Contents

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For information on one of the options, click on the appropriate heading below.

Menu Commands

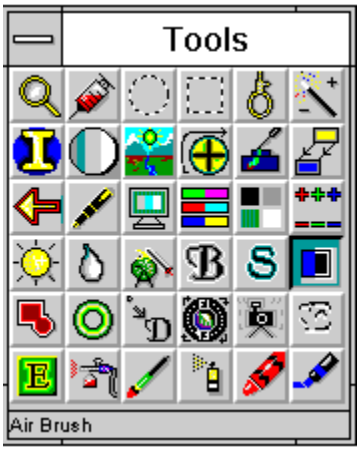
File	Open, Close, Save and Print Images. Exit Illusion.
Edit	Undo last action, deal with clipboard and clear image.
Image	Tune image, change format, improve quality, rotate image.
Effects	Apply special effects to the image.
Tools	Change current tool, Zoom In/Out.
Selection	Alter the selection.
Window	Arrange Windows, Close All, Select Image

Keyboard Commands

Illusion supports the following keyboard short cuts. These can be used instead of selecting the appropriate menu item.

Command	Hot Key	Alternative
File New	Ctrl+N	
File Open	Ctrl+O	
File Save	Ctrl+S	F2
File Print	Ctrl+P	
File Exit	Alt+F4	
Edit Undo	Ctrl+Z	Alt+BkSp
Edit Cut	Ctrl+X	Shift+Del
Edit Copy	Ctrl+C	Ctrl+Ins
Edit Paste	Ctrl+V	Shift+Ins
Edit Clear	Delete	
Close All	Ctrl+A	
Brightness	Ctrl+B	
Edit Colour Map	Ctrl+E	
Gamma Correct	Ctrl+G	
Intensity	Ctrl+I	
Merge	Ctrl+M	
Rotate	Ctrl+R	
True Colour	Ctrl+T	
User Defined Filter	Ctrl+U	
Wave	Ctrl+W	
Help Contents	F1	
Most Recently Used File:		
1	Ctrl+1	
2	Ctrl+2	
3	Ctrl+3	
4	Ctrl+4	
Zoom In	Numbers on Numeric Keypad (each number pressed is the magnification factor i.e. 5 will magnify the image 5 times)	
Zoom Out	Top row of numbers	
Hide\Show Toolbar	Space	
Hide\Show Info	Alt+Space	
Hide\Show Brush	Ctrl+Space	

Tool Bar Commands



The Toolbar is used to select the current tool for editing the image.
To select a tool, just click on the button with the Left Mouse Button.

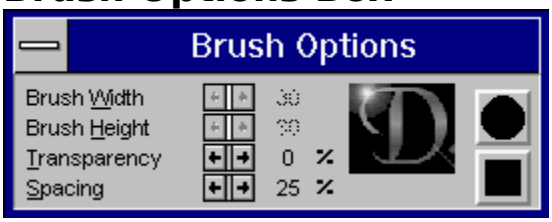
If a tool has any options, these can be accessed by double clicking on the button.
The toolbar`s size can be adjusted to contain any number of tools you require (minimum of 5) .
To change the position of a tool, right click with the mouse over the button, and select
the new tool from the menu.

The size of the tool brush can be set in the Brush Options box.

Use the Spacebar to toggle the display of the toolbar.

See also
Brush Options Box

Brush Options Box



The brush options box is used to vary several brush parameters.

The **Width** and **Height** can be set independently using the Brush Width and Brush Height selectors.
The **Transparency** is a measure of how much of the effect is applied to the image.

0 % -:- All the effect is applied
50 % -:- The effect and the original image appear in equall amounts
100 % -:- The effect doesn`t appear at all.

The **Spacing** is a measure of how often the brush is applied to the image and is a
percentage of the brush size.

1 % -:- The brush is applied to every pixel between the start and end points
This can be very slow.

25 % -:- The brush is applied at the start position. It is applied again a number of
pixels further on. (The number is 25 % of the brush size).
This gives a good effect at a good speed.

100 % -:- The brush is applied to the start pixel and then at intervals of the brush size.

Free -:- The brush is applied at random positions along the movement path.

To create a square / round brush, click on the button with a square / circle on it.

You can also create a custom brush. There are two methods for creating a brush.
Create a brush using a previously defined image.

1. Save an image in the brush format (*.bsh).
2. Right click on any grey area of the Brush Options box.
3. Select **Load...** from the menu.
4. Select and open your brush image.

Create a brush using the image selection.

1. Select an area of the image.
2. Right click on any grey area of the Brush Options box.
3. Select **Use Current Selection** from the menu.

Custom brushes that are non-rectangular (i.e. built from free selections) have the
edges padded with zeros. Select **0 = Transparent** to retain the proper shape.

Saving a brush.

1. Right click on any grey area of the Brush Options box.
2. Select **Save...** from the menu.
3. Save as normal.

Use Ctrl + Spacebar to toggle the display of the Brush Options Box.

File Menu

New
Open
Save
Save As
Close
Print
Preferences
Exit

Edit Menu

Undo
Cut
Copy
Paste
Clear

Image Menu

Colour Menu
Convert To
Merge
Smoothing Filters
Sharpen Filters
Transform

Effects Menu

Use the filters to improve images and apply special effects to entire pictures or selections.
Most filters will not work on images less than 24 bit, for example the emboss effect. To use these filters, convert the image to 24 bit by pressing Ctrl+T.

All effects in Illusion will only be applied to selected channels in the image.

Artistic
Distort
Edge Effects
Illuminate
Metallic
Min / Max
Noise
Photographic
Texture
Water
Wind
User Defined Filter (UDF)

See also
Channels

Texture Menu

Menu -:- FILE ==> EFFECTS

These effects alter the surface texture of the image. The image must be 24 bit.
All effects in Illusion will only be applied to selected channels in the image.

Emboss
Engrave
Mosaic
Weave

See also
Channels

Photographic Menu

Menu -:- FILE ==> PHOTOGRAPHIC

These effects either simulate various camera effects or improve the quality of images.
Pixilate, **Rain** and **Solarise** are not confined to 24 bit images.

All effects in Illusion will only be applied to selected channels in the image.

Enhance Detail
Enhance Focus
Glare
Motion Blur
Pixilate
Rain
Solarise
Shudder

See also
Channels

Edge Effects Menu

Menu -:- FILE ==> EFFECTS

These effects work on the edges of the images.
All images must be 24 bit.
All effects in Illusion will only be applied to selected channels in the image.

Detect
Enhance
Outline
Ring
Trace Contour

See also
Channels

Distort Menu

Menu -:- FILE ==> EFFECTS

These effects alter the position of individual pixels and will therefore work on 24 bit and 8 bit images.
All effects in Illusion will only be applied to selected channels in the image.

Blender
Diffuse
Tile
Wave

See also
Channels

Artistic Menu

Menu -:- FILE ==> EFFECTS

These effects convert the image to something that might have been done by an artist.
24 bit only except **Psychedelic** and **Poster Art**.
All effects in Illusion will only be applied to selected channels in the image.

Paint
Poster Art
Psychedelic
Sketch

See also
Channels

Tools Menu

Selections
Zoom
Hide/Display Tools
Hide/Display Info
Hide/Display Brush

See also

Tool Bar Commands
Brush Options Box

Selection Menu

Border
Feather
Invert
Remove
Resize
Stroke

Window Menu

Tile Vertically
Tile Horizontally
Cascade
Arrange Icons
Close All

New Ctrl+N

Menu -:- FILE ==> New

Creates a new image using the current **background** colour.
All new images are in the 24 bit format.

Open Ctrl+O

Menu -:- FILE ==> Open

To open a file and display the contents.

1. Choose the type of file required by selecting an option from the **List Files Of Type** Box.
   Illusion currently supports files of type BMP ,DIB TGA and PCX.
2. Select the file you wish to open by clicking on it`s filename in the **File Name** box
3. Either press the OK button or double click the selected file name.

If *.BMP etc is selected in the **List Files Of Type** box, Illusion will open the image based on this type and not the file extension. If All Files *.* is selected, Illusion will base the file type on the extension.

i.e. Suppose you had a Bitmap called Temp.PCX. If *.PCX was selected, Illusion would expect the file to be a PCX and would fail when it tried to open it. If All files *.* is selected, Illusion would still treat the image as a PCX and would fail. If *.BMP was selected, Illusion would ignore the extension and open the file successfully as a BMP file.

Illusion also supports Drag and Drop file opening. In file manager, select all the files you want to open and drag them onto Illusion`s main window.

See also
Preferences

Save **Ctrl+S** **F2**

Menu -:- FILE ==> Save

Saves the image in it`s current format.
Illusion currently supports files of type BMP, DIB, TGA and PCX.

Save As

Menu -:- FILE ==> Save As

Saves a file under a new name.
Brings up the Save As file dialogue box.

1. Choose the type of file required by selecting an extension from the **Save Files Of Type** box. Illusion currently supports files of type BMP ,DIB , TGA and PCX
2. Either type the destination file name in the **File Name** box or select an existing file name from the list.

Close

Menu -:- FILE ==> Close

If your tired, bored, warped you picture beyond repair or just for some reason, enjoy closing windows then this will do the job. You may also be asked if you want to save the image (depending on the Preferences option) but if you haven`t REGISTERD then it won`t let you!!

See also
Preferences

Print Ctrl+P

Menu -:- FILE ==> Print

Prints the Image. Please don`t try and confuse your printer by trying to print out a 24 bit picture on a black and white printer. It will have to be converted to
black and white using the COLOUR menu then printed.

1. Choose the print quality required.
2. Enter the number of copies you want to be printed.
3. Choose one of the options that control the size of the image.
   Screen size **:** The printed image will be approximately the same size as the image
   on the screen.
   Fit to page **:** Stretches the image to fit the paper.
   Actual size **:** Prints the image at it`s proper size. For example a 300x300 image
   at 300 DPI would be printed as a 1 inch by 1 inch square.
4. Click **Printer Setup** if you wish to change the printer, the paper size or paper
   orientation.
5. Click OK to start the print job.

Preferences

Menu -:- FILE ==> Preferences

These options allow you some control over Illusion`s operations.

1. At Startup:

» Nothing — Nothing special happens when you start the program
» About — Displays an about box for a few seconds.
» Open — Displays the Open File dialogue box.

2. Prompt For Save

» File Close when — If the image has changed, you will be prompted to save it you try to close the window. If this option is not checked, you will not be reminded that the image has changed and any changes will not be saved.

3. Prompt

» On Exit — Asks if you are sure you want to quit. This is similar to the message at the end of a Windows session.

See also
Open
Save

Exit **Alt+F4**

Menu -:- FILE ==> Exit

Look, come on! Do you enjoy reading help files or something! What do you think it does, make toast ? This lets you exit the program. If any of the images have been modified, you may be prompted to save them (depending on the Preferences option), but if you haven`t REGISTERD then it won`t let you!! Selecting **CANCEL** will stop the program from exiting

See also
Preferences

Undo / Redo Ctrl+Z Alt+BkSp

Menu -:- EDIT ==> Undo

Enables you to undo / redo the **last** change made to the image.

Cut Ctrl+X Shift+Del

Menu -:- EDIT ==> Cut

Copies the image or selection to the clipboard and removes it from the image. The removed section is replaced with the current background colour. This command is not available for 2 or 16 colour (1 or 4 bit) images.

Copy Ctrl+C Ctrl+Ins

Menu -:- EDIT ==> Copy

Copies the image or selection to the clipboard.
This command is not available for 2 or 16 colour (1 or 4 bit) selections.

Paste **Ctrl+V**
Shift+Ins

Menu -:- EDIT ==> Paste

Pastes the contents of the clipboard as a new image. This is available for all image formats (1,4,8,24 bits)

Clear Delete

Menu -:- EDIT ==> Clear

Sets the entire image or selection to the current background colour. This command is not available for 2 or 16 colour (1 or 4 bit) images.

Colour

Menu -:- IMAGE ==> COLOUR

The options in the Colour Menu are used to adjust the colour map of the image.
All Colour effects in Illusion will only be applied to selected channels in the image.

Brightness
Colour Replacer
Contrast
Edit Colour Map
Gamma Correct
Intensity
Negative
Posterize
RGB
Split Channels
Threshold
Tint

See also
Channels

Convert To Ctrl+T

Menu -:- IMAGE ==> CONVERT TO

Converts the image to the available formats.

1. **Black and White** Converts the image to a 1 bit per pixel image.
   Choose the method of colour reduction from the displayed options.

2. **Greyscale** Converts all the pixels to a grey value based on the chosen option.
   Note that the resulting image has the same number of Bits-Per-Pixel as the original image

3. **256 Colours** Converts the image to an 8 bit image. If converting from a
   24 bit image, choose the method of colour reduction from
   the displayed options.

4. **True Colour** Converts all the pixels from a single byte palette index to a
   three byte RGB index. This is the only format that all the effects can be used on.
   These images can contain up to 16 million colours. If your video display cannot
   support this many colours, **Illusion** will dither the image in order for it to be
   displayed. The dithered image is only used for display proposes. Any effects are
   run on the actual 24 bit image.
   This does require two images to be stored and therefore, more memory is used

Merge Ctrl+M

Menu -:- IMAGE ==> Merge

Merges two pictures together based on the selected option. If the two images are different sizes,
Source B is resized to Source A`s dimensions.

Hints:
You can use merge to "knock holes" in an image.
1. Create an image with a black background and some white airbrush marks.
   This is the mask;
2. Open the mask and the image you want to knock the marks out in.
3. Select merge with the multiply option.
   As the background is black, the result of the multiplication will also be black
   (0 x anything is 0). However, the mask text is white so the resulting text in the new
   image will contain the original image. ((X x 255) / 255 = X).

Smoothing filters

Menu -:- IMAGE ==> Smoothing Filters

These filters reduce the amount of noise in the image.
These will only be applied to selected channels in the image.

Average : Replaces each pixel with the average of all the surrounding pixels based
on the dimensions of the square chosen (3x3 or 5x5).
Blur : Blurs neighbouring pixels together.
Soften : Blurs only the edges in the image.

Choose **More** or **Heavy** to increase the effect of the filter.

See also
Channels

Sharpening Filters

Menu -:- IMAGE ==> Sharpening Filters

Sharpen increases the contrast between pixels at the edges in the image. This can be used to improve the quality of blurred images.

Choose **More** or **Heavy** to increase the effect of the filter.

These will only be applied to selected channels in the image.

See also
Channels

Transform

Menu -:- IMAGE ==>TRANSFORM

Flip Horizontal Flips the image around a line running from the top to the bottom of the image.

Flip Vertical Flips the image around a line running from the left to the right of the image.

Rotate Rotates the image by the specified amount in the chosen direction around the centre of the image. Undefined areas are replaced with the colour chosen.

Resize Changes the dimensions on the image. If **Maintain Aspect** is checked, the new dimensions are based on the Width.

Translate Moves the image in the directions chosen by the amounts chosen.

Undefined pixels are determined by the option selected in the **Undefined Pixels** box

These will only be applied to selected channels in the image.

See also
Channels

Blender

Menu -:- EFFECTS ==> DISTORT ==> Blender

If you imagine taking a food blender and dipping it into the image, youll end up with this
sort of effect.

Hint:
For maximum fun:-
1. Open an image with someone`s face in it.
2. Select the Face.
3. Apply Blender with a large value.

Diffuse

Menu -:- EFFECTS ==> DISTORT ==> Diffuse

The diffuse filter moves each pixel a random amount in a random direction based on the amount specified. Setting **Amount** to a small value (<5) blurs the image slightly while setting **Amount** to a high value (>50) causes the image to explode. Try it and see.

Edge Detect

Menu -:- EFFECTS ==> EDGE EFFECTS ==> Detect

Draws the edges in the image in colour and sets the rest to black.
Select which directions you wish to look for edges. The direction is the dark side of the edge, i.e. Choosing West will look for vertical edges that change from dark to light.
To look for all possible edges, select **All** if the option is available. Choose the method of detection from the list at the side. Note that some of the methods cannot use opposing directions i.e. East and West.

Edge Enhance

Menu -:- EFFECTS ==> EDGE EFFECTS ==> Enhance

Detects the edges in the image and increases the contrast between them and the surrounding pixels.
Choose **More** or **Heavy** to increase the effect of the filter.

Emboss

Menu -:- EFFECTS ==> TEXTURE ==> Emboss

Emboss creates a three-dimensional image that appears as if the edges of the image
are raised above a single coloured surface. The direction chosen is the direction of
the light source.
Level adjusts the overall output colour level. Best results are normally obtained
when only one direction is chosen.

Engrave

Menu -:- EFFECTS ==> TEXTURE ==> Engrave

Engrave creates a three-dimensional image that appears as if it had been engraved in colour onto a flat surface. Choose the direction you want the image to be engraved in.
Best results are normally obtained when only two directions are chosen. i.e. North and West.

Mosaic

Menu -:- EFFECTS ==> TEXTURE ==> Mosaic

Mosaic breaks the image up into mosaic like tiles. Grout is the parts of the image that go between the tiles.

Hints: Old painting effect
1. Apply the Weave effect to an image with small values of Thread Width and
   Separation. This puts the image onto a canvas like background.
2. Use the Mosaic effect with small values of Tile size and Grout Width to break up the
   paint that creates the image. This will hopefully result in an image that resembles
   an old canvas painting with cracked paint

See also
Weave

Weave

Menu -:- EFFECTS ==> TEXTURE ==> Weave

Weave applies thread to an image. Horizontal thread is woven through vertical retainers.

Hints: Old painting effect
1. Apply the Weave effect to an image with small values of Thread Width and
   Separation. This puts the image onto a canvas like background.
2. Use the Mosaic effect with small values of Tile size and Grout Width to break up the
   paint that creates the image. This will hopefully result in an image that resembles
   an old canvas painting with cracked paint

See also
Mosaic

Enhance Detail

Menu -:- EFFECTS ==> PHOTOGRAPHIC ==> Enhance Detail

Increases the visibility of the detail in the image.

Enhance Focus

Menu -:- EFFECTS ==> PHOTOGRAPHIC ==> Enhance Focus

Counters the effects of blurring an image. It brings a blurred image back into focus.

Glare

Menu -:- EFFECTS ==> PHOTOGRAPHIC ==> Glare

Adds glare to the image. Choose a direction and an amount.

Illuminate

Menu -:- EFFECTS ==> Illuminate

Illuminates the main objects in the image with weird light sources.
Choose the direction and strength of the light source. If the direction is set to **Back**,
then the light source will be placed behind the main objects and these will appear
as silhouettes.

Hint:
1. Apply illuminate with the invert box invert checked.
2. Save the image.
3. Open the original image and the illuminated image.
4. **Multiply** these together using the **merge** command

See also
Merge

Metallic

Menu -:- EFFECTS ==>Metallic

Creates an image that appears to be made from a coloured metal.

Min / Max

Menu -:- EFFECTS ==>Min / Max

Minimum and Maximum Filters

These filters examine a group of pixels inside a square of your chosen dimensions. They find either the minimum or maximum value from all the pixels and set the current pixel to this value.

Motion Blur

Menu -:- EFFECTS ==> PHOTOGRAPHIC ==> Motion Blur

Blurs the image in the chosen direction by the specified amount. Creates the illusion of the camera moving while the picture was being taken.

Noise

Menu -:- EFFECTS ==> Noise

Adds noise to an image. The amount added is controlled by the **Amount** option.
Random produces noise of random colour while **Constant** produces constant coloured noise.

Outline

Menu -:- EFFECTS ==> EDGE EFFECTS ==> Outline

Draws only the insides of objects. All else is set to the current background colour.

Pixilate

Menu -:- EFFECTS ==> PHOTOGRAPHIC ==> Pixilate

Breaks the image into small squares. This is the effect used on T.V to hide someones face. Select the width and height of the cells using the **Cell Width** and **Cell Height** controls. Selecting **Square** forces both controls to the same value.

Psychedelic

Menu -:- EFFECTS ==> ARTISTIC ==> Psychedelic

Erm, creates weird pictures basically. If you get the values right, you could sell the picture as a genuine piece of 60`s art. (Maybe)

Poster Art

Menu -:- EFFECTS ==> ARTISTIC ==> Poster Art

Creates a kind of weird drawn picture.

Paint

Menu -:- EFFECTS ==> ARTISTIC ==> Paint

This effect turns the image into something that resembles a painting.

Length The length of the brush strokes.
Direction The direction of the brush strokes.
Weight The pressure applied to the brush. More pressure, the darker the paint.
Brush **Colour** uses coloured paint. **Black** used coloured paint but with a a lot of black mixed in.
Stipple The amount of stippling applied to the wet paint.

Rain

Menu -:- EFFECTS ==> PHOTOGRAPHIC ==> Rain

The resulting image should (fingers crossed) look as if it were being viewed through a rainy lens.

Density controls the width of each streak.
Strength controls the length of each streak.

Ring

Menu -:- EFFECTS ==> EDGE EFFECTS ==> Ring

Draws a ring around the edges of objects in the image.

Trace Contour

Menu -:- EFFECTS ==> EDGE EFFECTS ==> Trace Contour

This effect traces a contour around the objects in an image.

Solarise

Menu -:- EFFECTS ==> PHOTOGRAPHIC ==> Solarise

Negates all the colours above the threshold value. The resulting image resembles a photographic negative that has been partly exposed to light.

Sketch

Menu -:- EFFECTS ==> ARTISTIC ==> Sketch

This effect turns the image into something that resembles an artists pencil sketch.

Length The length of the brush strokes.
Direction The direction of the brush strokes.
Weight The pressure applied to the brush. More pressure, the darker the paint.
Pencil **Colour** uses coloured pencils. **Black** used black pencils.

Shudder

Menu -:- EFFECTS ==> PHOTOGRAPHIC ==> Shudder

Creates the illusion of the camera shuddering while the picture was being taken.
Choose the directions in which you want the camera to move and use the options to control the amount of movement. Selecting the 4 corners and Heavy tends to give good results.

Tile

Menu -:- EFFECTS ==> DISTORT ==> Tile

Breaks the image into tiles and then moves each tile in a random direction by a random amount.

Wave Ctrl+W

Menu -:- EFFECTS ==> DISTORT ==> Wave

Distorts the image by passing a wave of the chosen type through it. Change the waves using the following options

Number Controls the number of waves.
Amplitude Sets the height of the wave.
Direction Specifies which axis (X,Y,Both) to run the wave through.

Editing The Wave

You can create a custom wave by simply drawing the required shape. Several starting shapes can be obtained from the Options list. Most of these base their values on the **existing** values. i.e. Selecting Cosine will produce a cosine wave as expected. Selecting Sine will create a Sine wave based on the values produced by the Cosine wave. This allows weird shapes to be created. To set the wave back to it`s normal shape (i.e. a sine wave) press the Reset button.

Water

Menu -:- EFFECTS ==> Water

This effect produces an image that appears to be reflected on the surface of water.
Low values (less than 10) seem to work best.

Wind

Menu -:- EFFECTS ==> Wind

Distorts the image by passing a wind of the chosen type through it. Change the wind using the following options.

Type Controls the type of wind.
Direction Direction the wind blows in.
Amount Controls the strength of the wind. This is not available for the **wind** type.

Wind simulates a gentle wind blowing.
Stagger offsets each line of the image by a random amount.
Blast and **Gale** simulate very strong winds.

User Defined Filter (UDF) Ctrl+U

Menu -:- EFFECTS ==> User Defined Filter

Allows you to create your own custom effects. The filters work by applying a mask over each
pixel in the image and calculating a new value for that pixel based on the mask values.

1. Enter the required values in the appropriate cells. The **Multiple Cell Edit** options
   are useful here. These options update other cells with the new value without you
   having to enter them all by hand.
2. Enter the **Bias** value. Normally, the best value for this is the sum of all the mask
   values
3. Enter the **Offset** Value.
4. Select **Negative** if a negative image is required.
5. If you are going to save the filter, enter your name for it in the **Filter Name** box.
6. Choose **Save** if you wish to save the filter

To delete a filter, click on **Delete**.
To load a filter, select its name from the list at the side.
New blanks all the mask values to there default values.

The mask can be any size up to a 5x5 grid. The mask is placed over each pixel so that the pixel is under the centre mask value. The values in the mask are multiplied by the values of the pixels under them. The new values are added together and divided by the **Bias**. The **Offset** is then added and the resulting value is used as the new pixel. The entire mask is shifted right to the next pixel and the process repeated.

Example: Edge Detect for Rising Edges
Set the Mask to:

```
[ 0]   [ 0]   [ 0]
[-1]   [ 1]   [ 0]   Bias = 1
[ 0]   [ 0]   [ 0]   Offset =0
```

An edge in an image could appear as

```
...0   0   0   255 255 255...
...0   0   0   255 255 255...
...0   0   0   255 255 255...
```

After applying the above mask this would leave

...0 0 0 255 0 0...
...0 0 0 255 0 0...
...0 0 0 255 0 0...

This results in the edge being drawn in colour and all the constant colour areas drawn in black.
By constructing the above mask for each direction, multiple directions can be detected by simply adding the appropriate masks together.

Selections

Menu -:- TOOLS ==> SELECTIONS

Changes the current tool to the selection tool. When a selection is made, most effects are applied
only to pixels within the selection. The exceptions to this are Resize and Colour
effects on 8 bit images, which can only be applied to the entire image.
To create a selection

1. Select the type of shape you want. The cursor will change to the appropriate
   shape when moved over the image.
2. Position the cursor at the point where you want the corner of the selection and
   press the Left mouse button. Don`t release the mouse button. **
3. Drag the mouse to the position where the opposite corner of the selection is to be
   placed and release the button. (For free selections double click the Left mouse
   button)

---

1. To remove a selection, click the mouse button over the image.

** For Free selection, lift the button to draw a straight line
To add to a selection press Shift.
To subtract from a selection press Ctrl.

Colour Syringe

Menu -:- N/A -:- Toolbar only

This tool allows you to select the **Back**, **Fore**and **Mid**colours directly from the image.
Select this tool and move the cursor over the image. Use the following commands to pick up a colour from the image.

Back	Press the **Right** mouse button.
Fore	Press the **Left** mouse button.
Mid	Press the **Left** mouse button and the **Ctrl** key.

The new colour will appear in a bar in the **Info** box.

You can also select the colours by clicking on the colour in the **Info** box

AIRBRUSH

See also
Brush Options Box

PAINTBRUSH

See also
Brush Options Box

SPRAYCAN

See also
Brush Options Box

CRAYON

See also
Brush Options Box

MARKER

See also
Brush Options Box

PEN

See also
Brush Options Box

UNDO

See also
Brush Options Box
Undo

SELECT ELLIPSE

See also
Brush Options Box
Selections

SELECT RECTANGULAR

See also
Brush Options Box
Selections

SELECT FREE

See also
Brush Options Box
Selections

SELECT COLOUR RANGE

See also
Brush Options Box
Selections

ZOOM

See also
Brush Options Box
Zoom

SELECT COLOUR SYRINGE

See also
Brush Options Box
Colour Syringe

IMAGE INFO

See also
Brush Options Box
Hide/Display Info

CONTRAST

See also
Brush Options Box
Contrast

BRIGHTNESS

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Brightness

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COLOUR REPLACER

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Posterize

RGB ADJUSTER

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SOLARISE

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Solarise

AVERAGE

See also
Brush Options Box
Smoothing Filters

SHARPEN

See also
Brush Options Box
Sharpen Filters

BLUR

See also
Brush Options Box
Smoothing Filters

SOFTEN

See also
Brush Options Box
Smoothing Filters

EDGE DETECT

See also
Brush Options Box
Edge Detect

EDGE ENHANCE

See also
Brush Options Box
Edge Enhance

RING

See also
Brush Options Box
Ring

ENHANCE DETAIL

See also
Brush Options Box
Enhance Detail

ENHANCE FOCUS

See also
Brush Options Box
Enhance Focus

SHUDDER

See also
Brush Options Box
Shudder

EMBOSS

See also
Brush Options Box
Emboss

ENGRAVE

See also
Brush Options Box
Engrave

File Info

Menu -:- Image`s system menu
Or Toolbar.

Displays information about the current image. This can also be selected from the system menu of each image window. (Thats the little box in the top left hand corner of the image).

Zoom

Menu -:- TOOLS ==> ZOOM
Or Toolbar.

Zooms the image in or out. Choose the zoom level from the menu.
If the zoom tool was selected from the toolbar, the cursor will change to a magnifying glass. To zoom in by one level, click the Left mouse button. To zoom out by one level, click the Right mouse button. To return to normal viewing, double click the icon on the tool bar.
Note: selections will only work if zoom is equal to one.
Keyboard
To zoom in, use the numeric keypad. i.e. 5 = zoom in 5 times
To zoom out, use the other set of numbers. i.e. 5 = zoom out 5 times

Hide/Display Tools Space

Menu -:- TOOLS ==> Hide/Display Tools

Hides or displays the tool bar.

See also
Tool Bar

Hide/Display Brush Shift + Space

Menu -:- TOOLS ==> Hide/Display Brush

Hides or displays the Brush Options Box.

See also
Brush Options Box

Hide/Display Info Alt + Space

Menu -:- TOOLS ==> Hide/Display Info

Hides or displays the Info box.
This box displays the following information:
The X,Y of the cursor in relation to the image.
The RGB value of the pixel under the cursor.
The Free System Resources and Memory in Mb.
The **Back**, **Fore** and **Mid** colours.
The currently selected channels

Border

Menu -:- SELECTION==> Border

Turns the selection into an outline selection of the desired width.

Feather

Menu -:- SELECTION==> Feather

Fades the edges of the selection. All effects applied to the image are now faded in.

Invert

Menu -:- SELECTION==> Invert

Inverts the selection. All areas that were selected become deselected and vice versa.

Remove

Menu -:- SELECTION==> Remove

Removes the selection

Resize

Menu -:- SELECTION==> Resize

Changes the size of the selection

Stroke

Menu -:- SELECTION==> Stroke

Traces round the outline of the selection with the selected tool.

Tile Vertically

Menu -:- WINDOW ==> Tile Vertically

Tiles all image windows so they stretch from the top of the application window to the bottom.

Tile Horizontally

Menu -:- WINDOW ==> Tile Horizontally

Tiles all image windows so they stretch from the left of the application window to the right.

Cascade

Menu -:- WINDOW ==> Cascade

Arranges all the image windows diagonally across and down the screen. Only the title bar and some of the left of the image can be seen if there is another window cascaded over it.

Arrange Icons

Menu -:- WINDOW ==> Arrange Icons

Arranges all the iconic windows at the bottom of the application window

Close All Ctrl+A

Menu -:- WINDOW ==> Close All

Closes all the image windows. You will be prompted to save any images that need saved (depending on the Preferences option), but if you haven`t REGISTERD then it won`t let you!!

See also
Preferences

Brightness Ctrl+B

Menu -:- IMAGE ==> COLOUR ==> Brightness

Increases(+)/Decreases(-) the brightness of all the pixels.
+ve values Increase the Brightness.
-ve values Decrease the Brightness.

1. Specify the amount that each pixel is to be increased by.
2. Specify the minimum colour value to be effected.
3. Specify the maximum colour value to be effected.
4. Click on OK or Cancel.

Colour Replacer

Menu -:- IMAGE ==> COLOUR ==> Colour Replacer

Replaces all instances of the **Foreground** colour with the **Background** colour.

Contrast

Menu -:- IMAGE ==> COLOUR ==> Contrast

Increases(+)/Decreases(-) the colour range of the image.
+ve values move the pixel further away from the centre colour.
-ve values move the pixel closer to the centre colour.

1. Specify the amount that each pixel is to be moved by.
2. Specify the minimum colour value to be effected.
3. Specify the maximum colour value to be effected.
4. Click on OK or Cancel.

Edit Colour Map Ctrl+E

Menu -:- IMAGE ==> COLOUR ==> Edit Colour Map

This allows you to edit an image`s colour map. Illusion scans an image and replaces all the existing colour values with the new values.
i.e. suppose your new map was:-

Input	Output
.	.
.	.
100	155
101	154
102	153
.	.
.	.

All occurrences of 100 in the image would be replaced by 155, 101 by 154, 102 by 153 etc.
Most of the effects in the Image ==> Colour menu are done in this manner.

To edit a single colour

1. Select which channel you wish to edit. i.e. if Red is chosen, only the red values in the image will be effected.
2. Move the cursor over the map from left to right.
3. Position the cursor so that the colour value you want to edit is displayed in the **In** box.
4. Move the cursor up and down until the new value you want is displayed in the **Out** box
   (Be careful that the value in the In box does not change during this last operation)
5. **Click** the **Left** mouse button to change the map.

To edit a range of colours

1. Select which channel you wish to edit. i.e. if Red is chosen, only the red values in the image will be effected.
2. Move the cursor over the map from left to right.
3. Position the cursor so that the first colour value you want to edit is displayed in the **In** box.
4. **Press** the **Left** mouse button and draw on the map.
5. **Release** the **Left** mouse button to change the map.
6. To adjust the map, choose one of the options.

Repeat the above procedures for each channel you want to edit.

Click on OK to apply the map.

Editing The Map

You can create a custom map by simply drawing the required shape. Several starting shapes can be obtained from the Options list. Most of these base their values on the **existing** values. i.e. Selecting Cosine will produce a cosine wave as expected. Selecting Sine will create a Sine wave based on the values produced by the Cosine wave. This allows weird shapes to be created. To set the wave back to it`s normal shape (i.e. a sine wave) press the Reset button.

For finer control over the values, you can edit the map file. These are stored in the \map directory and have the extension .CMP. These are simple text files and can be edited in Notepad.

The numbers on the left of the equals sign are the input values, the numbers on the left are the output values.

Gamma Correct Ctrl+G

Menu -:- IMAGE ==> COLOUR ==> Gamma Correct

Adjusts the image so the colours displayed on your monitor are the same as the colours in the original subject. The device used to acquire the image (scanner etc.) will have used Gamma values which are different from your monitors. This results in the image being lighter or darker than intended. Gamma Correct corrects this error.

+ve values increase the brightness.
-ve values decrease the brightness.

1. Specify the amount the gamma is to be adjusted by.
2. Specify the minimum colour value to be effected.
3. Specify the maximum colour value to be effected.
4. Click on OK or Cancel.

Intensity Ctrl+I

Menu -:- IMAGE ==> COLOUR ==> Intensity

Increases the brightness of each pixel based on it`s original value.
This results in the brightness of the brighter pixels increasing by a greater amount than
the darker pixels.
+ve values increase the intensity.
-ve values decrease the intensity.

1. Specify the amount the intensity is to be adjusted by.
2. Specify the minimum colour value to be effected.
3. Specify the maximum colour value to be effected.
4. Click on OK or Cancel.

Negative

Menu -:- IMAGE ==> COLOUR ==> Negative

Inverts the image to resemble a photographic negative.

Posterise

Menu -:- IMAGE ==> COLOUR ==> Posterise

Changes the number of Colour levels in an image. Mainly used for Greyscale images to create large blocks of similar shade but creates weird colour schemes in colour images.

RGB Adjust

Menu -:- IMAGE ==> COLOUR ==> RGB

Adjusts the brightness of each pixel based on value the value chosen for that channel.

+ve values increase the brightness.
-ve values decrease the brightness.

1. Select the channel to adjust.
2. Specify the amount the brightness is to be adjusted by.
3. Select a new channel and repeat or select OK.
4. Click on OK or Cancel.

Split Channels

Menu -:- IMAGE ==> COLOUR ==> SPLIT CHANNELS

Each image comprises of three sub images: a Red image, a Green image and a Blue image. Together these combine to show the true image on the screen. Each of these images is known as a **Channel**. Use Split Channels to see these channels individually,

Then select the RGB option. This will create three images, each containing only one channel.

The RGB Grey option produces three grey images, each with the other two channels set to the image channel. i.e. In the Red image, the Red channel is copied over the Green and Blue channels.

Threshold

Menu -:- IMAGE ==> COLOUR ==> Threshold

Alters the image by changing the pixel above and below the threshold by different methods.

» Black and White All pixels below the threshold are set to black. All those above the threshold are set to white.

» Black Below All pixels below the threshold are set to black. All those above the threshold are left alone.

» White Above All pixels below the threshold are left alone. All those above the threshold are set to white.

1. Select the Threshold level.
2. Select the option..
3. Click on OK or Cancel.

Tint

Menu -:- IMAGE ==> COLOUR ==> Tint

Tints the image with the selected colour.

File Formats

Illusion can currently open and save images in the following file formats -:-

BMP
DIB
PCX
TGA

These formats are fairly common and all support up to at least 24 bit colour. BMP and DIB are uncompressed files whereas PCX and TGA offer a compress option. If you have plenty of free hard disk space, always save any images you are working on as either BMP`s or DIB`s. Although they use up more disk space, they open and save much faster than compressed files.

Colour Resolution

Throughout this help file you will see phrases such as 24 bit colour, 8 bits-per-pixel etc. This is an attempt to explain what this means.
Each pixel in an image is allocated a certain amount of memory referred to in bits. (8 bits = 1 Byte) Each bit can store two values either a 0 or a 1. Therefore if you only allocate 1 bit to each pixel (a 1 bit image), each pixel can only contain two values and hence, two colours.
If each pixel gets 2 bits, it can store 4 colours etc. To calculate the number of colours possible for each resolution you multiply 2 by itself by the resolution. i.e.

4 bit colour 2 x 2 x 2 x 2	=	16 colours
8 bit colour 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2	=	256 colours

The number in each pixel for up to 8 bit colour represents a palette index and not a colour.
For resolutions above 8 bit (15 bit, 16 bit and 24 bit) each pixel contains a Red, Green and Blue value to give the following number of colours -:-

15 bit colour	=	32,768 colours
16 bit colour	=	65,536 colours
24 bit colour	=	16,777,216 colours

This is the maximum number of colours the human eye can see and is therefore known as true colour.
(The 15 and 16 bit resolutions also look very realistic and are a trade-off between realism and memory requirements).
Windows uses the following colour resolutions -:- 1, 4, 8, 24 bits per pixel. 15 and 16 bit images are converted up to 24 bit.

OK, got is sussed so far ? Good now the fun starts.
The TGA format can also contain images that have 32 bits-per-pixel which you will notice, is more than the human eye can see. So why waste space

saving useless information ? Well, the extra information is called an Alpha channel and contains not colour information but transparency information. If you have a suitable (very expensive) graphics card, then you can overlay and blend two pictures together using the Alpha channel information. If not, then the information is a waste of space and is removed by Illusion.

See also

Open

Save As

BMP File Format

Illusion handles the following types of bitmaps

Windows	-:-	1,4,8,24 bits per pixel
OS/2	-:-	1,4,8,24 bits per pixel

Illusion does not support RLE encoded bitmaps.

See also

Open

Save As

DIB File Format

Illusion handles the following types of DIB (device independent bitmap)

1,4,8,24 bits per pixel

Illusion does not support RLE encoded DIB`s.

See also

Open

Save As

PCX File Format

Illusion opens the following types of PCX files

Version 0	-:-	1 bit per pixel
Version 2	-:-	1,4 bits per pixel
Version 3	-:-	1,4 bits per pixel
Version 5	-:-	1,4,8,24 bits per pixel

Illusion saves the following types of PCX files

1 Bit images	-:-	Version 2
4 Bit images	-:-	Version 2
8 Bit images	-:-	Version 5
24 Bit images	-:-	Version 5

Saving an image as a PCX may result in negative compression. i.e. The compressed image is bigger than the uncompressed image. If you find that this happens, save the file as a BMP to save space and time. Illusion will warn you when this has happened

See also

Open

Save As

TGA File Format

Illusion opens the following types of TGA files

No Compression	-:-	1,8, 16, 24 and 32 bits-per-pixel.
Compressed	-:-	l,8, 16, 24, 32 bits-per-pixel.

Illusion saves the following types of TGA files

No Compression	-:-	8 and 24 bits-per-pixel.
Compressed	-:-	8 and 24 bits-per-pixel.

16 or 32 Bit images will be converted to 24 bit images as Windows does not support these resolutions. The information lost in the 32 bit image was an Alpha channel dealing with transparency values. This was unusable without special hardware.

Saving an image as a TGA may result in negative compression. i.e. The compressed image is bigger than the uncompressed image. If you find that this happens, save the file as a BMP to save space and time. Illusion will warn you when this has happened

See also
Open
Save As

Registration

License / Warranty Disclaimer etc.

You are free to distribute **Illusion V1.x** provided that no fee is charged for use, copying or distribution (Except to cover costs) and it is not modified in any way. This program is provided as is without any warranty, expressed or implied. If you don`t agree with the previous disclaimer, **DO NOT** use this program.
I make **no** promises express or implied on the suitability of this software product for **any** particular purpose.
All responsibility for use of Illusion v1.x lies with the user.

You have been warned.

Illusion V1.x is shareware. Continued use of **Illusion V1.x** beyond a 30-day trial
period without registering is prohibited. The registration form follows.

REGISTRATION

Registration is good. It promotes a sense of general well being deep within your soul (allegedly) and makes me less poor (hopefully).
The registration fee for **Illusion V1.x** is only £10.00 (Pounds Sterling) which isn`t much when you think of it.
So please, please, please remember to register.
This took me ages to do.
It did, Honest.
Hours.
It's only £10.

Registering this software entitles you to the registration code which will enable you to use the **Save, Save As, Print, Cut and Copy** commands.

Please send any comments (good and bad), bug reports, large sacks of cash , suggestions etc. along with your cheque for £10.00 to:

Illusion V1,
David Robinson,
11 Allanton Avenue,
Paisley,
Scotland.
PA1 3BJ

Please make your cheque payable to David Robinson.
If possible, please use the registration form provided.

If your local shareware library doesn`t have a copy of Illusion, please give them one. (A copy that is).

See also
About
Registration Form

Registration Form

To print this form, select File-Print Topic

Illusion V1 Registration

Name_____

Address_____
_____
_____

City_____
Postcode _____

Suggestions:_____
_____
_____
_____
_____
_____

About

Thanks to Scott for helping with the silly bits.

Illusion is a Graphic Image Manipulator. Basically you get to do some funky (and some not quite so funky) things to pictures. It was written to keep me sane during my holiday from university (17 weeks is a long time with nothing to do). Registration is only £10.00 so please register. I`ve kept the price low in the hope that more people actually get round to registering. If you don`t register, you can still run all the effects etc., but you can`t save the image or export it from the application. Support shareware, it could save your life one day.

Illusion requires Microsoft Windows 3.1 run in Enhanced mode with at least a 256 colour display before it will work.
A mouse (of the pointing type), 24 bit graphics card, ninja monster computer, oodles of RAM and Joogabytes of hard disk space would also come in handy.

Please note, ILLUSION does not support 3D virtual reality headsets, neither is it an interactive movie. There is NO SHOTGUN and definitely not a four player network option. It does not make toast, feature gourard shading or rotary bitmaps. I`m working on these for ILLUSION version 2. The toast making option seems quite attractive.

Well thats it. It's taken me more than a year to write this program and at last it is finished.
(Yeah right... Last time I said that it started crashing on other peoples computers.
Not mine,oh no... that would have made it too easy to debug)

One last time for luck --- Please Register. I need the money.

See also
Registration

Toast

Bread which has been placed in a hot oven or similar type of heating device for a short period of time. This results in the dehydration and discolouring of the said slice which when used in conjunction with a suitable edible spread, results in a pleasing snack. Often eaten in the morning for breakfast or before retiring for the night.

S Russell Toast extraordinaire

Channels

Each image comprises of three sub images: a Red image, a Green image and a Blue image. Together these combine to show the true image on the screen. Each of these images is known as a **Channel**. To see these channels individually, select Split Channels from the colour menu. Then select the RGB option. This will create three images, each containing only one channel.

Illusion will operate only to the selected channels. To select and deselect channels you will need to have the **Info** box on the screen. At the top of the box there are three letters R, G and B. By clicking on a letter with the Left mouse button, you will select or deselect that channel. If the channel is selected, it will be preceded by a lowercase c. If the channel is not selected it will be represented by a single letter.

i.e.
To select the Red channel

1. Move the mouse over the letter R.
2. Click with the left mouse button.
3. If the letter changes to cR then the red channel has been seleted and all operations
   will apply to it.
4. To deselect the red channel, click on the letters cR. It will change back to just R.

Questions

Q. Why are the colours wrong when I display an image ?

A Unless Windows is running in a high colour mode (15, 16 or 24 bit), then there is a limited number of colours available for use by Illusion (either 256, 16 or 2 colours). All images only have access to these colours and have to make do the best they can. It is the active image that controls the colours available to the system so this image should be displayed correctly. All subsequent images however have no say in the current colours and are thus displayed with the wrong colours.

The problem is worse when a 24 bit image is displayed. This type of image has potentially 16,777,216 colours but Windows only has 256. Illusion will adjust the screen representation of the images to use less colours . If you don`t like the results, buy a 24 bit graphics card. Simple as that. ( It`s worth it, honest).

Q. Why does Illusion say the file isn't valid ?

A. There are many programs out there that save files incorrectly. Small things really but it`s impossible to write code that deals with every potential mistake. Illusion deals with some of the most common invalid file formats. For instance 16 colour PCX images saved in a stacked nibble format instead of in planes. ( No, I don`t know what it means either.)

Q. What is Negative compression ?

A. When PCX and TGA files are compressed, they use a simple form of compression called Run-Length-Encoding (RLE). This works as follows -:-

Say the first line of your image was pure white (RGB = 255) and was 100 pixels long. If no compression was used this would be stored as -:-

255 255 255 255 255 255 255 255

taking up 100 bytes of hard disk space. Most of this information is redundant because the above data could be represented as -:-

100, 255

i.e. "draw 100 pixels using the following value". Thus the disk space needed to save this line has been **reduced** from 100 bytes to 2 bytes.

This compression method is great for images that are drawn and contain large blocks of similar colours.

A scanned image however is more likely to contain pixels in which every neighbour has a slightly different value as follows -:-

255 254 255 254 255 254 255 254 ...

Using RLE this would be stored as -:-

1, 255 1, 254 1, 255 1, 254 1, 255 1, 254 1, 255 1, 254 ...

The disk space needed to represent the data has **increased** from 8 bytes to 16 bytes. i.e. Compressing the file has doubled it`s size -:- **Negative Compression**

Illusion still needs to spend time compressing and decompressing the file, so time is wasted as well as hard disk space. If this happens, save the image as a bitmap (BMP) because it will be smaller and faster to open and save.

Q. I have just run an effect and nothing happened. Why ?

A. Several thing could be happening here.

1 You have a very small selection on the image.

Small selections (i.e. 3 x 3) are perfectly valid but very hard to spot on the image.
Click on the image to remove the selection

2 You have channels selected that contain little information.

Illusion only applies effects to the currently selected channels.
If you have selected a channel that does not feature greatly in the image, the results of the effect can be negligable.
i.e. Say you had a picture of a red car against a red background. The Blue and Green channels for this image will contain very little information. Applying
effects to these two channels alone could produce nothing.

3 You have run the effect with useless values.

Some effects have certain values that do not do anything such as applying Brightness with a value of zero. Check the values of the effect again.

4 You have picked a bad effect for the image type.

Certain effects work better on certain types of images. Images can be classed as
two types

1] Drawn Images These contain large areas of similar colour and have well defined edges.

2] Scanned Images These are complex images with many different colour graduations and many small edges.

Effects react differently to these different types. For example, running an edge enhance on an image with few prominent edges will produce an image that is almost exactly the same as it was before the effect was applied.

Q. Why must an be either 24 bits per pixel to use some of the menu options?

A. Running an effect on an image has the possibility of creating a new colour value for **every** pixel. For an image at 800 x 600, that is 480,000 colours. Only a 24 bit picture can handle this much colour information. Images of 8 bits-per-pixel or less would be unable to do much with the new information except force an existing colour into the new colour with very messy results. Press Ctrl+T to convert an image to 24 bits.

Q. Why does the "Time Required " on the percentage bar keep changing ?

The time required is calculated using the time taken so far and the percentage completed. It assumes that it takes an equal amount of time to process each line in an image. This is clearly not the case if, for example, there is a circular selection. The top line may only be 2 pixels wide whereas the centre line may be 100 pixels wide. The Time Required would then start to increase as Illusion got closer to the centre of the selection.

Also, it takes a few seconds for the time to settle down to a steady value. Some effects are finished before this time has elapsed and the time required results may have been slightly misleading.

The Time required is only a rough guide to how long an effect will take to complete. If a long time is required, the value is normally accurate.