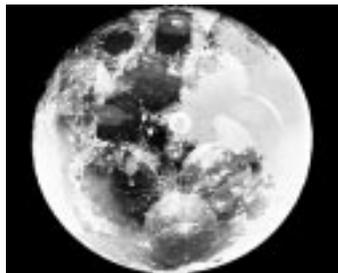
Source 2



Multiply



Screen



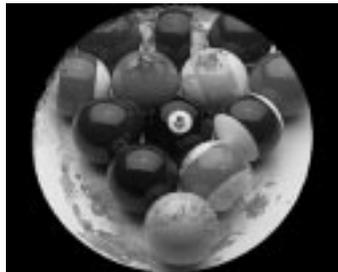
Overlay



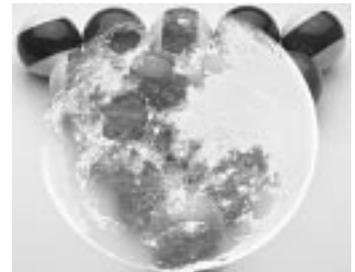
Soft Light



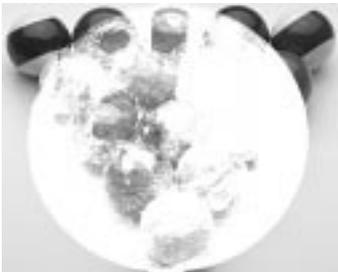
Hard Light



Darken



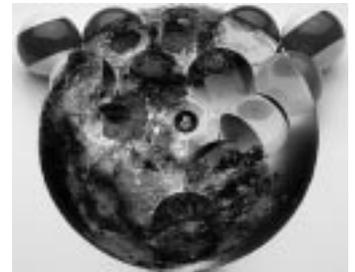
Lighten



Add



Subtract



Difference

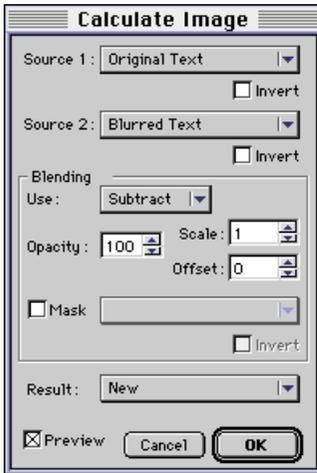
Creating an embossed type effect

You can use the Calculate command to make channels that let you select shadow and highlight areas around type. The highlights and shadows give the illusion of embossed type in an image. The following procedure gives the steps for this effect with a 72-ppi image; other image resolutions would require slightly different settings.

An embossed text effect can be achieved by using channels to select highlights and shadow areas around character shapes



- 1** With the object in edit mode, choose Image > Show Channels. Create a new channel by choosing New Channel in the pop-up menu. In the dialog box, type “Original Text” in the Name text box. Make sure “Masked Area” is selected in the “Color Indicates” area. Click OK.
- 2** Click the Original Text channel in the Channels palette to make it active. Select a font and type size, and use the Text tool to type text into the image. Press Esc when you finish (see “To set type within images” on page 514). Canvas creates a selection from the characters you typed.
- 3** Choose Image > Filter > Other > Fill. In the Use pop-up menu in the Contents area, choose White. Set Opacity to 100, and choose Normal in the Mode pop-up menu. Click OK and Canvas fills the selection with white. Press Esc to deselect the selection.
- 4** In the Channels palette, copy the Original Text channel by dragging it to the New Channel button at the lower-left corner of the palette. Canvas creates a channel named “Original Text copy.” Double-click the channel to open the Channel Options dialog box. Rename the channel “Blurred Text” and then click OK.



5 Choose Image > Filter > Blur > Gaussian Blur to soften the text slightly. For a 72-ppi image, a blur radius of 2 pixels works well.

6 Choose Image > Filter > Other > Offset. Set the Horizontal Offset to 5 and the Vertical Offset to 3. Choose “Repeat Edge Pixels” under Undefined Areas and click OK.

7 Choose Image > Calculate. For Source 1, choose Original Text. For Source 2, choose Blurred Text. In the Blending pop-up menu, choose Subtract. Set Opacity to 100, Scale to 1, and Offset to 0. In the Result pop-up menu, choose New. Click OK.

8 Name the new channel “Shadow” using the Channel Options dialog box, as in step 4. Be sure that Masked Area is selected in the Color Indicates area.

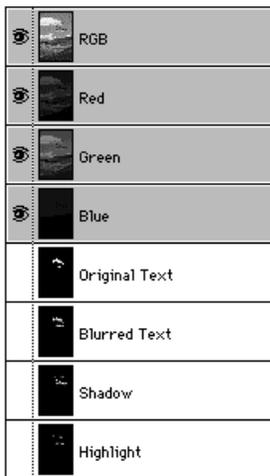
9 Click the Blurred Text channel in the Channels palette. Choose Image > Filter > Other > Offset. Set the horizontal offset to -7 and the vertical offset to -4. Click OK.

10 Choose Image > Calculate. For Source 1, choose Original Text. For Source 2, choose Blurred Text. In the Blending pop-up menu, choose Subtract. Set Opacity to 100, Scale to 1, and Offset to 0. In the Result pop-up menu, choose New. Click OK.

11 Name the new channel “Highlight.” Again, make sure that Masked Area is selected in the Color Indicates area.

12 Click the composite channel (the first channel in the list) in the Channels palette to make it active. Option-click (Mac) or Alt-click (Windows) the Shadow channel to load it. Choose Image > Filter > Other > Fill. In the Use pop-up menu in the Contents area, choose Black. Turn on the Preview option. Choose Normal in the Mode pop-up menu. Adjust the Opacity value to get a shadow effect that you like. Click OK.

13 Option-click (Mac) or Alt-click (Windows) the Highlight channel to load it. Choose Image > Filter > Other > Fill. In the Use pop-up menu in the Contents area, choose White. Turn on the Preview option. Choose Normal in the Mode pop-up menu. Adjust the Opacity value until you get a highlight effect that you like. Click OK and Canvas adds the highlight to the image.



You’ve now created an embossed text image effect. Press Esc twice to deselect the highlight area and leave edit mode.

IMAGE PROXIES

Proxies are low-resolution images you can use in Canvas documents. A proxy is a placeholder that is linked to an original image. The original high-resolution image is stored in a Canvas Image File on disk.

Proxies are most useful for conserving time and memory when you use large, high-resolution color images in documents.

Using proxies can significantly reduce the time required to redraw the screen while you work. Also, a Canvas document that contains proxies requires much less disk storage space than one containing high-resolution images (although the space required to store the document and the linked image files is approximately the same as for the document containing high-resolution images).



A high-resolution image stored in a Canvas Image File on disk.



A low-resolution proxy replaces the image in a Canvas document. The proxy is linked to the Canvas Image File.

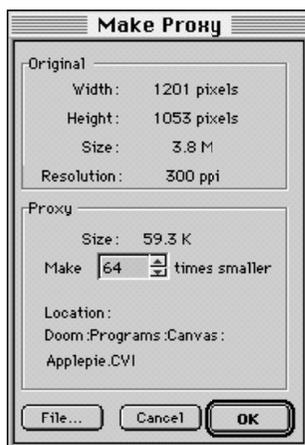
Replacing an image with a proxy

The procedure described in this section lets you replace an image contained in a Canvas document with a low-resolution proxy. When you do this, Canvas exports the original image to a Canvas Image File, and links the Canvas Image File to the proxy.

If you later double-click the proxy for editing, Canvas loads the original image from the Canvas Image File. You can edit the original image as you would any other Canvas paint object. When you leave image-editing mode, Canvas stores the changes in the Canvas Image File and then displays the proxy again.

To create a proxy linked to a Canvas Image File

- 1 In the Canvas document, select the image object you want to replace with a proxy.
- 2 Choose Image > Proxy > Make Proxy. A directory dialog box appears.
- 3 Select a location on disk and type a name for the Canvas Image File that Canvas will create.
- 4 Click Save. The Make Proxy dialog box appears.
- 5 Type a value in the “Make...Times Smaller” box. The larger this number, the lower the proxy resolution and the less memory required by the proxy in the document. The value must be from 1 to 1,000.
- 6 Click OK. Canvas replaces the image with a proxy and creates a file containing the original image on disk. The proxy is linked to the Canvas Image File on disk.



If you click Cancel, Canvas closes the dialog box without replacing the original image, placing the proxy, or storing the image file on disk.

Final output with proxies and Canvas Image Files

To produce final high-resolution output from a document, you may need to copy the Canvas document from your disk to another storage media, such as a Zip disk. When you copy a document that contains image proxies, you need to copy the linked high-resolution Canvas Image File also, to be able to print the high resolution images.

Make sure when you copy the documents to another disk, that you maintain the original folder structure. It is a good idea to open the Canvas document that you copied, and check that the links have not been broken. See “To verify proxy links” on page 624 for more information.

You can also replace a proxy with its linked image to eliminate the need to copy the Canvas Image File. To learn how to do this, see “To replace a proxy with its linked image” on page 623.

To create a proxy by acquiring a file

You can use the Acquire command to create a proxy that is linked to a TIFF, JPEG, or CVI file.

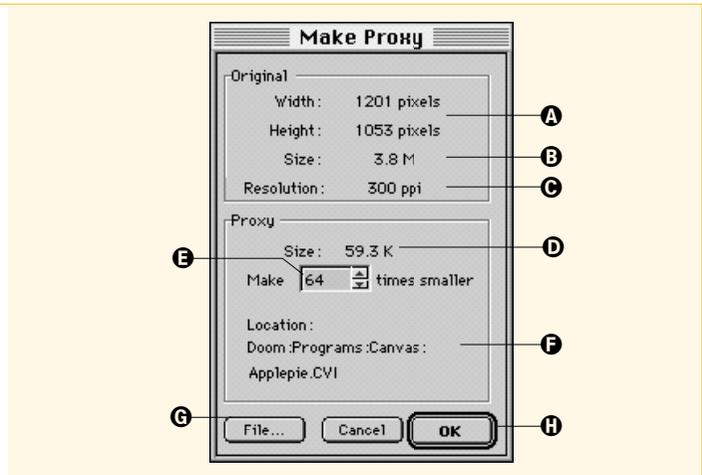
You can edit acquired proxies the same as other proxy images. However, some changes you might make, such as adding image channels, are not supported by JPEG or TIFF files. In this case, when you save the file, Canvas asks whether to save the image in Canvas Image format to preserve the changes.

- 1 To acquire an image from a file, choose Image > Acquire and choose a file format in the Acquire submenu.
- 2 In the directory dialog box, select the Acquire As Proxy option. Select the image files to acquire and click Done.
- 3 The Make Proxy dialog box appears. Type the proxy resolution in the “Make...Times Smaller” box. The larger the number, the lower the resolution of the proxy image in the document.
- 4 Click OK. Canvas places the proxy images in the document.

Make Proxy dialog box

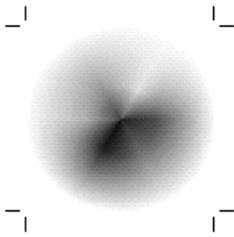
You use the Make Proxy dialog box to create proxies linked to Canvas Image Files.

- A** Width and height of the image.
- B** Size of the Canvas Image File you are about to create.
- C** Resolution of the image.
- D** Memory required by the proxy. The memory required changes if you enter values in the “Make...times smaller” text box.
- E** Type the proxy reduction factor in this text box. The larger this value, the lower the proxy resolution and the less memory required by the proxy.



- F** Location of the file on disk.
- G** Click to change the location that Canvas will store the Canvas Image File.
- H** Click OK to replace the image with the proxy and create the Canvas Image file.

Editing proxies



A paint object in image-edit mode

Object editing

Changes you make to a proxy when you do not edit the pixels in the image are object-level edits. You can skew and scale proxies like other objects. Skewing, scaling, and other object-level editing do not affect the Canvas Image File to which the proxy is linked.

Pixel editing

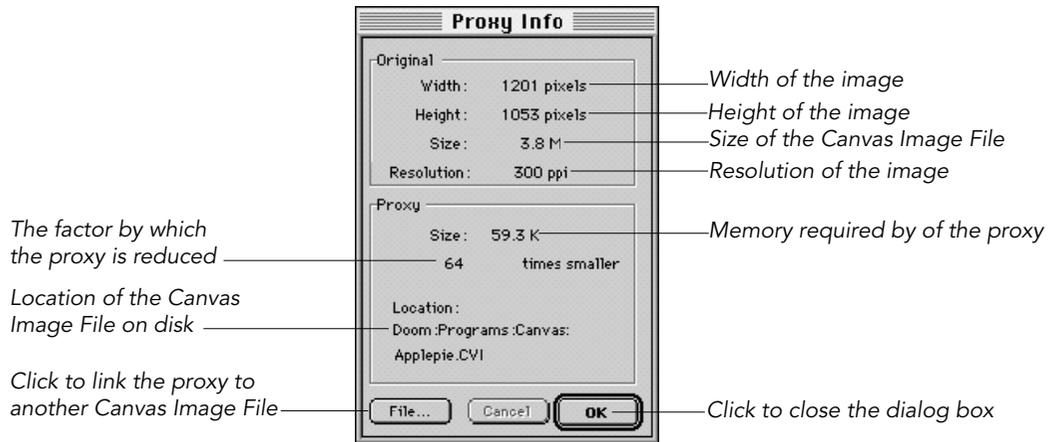
When you place a proxy object in image-edit mode, Canvas loads and displays the linked Canvas Image File in place of the proxy. If the original image has changed, you see the changes.

Changes you make in image-edit mode are saved in the linked Canvas Image File on disk when you exit image-edit mode. Canvas then displays an updated proxy.

Editing an image linked to a proxy is the same as editing any image in Canvas: You can use painting tools and commands to alter pixels in the original image.

Displaying proxy information

When you select a proxy object, the information area of the Status bar displays the data for the Canvas Image File to which the proxy is linked in italic type. To display information on the proxy object, choose Image > Proxy > Proxy Info. The Proxy Info dialog box displays the dimensions and resolution of the proxy object and the location of the linked original image on disk.



Removing proxies

To remove a proxy object easily, without replacing it with an original image, select the proxy object and press Delete, or use the Cut or Clear commands in the Edit menu.

To replace a proxy with its linked image

- 1 Select the proxy you want to replace.
- 2 Choose Image > Proxy > Unlink Proxy. Canvas asks if you are sure you want to remove the link between the Canvas Image File and the proxy.
- 3 Click OK to replace the proxy and remove the link to the Canvas Image File.

Maintaining proxies

If someone changes the name or location of a Canvas Image File that is linked to one or more proxies, Canvas alerts you that the file could not be found when you try to edit, unlink, or update any of the proxies.

✓ Important

You should always verify the proxy links in a document before final output. If you produce final high-resolution output from a document with unlinked or broken proxy objects, the associated images will not print correctly.

You can check proxies in a document at any time to verify that the links are valid. If Canvas detects unlinked proxies, you can re-link them to existing Canvas Image Files.

To verify proxy links

To determine if any proxy links are broken, choose **Image > Proxy > Check Proxies**.

If Canvas finds an unlinked proxy, it displays selection handles around the proxy and centers it in the document window. Canvas displays a message telling you that the proxy has a problem because the image file could not be found.

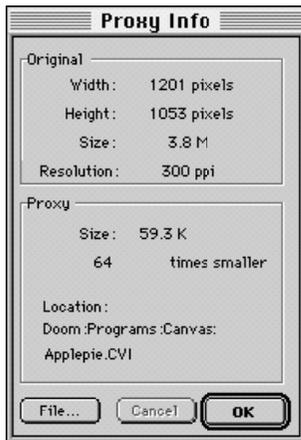
Note: When it finds an unlinked proxy, Canvas displays the proxy's name, if you have assigned a name to the proxy object. You can do this by typing a name in the Object Name box on the Data tab in the Object Specs palette.

When Canvas tells you that a proxy has a problem, you should follow the procedure “To re-link a proxy,” next. If a proxy does not have a valid link to a Canvas Image File, Canvas prints the low-resolution proxy when you print the document.

If all proxies in the document have valid links to Canvas Image Files, Canvas displays the message: “No problems found.” Canvas also displays this message if the document contains no proxies.

To re-link a proxy

If you are using the Check Proxies command and Canvas finds an unlinked proxy, you can link the proxy to a Canvas Image File.



- 1 After Canvas identifies an unlinked proxy, click Fix in the message box. The Proxy Info dialog box appears.
 - If you click OK, Canvas skips the proxy and continues checking other proxies. If you click Cancel, the check ends.
- 2 In the Proxy Info dialog box, click File. A directory dialog box appears.
- 3 In the directory dialog box, select a Canvas Image File to link to the proxy, and then click Open. Canvas returns to the Proxy Info dialog box, which shows the path to the linked image file.
- 4 Click OK. Canvas closes the Proxy Info dialog box and continues to check for unlinked proxies.
- 5 If Canvas finds another unlinked proxy in the current document, Canvas again selects the unlinked proxy and displays a message that the proxy has a problem. Repeat the procedure from Step 1 above to re-link unlinked proxies that Canvas selects.

When Canvas doesn't find any unlinked proxies, it ends the Check Proxies procedure and returns to the document.

To change the file linked to a proxy

Use the following procedure to link a proxy to a different Canvas Image File.

- 1 Select the proxy object.
- 2 Choose Image > Proxy > Proxy Info. The Proxy Info dialog box appears. Click File and a directory dialog box appears.
- 3 Select the Canvas Image File you want linked to the proxy and click Open. The Proxy Info dialog box appears, and shows the new path and the name of the linked image file.
- 4 Click OK to close the Proxy Info dialog box.

Updating proxies

Use the Update Proxies command to update all proxies in a document so they match the image data in their linked Canvas Image Files. The Update Proxies command is not available if any objects are selected in the document.

- ◆ **To update all proxies in the active document:** Choose Image > Proxy > Update Proxies.

- ◆ **To update a specific proxy:** Select the proxy object you want to update and choose Image > Proxy > Update Proxy.

Exporting Canvas Image Files

You can export any image from a Canvas document to create a Canvas Image File on disk. You can then create proxies linked to the Canvas Image File.

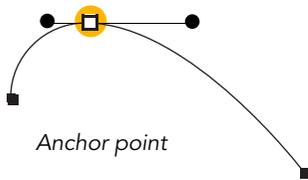
This procedure creates a Canvas Image File, but does not link the image file to the document, or replace the image with a proxy in the document.

To export an image to a Canvas Image File

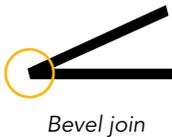
- 1 Select the paint object in the document and choose Image > Export > Canvas Image File.
- 2 A directory dialog box appears. Select a location and type a name for the image file, and then click Save. Canvas creates a Canvas Image File on disk.

GLOSSARY / INDEX

GLOSSARY



baseline



ACTIVATE To make a window active by clicking anywhere in it.

ACTIVE WINDOW The window with the program's focus, usually in front. Tools and commands work in the active window.

ALERT BOX A box that appears on the screen to give a warning or to report an error message.

ALPHA CHANNELS A grayscale duplicate of an image on which you can store masks and selections.

ANCHOR POINT The starting or ending point of a path segment. Anchor points appear only when an object is in edit mode. When selected, anchor points of curve segments display one or two direction lines.

ANSI American National Standards Institute; one of the standards available to specify dimension object properties.

ANTI-ALIAS To soften the edges of an applied brush stroke, effect or selection. When something is anti-aliased, the color on the edges fades to transparency instead of stopping abruptly.

ASCII American Standard Code for Information Interchange (pronounced "ASK-ee"); used for representing text inside a computer and for transmitting text between computers.

BASELINE An imaginary line on which a line of text rests. The descenders of characters such as **g**, **j**, and **p** extend below the baseline.

BEVEL JOIN A style of connection between two segments in a vector object, in which the stroke lines appear to be trimmed diagonally.

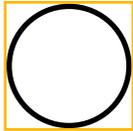
BÉZIER CURVE A curve, named after French mathematician Pierre Bézier, defined by the position of *anchor points* and *tangent lines*.

BIND To align the baseline of text so it follows the contours of a path.

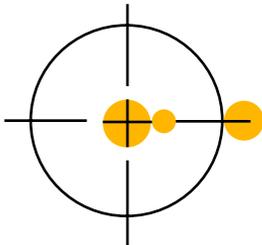
BITMAP A digital image composed of pixels; technically, an image containing only black and white. *See also* Image.

R R

Vector (left) and bitmapped
fonts



A bounding box of a circle



Center length, center gap,
center extension

BITMAPMED FONT A font made up of characters composed of pixels, rather than vector data. Fonts displayed on a computer screen are bitmapped fonts, for example, and usually aren't suitable for printing.

BLACK AND WHITE A method of digital imaging that uses pure black and pure white pixels. The frequency of black or white pixels create the illusion of shades.

BLEND A smooth transition of shape and color between two vector objects through intermediate objects created by Canvas.

BOUNDING BOX An invisible rectangle that defines the boundaries of an object. Canvas displays an object's bounding box when the object is selected.

BULLET A special text character, usually a filled circle (•), available in many fonts, especially symbol fonts.

BUTTON A pushbutton-like image in dialog boxes where you click to designate, confirm, or cancel an action.

CANVAS TEMPLATE A Canvas document that includes options and settings and is used as the basis for new documents.

CCITT Consultative Committee on International Telegraphy and Telephony; its standards include data transmission formats.

CD-ROM Compact disc read-only memory; a compact disc 120 mm (4.72 inches) in diameter that can store 550 MB of information. The disc is "read-only" memory because a drive can read the information but can't record information.

CENTER EXTENSION The distance that Center dimension lines extend beyond the dimensioned object.

CENTER GAP The space between a Center dimension crosshair and the lines that extend from it.

CENTER LENGTH The Center dimension crosshair length.

CHANNEL In digital images, a layer of primary color in a full-color image. For example, an RGB image has at least three color channels (one each for red, green, and blue) and a composite channel, which adds the three channels together to create a full-color image.

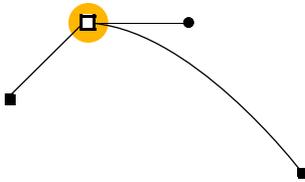
CHANNEL MASK Creates transparency based on an image in a channel. A channel mask creates transparency in proportion to the luminance of its image and can be applied to any type of object.

CHARACTER Any symbol, such as letters, numbers, and punctuation, that can convey information. Some characters can be displayed on the monitor screen and printed on a printer.



Closed paths

- CHARACTER STYLE** A set of attributes, such as color, typeface, and style, that can be applied as a group to text characters.
- CHOOSE** A Mac OS desk accessory that lets you connect to and disconnect from network and peripheral devices, such as printers and file servers.
- CLICK** (v.) To position the pointer on something, and then press and quickly release the mouse (or other pointing device) button.
(n.) The act of clicking.
- CLIP ART** Electronic pictures that you can use in documents. The term comes from using scissors to clip pictures on paper.
- CLIPBOARD** A holding place in system memory for the last information cut or copied from a document. You can paste information from the Clipboard into a document. Information remains on the Clipboard until replaced by another cut or copied selection.
- CLOSED PATH** A vector path that does not have separate starting and ending points.
- CMYK COLOR** A color system based on the four colors used in color printing: cyan, magenta, yellow, and black. Also, a color mode used to define colors in a digital image. *See* Process Color.
- COLOR PALETTE** A collection of colors used in a document, from which you can select colors to apply.
- COLOR SEPARATIONS** Computer files, printed output, or film, in which the colors in a document are divided into their primary or custom color components. Color separations are used to produce printing plates for commercial color printing. *See* Process Color and Spot Color.
- COLOR WHEEL** A two-dimensional view of color showing hue and saturation. Hue is the position of a color on the circumference of the wheel. Moving clockwise and starting at twelve o'clock, the colors are yellow, red, magenta, blue, cyan, and green. Colors toward the center of the wheel have more gray than those near the edge.
- COLUMN GUIDES** Non-printing lines that define text columns and gutters in a section.
- COMMAND KEY** On Mac OS system keyboards, a key (usually with a propeller symbol and sometimes labeled “Command”) that modifies an action when pressed.
- COMPOSITE CHANNEL** The combination of all color channels in an image. In the Channels palette, the first channel listed, identified by RGB, CMYK, LAB, or Black, depending on the image mode.



Corner point

CONTROL KEY A keyboard key, usually marked “Ctrl,” that modifies an action when pressed.

CONTROL PANEL A Mac OS or Windows system program that lets you change features of the operating system, such as settings for the display, keyboard, and networking.

CORNER POINT An anchor point where path segments meet at an angle, rather than with a smooth transition.

CROP To trim an image to a specified rectangular area.

CROP MARKS Small lines placed at the page edge that mark where printed material will be trimmed.

CURRENT INK The ink, or color, that applies to new objects you draw, set by applying an ink when no objects are selected; this setting does not change when you set the ink for a specific object. For example, if you set the current fill ink to red, new objects you draw will be filled with red; if you then change an object’s color from red to green, however, the current ink remains red.

CURRENT STROKE The stroke that applies to new objects you draw, set by applying a stroke when no objects are selected; this setting does not change when you set the stroke for a specific object. For example, if you set the current stroke to a 5-point pen, new objects you draw will have a 5-point pen width; if you then change an object’s stroke from 5 to 10 points, however, the current pen width remains 5 points.

CUSTOM VIEW A recording of a screen position and magnification level in a Canvas document.

DECIMAL TAB A tab, represented by a decimal tab marker, that aligns columns of numbers at the decimal point position.

DESATURATE To increase the gray content of a color.

DIALOG BOX A box that an application displays to request information or to report that it is waiting for a process to complete.

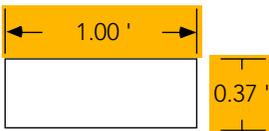
DIMENSION OBJECT Object created with the Dimensioning tool.

DIMENSION TEXT GAP The space between the dimension text and arrow.

DIN STANDARD Deutches Institut für Normung standard; one of several used to specify the properties of dimension objects.

DIRECTORY DIALOG BOX A type of dialog box you use to navigate a computer file system when you save or open a file.

DITHER To arrange pixels of several colors into patterns to give the appearance of a broader range of colors.



Dimension objects

DOCUMENT The container for information and objects you work with in Canvas. Canvas has three types of documents — Illustration, Presentation, and Publication.

DOT GAIN In commercial printing, the amount of size increase of halftone dots caused by ink spreading on the printed medium.

DOUBLE-CLICK (v.) To press and release the button on a mouse (or other pointing device) twice in quick succession.

DPI Dots per inch; the unit of measurement of the resolution of a printing device.

DRAG To press and hold down the button on a mouse (or other pointing device), move the device, and then release the button.

EMULSION Photosensitive coating on film or paper.

ENCAPSULATED POSTSCRIPT (EPS) A format for storing graphics and text in a file using the PostScript language. An EPS file can include a preview image. *See* PostScript.

ESC KEY A keyboard key that lets you stop a procedure.

EXTERNAL TOOLS Individual program modules that provide features, tools, and commands in the Canvas program.

FADE Gradual decrease of a painting tool effect until there is no noticeable change in the image. For example, if “Fade Size within 32 steps” is selected in the Paintbrush manager, the brush becomes smaller as you drag.

FILE Any named, ordered collection of information stored on a disk.

FILL INK The ink that Canvas applies to the inside, as opposed to the outline, of objects and text.

FLAT END CAP A style of stroke end in which the stroke end is squared off, perpendicular and flush to the end of the stroke.

FLOATING SELECTION An image area that “floats” above an image. You can move and edit the floating selection without changing the underlying image until you defloat, or “drop,” the selection on the image.

FONT A complete set of characters in one design, size, and style. In typography, a font can be restricted to a particular size and style (such as 10-point Helvetica) or can comprise multiple sizes, or multiple sizes and styles, of a typeface design.

FOLDER A container for documents, applications, and other folders in the Mac OS and Windows file systems.

FRAME A technical term for the outline of an object or text, to which Canvas applies stroke settings, such as dashes.

GAMUT The range or extent of a color model’s spectrum.



Flat end cap



Folders (Mac OS)

GRADIENT A gradual transition or blend between two or more colors. The direction and shape of a gradient can be radial, linear, elliptical, or shape-derived.

GRAYSCALE An image mode that uses eight bits of information per pixel for up to 256 brightness levels, from black to white through shades of gray.

GROUP (v.) To associate two or more objects so they behave as a unified object; (n.) the resulting object.

GUIDES Non-printing lines to which objects can be aligned.

HALFTONE A pattern of tiny black and white dots that appear to the human eye as shades of gray; a photograph or other image converted to such a pattern for commercial printing.

HANDLES (1) Small squares, usually at the corners and midpoints of an object's bounding box, displayed when an object is selected; you can drag handles to resize the object. (2) Small circles at the ends of tangent lines; you can drag a handle to change the length or angle of a tangent line.

HATCH PATTERN Object-based fill pattern made of line groups.

HIGHLIGHT To make something visually distinct. For example, when you select a block of text in Canvas, the selected text appears against a colored background.

HUE A color's main characteristic; its name, as in blue, red, or orange, defined by its position on the color wheel.

I-BEAM A type of pointer shaped like the capital letter "I."

ILLUSTRATION AREA The rectangular area on screen in a Canvas Illustration document, which represents the extent of the illustration and may cover multiple printed pages, depending on the size of paper used for printing.

IMAGE A picture composed of pixels; sometimes referred to as a "raster image," "paint image" or "bitmap." See Image Mode.

IMAGE MODE The system used to define colors in an image. Canvas image modes include Black and White, RGB Color, CMYK Color, Grayscale, Indexed, and LAB Color.

IMPORT To use any of several techniques to move graphics or text from another program into a Canvas document.

INDEXED A digital image mode that lets you specify a palette of up to 256 colors used in the image. Usually used for on-screen display and electronic distribution of images, because it requires less memory than RGB or CMYK color modes.

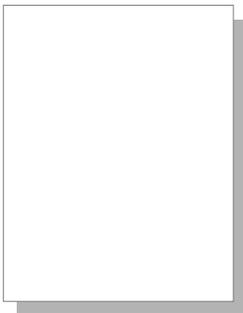
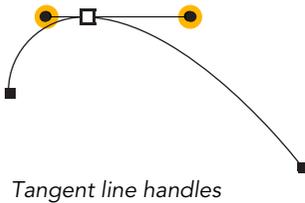


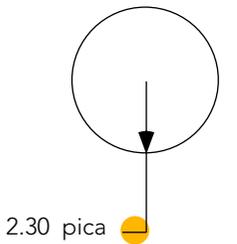
Illustration area

Islamorada

Insertion point



Text without kerning (top) and with kerning applied (bottom)



Leader character length

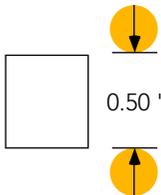
- INK** Colors, symbols, hatch patterns, textures, and gradients that can be applied to objects.
- INSERTION POINT** A blinking vertical line where text you type will appear in a text object or dialog box.
- ISO STANDARD** International Organization for Standardization; one of several standards used to specify the properties of dimension objects.
- JIS STANDARD** Japanese Industrial Standard; one of several used to specify the properties of dimension objects.
- JUSTIFICATION** The method used to align paragraphs of text within a text object's margins, either left, right, center, or full.
- KERNING** Adjusting the normal space between characters in text; also, the amount of the adjustment.
- LAB COLOR** An image mode in which the color components are divided into a lightness channel and A and B color channels.
- LANDSCAPE** Orientation of an illustration or page that is wider than it is tall.
- LAYER** A level in a Canvas document used to organize parts of illustrations so they can be easily selected.
- LEADER CHARACTER** A character, usually a period (".") used to fill space between the character before a tab space and the character immediately following the tab space.
- LEADER CHARACTER LENGTH** The length of the horizontal portion of the witness line of a dimension object.
- LEADING** Space between lines of text, measured in points from the baseline of one line to the next.
- LIGHTNESS** The amount of black or white in a color.
- LINE GROUP** A set of parallel lines in a hatch pattern that have identical properties.
- LINE CAP** The shape of the end of a pen stroke.
- LINE JOIN** The shape of the pen stroke where two path segments meet.
- LPI** Lines per inch; a measure of halftone screen resolution.
- MAC OS** The Apple Computer operating system used on Macintosh and on compatible personal computers.
- MACRO OBJECT** A vector object that can be used to place copies of itself in documents; the copies remain linked to the original.



Text used to mask a photo



Miter join



Outside line length

MARQUEE A selection in an image defined by a rectangular flashing border; also, the tool used to make a marquee selection.

MASTER PAGE A special page in a Publication document. Items on the master are visible and print on every page in the document.

MASK To use a vector or text object to selectively show portions of another object behind it.

MASTER SLIDE A special slide in a Presentation document. Items on the master slide are visible and print on every slide in the document.

MEGABYTE (MB) A unit of measurement equal to 1024 kilobytes, or 1,048,576 bytes.

MEMORY A hardware component of a computer system that can store information for later retrieval.

MITER JOIN A style of connection between two segments in a vector object in which the stroke lines fit together to form a point.

MODIFIER KEY A general term for a key that changes the meaning of other keys or mouse actions; for example, Command, Control, Option, and Shift.

NTSC National Television Standards Committee; also, the standard video format defined by the NTSC, also called composite because it combines all the video information, including color, into a single signal.

OBJECT A discrete vector path, block of text characters, or raster image, contained within an invisible rectangular frame. You can select an object and perform standard operations on it, including move, copy, delete, cut, rotate, flip, and skew.

OPACITY An attribute of all objects. Opacity with a value of 100% is non-transparent. Opacity values can be set from 1 to 100%.

OPEN PATH A path defined by separate starting and ending points.

OPTION KEY A Mac OS keyboard modifier key, usually labeled “Option.”

OUTSIDE LINE LENGTH Dimension object arrow length, when the Arrows Inside option is not selected.

OVERPRINT A technique where two or more colors are printed on top of each other. For example, if you overprint yellow on blue, the combination appears green.

PAINT OBJECT An object that contains a raster image. The term was used in earlier Canvas versions and is synonymous with image object.

PAINTING TOOL Any of several tools used to create or edit a paint object.

PALETTE A type of dialog box that can remain open on screen. A palette contains tools, attributes, or options for commands.

PALETTE ICON A toolbox icon that opens a palette.

PARAGRAPH STYLE A set of attributes, such as font, leading, indents, and tab settings, that can be applied to a paragraph of text.

PATH One or more connected segments, generally created with a drawing tool, within a vector object. The path itself is invisible unless it has visible fill ink, or pen ink and stroke, applied to it.

PEN INK The colors and patterns applied to an object's stroke.

PICA A unit of measurement equal to 12 points or 1/6 of an inch, abbreviated "pc."

PIXEL Short for *picture element*; a single tiny dot of a raster image or a computer display.

PLUG-IN A program module that can be used by Canvas to provide an additional image-editing function.

POINT A unit of measurement for type equal to 1/72 inch; abbreviated "pt."

POINTER A small shape that follows the movement of the mouse on screen or shows where your next action will take place. The pointer can be an arrow, an I-beam, or other shapes.

PORTRAIT The orientation of a page or illustration so that the height is larger than the width.

POSTSCRIPT® (1) An Adobe Systems, Inc. computer language that defines the appearance of printed type and images. (2) A type of font that relies on PostScript to be printed.

POSTSCRIPT PRINTER DESCRIPTION (PPD) A text file that provides information about a specific printer to the operating system and application programs.

PPI Pixels per inch; a measure of the resolution of an image.

PRESS (1) To point to an item on screen and press and hold down the mouse button without moving the mouse. (2) To push a key down and then release it; you hold a key down only when using a modifier key with another key, for example, when instructed to *press Ctrl+A*.

PRINTER DRIVER A program that controls the exchange of information between the computer and a specific type of printer.

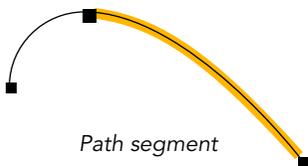
PROCESS COLOR The method for printing a full range of colors using only cyan, magenta, yellow, and black; also, any one of these colors. *Compare to Spot Color.*



Registration mark



Round end cap



QUICKDRAW The part of the Mac OS operating system that performs graphic operations for display, printing, and data exchange.

RANDOM-ACCESS MEMORY (RAM) The part of the computer's memory that stores information temporarily while you're working.

RASTER IMAGE A picture made up of a matrix of pixels, created by digitizing or scanning an image, which is contained in a paint object.

REGISTRATION MARK A small mark, several of which are used together to align films and plates for commercial printing.

RGB COLOR Method of defining colors, based on combinations of the primary colors red, green, and blue. Also, a color mode for digital images.

RESOLUTION A measure of the amount of information in a digital image, expressed in pixels per inch (ppi); also, a measure of the smallest dot or pixel that can be used by a computer display or output device, expressed in dots per inch.

ROUND END CAP A style of stroke end, in which the end of the stroke is capped with a semicircle.

SATURATE To increase color intensity by removing gray.

SCANNER Any input device that converts printed matter, such as a photographic print or transparency, into digital data.

SECTION A rectangular area that arranges text in columns.

SHIFT KEY A key that, when pressed, causes the subsequent letter you type to appear in uppercase or the top symbol on a two-character key to be produced. The Shift key can also modify mouse actions.

SEGMENT A line or curve between two endpoints in a path.

SELECTION The information or items that will be affected by the next command, including objects or a series of characters.

SELECTION BOX A dashed rectangle that appears as you drag a Selection tool over objects to select them.

SEPARATIONS See Color Separations.

SLIDE SHOW The display of different screens of information — “slides” — in sequence. Canvas changes the screens after a set time interval or when you click the mouse.

SMART POINTER A pointer symbol representing the Smart Mouse constraint that is in effect.

SMOOTH POLYGON A polygon with rounded segments and corners.

SNAP GRID A grid of horizontal and vertical lines you can display. The pointer can snap into alignment with the snap grid.

SOURCE LINE Dotted line that points to the part of the object defining a Smart Mouse constraint that is in effect.

SPACEBAR The long, unlabeled bar in the bottom row of keys on a computer keyboard that you press to insert space between characters.

SPOT COLOR Customized color representing a particular ink that will be used to print the color. *Compare to* Process Color.



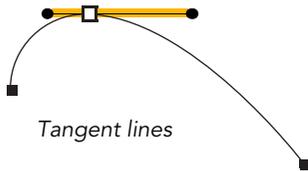
Square end cap

SQUARE END CAP A style of stroke end, in which the end of the stroke is squared off and extends half the line width beyond the endpoint of the path.

STATUS BAR The area at the bottom of the Canvas window or the screen that displays information on tools, the position of the pointer, and selected objects.

SYMBOL INK A repeating pattern, created from vector objects, that can be applied to vector objects and text as a fill ink or stroke ink.

TAB KEY A keyboard key that moves the insertion point to the next tab marker, or to the next place to enter information in a dialog box. The Tab key is also used as a modifier key.



TANGENT LINE Line passing through an anchor point on a vector path; visible when the path is in edit mode and an anchor point with tangent lines is selected. Its angle and length affect the shape of adjacent segments.

TEMPLATE *See* Canvas Template.

TEXT BACKGROUND INK An ink applied to the background of a text object or text selection.

TEXT FRAME INK An ink applied to the bounding box of a text object or a box around a text selection.

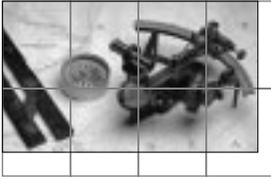
TEXT FRAME STROKE A stroke applied to the bounding box of a text object or a box around a text selection. The text frame ink appears on the text frame stroke.

TEXT OBJECT An object containing text.

TEXT BOX A place in a dialog box where you can type information.

TEXT FILE A file that contains information stored in the form of readable characters encoded in ASCII format.

TEXTURE INK A repeating pattern, created from a raster image, that can be applied as a fill ink or pen ink.



Tiling for printing

TILING Dividing a large illustration into multiple pages, or “tiles,” for printing on a desktop printing device. You can select the Tile option in the Page Setup (Mac OS) or Printer Setup (Windows) dialog box, or in the Print dialog box.

TOLERANCE In image editing, a value setting the threshold for similarity between colors before an effect occurs. For example, if the Wand tool tolerance is set to 0, it selects only pixels of the exact same color. If the tolerance is set higher, the tool selects pixels of similar colors.

TOLERANCE DOWNSPACE Amount of space (leading) between tolerance text in dimensions with two tolerance measurements.

TOLERANCE TEXT SCALE Size of tolerance text in a dimension in proportion to the dimension text.

TRANSFER MODE Method by which a color blends with a background color. Transfer modes include Dissolve, Multiply, Screen, Lighten, and Saturation.

UNGROUP Use the Ungroup command to divide a group object into its original component objects.

VECTOR MASK Applies transparency to an object, based on a style of gradient.

VECTOR OBJECT An object containing a path or a shape drawn with the Multigon, Spiral, or another specialized drawing tool.

WINDOWS (1) The brand name of a family of Microsoft operating systems, including Windows 95, Windows 98, and Windows NT. (2) The separate areas on screen in which programs display information.

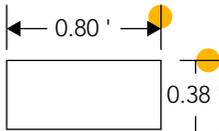
WITNESS EXTENSION Witness line part extending past dimension arrows.

WITNESS GAP Space between an object and dimension witness lines.

WRAP To change text margins so text flows around or remains inside a vector object.

X-HEIGHT The height of a lowercase *x* in a given font; the height, measured from the base line, of the main portion of most lowercase letters in a font, excluding ascenders and descenders.

ZOOM To increase or decrease the magnification of a document.



Witness extensions

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