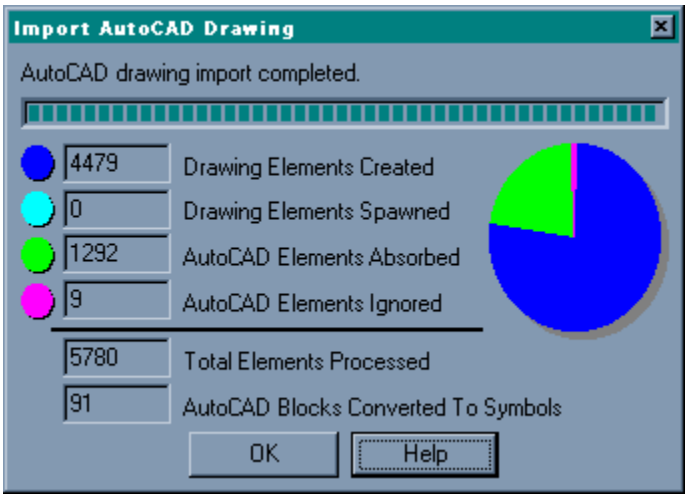
Symmetrica™

Using the latest in object-oriented programming techniques, Symmetrica™ has been designed to be a fast and easy, yet powerful, architectural drawing program. Its state-of-the-art interface allows total control over your drawings and the elements that make up the drawings. We at Software Engineering, Inc. hope you find Symmetrica™ as enjoyable to use as we did designing it.

For information on some of the key features of Symmetrica™, click the Help Topics button above or choose one of the topics below.

Importing

One important feature of Symmetrica is its ability to easily convert drawings from AutoCAD to Symmetrica. The conversion process is simple and by checking the status of the import, you can get a good feel for how well the drawing was converted.



The Import Status box shows the element conversion statistics of the import.

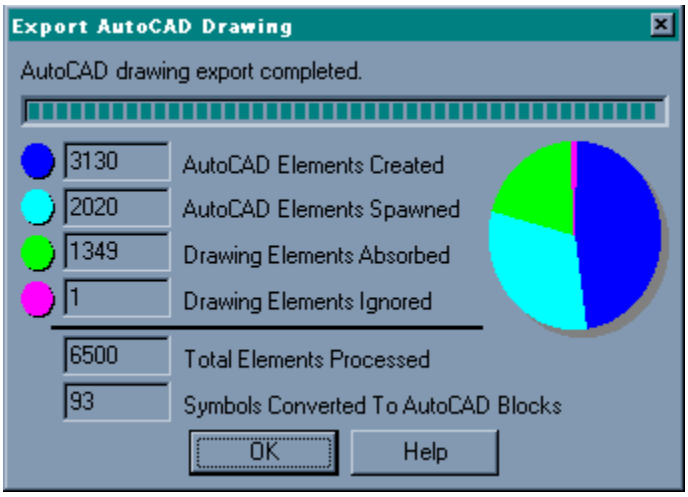
- Drawing Elements Created - These are the elements which were created from recognized elements in the AutoCAD drawing.
- Drawing Elements Spawned - When AutoCAD elements are recognized by Symmetrica as being made up of more than one element, it will spawn the additional elements. These are extra elements which AutoCAD recognized as only one element but Symmetrica recognizes as being made up of two or more.
- AutoCAD Elements Absorbed - When Symmetrica recognizes two or more elements from AutoCAD that can be treated as one element, it absorbs the extra elements. These are elements that Symmetrica recognizes as one element but AutoCAD recognized as two or more.
- AutoCAD Elements Ignored - Certain elements in AutoCAD have no relevancy in Symmetrica. These elements are simply ignored.
- Total Elements Processed - This is the total number of elements created, spawned, absorbed and ignored.
- AutoCAD Blocks Converted To Symbols - AutoCAD blocks are converted into Symmetrica symbols.

Step By Step

Importing AutoCAD drawings

Exporting

Symmetrica does an excellent job of exporting drawings into AutoCAD format.



The Export Status box shows the element conversion statistics of the export.

- AutoCAD Elements Created - These are the elements which were created from recognized elements in the Symmetrica drawing.
- AutoCAD Elements Spawned - When Symmetrica elements are recognized by AutoCAD as being made up of more than one element, it will spawn the additional elements. These are extra elements which Symmetrica recognized as only one element but AutoCAD recognizes as being made up of two or more.
- Symmetrica Elements Absorbed - When AutoCAD recognizes two or more elements from Symmetrica that can be treated as one element, it absorbs the extra elements. These are elements that AutoCAD recognizes as one element but Symmetrica recognized as two or more.
- Symmetrica Elements Ignored - Certain elements in Symmetrica have no relevancy in AutoCAD. These elements are simply ignored.
- Total Elements Processed - This is the total number of elements created, spawned, absorbed and ignored.
- Symbols Converted To AutoCAD Blocks - Symmetrica symbols are converted into AutoCAD blocks.

Step By Step

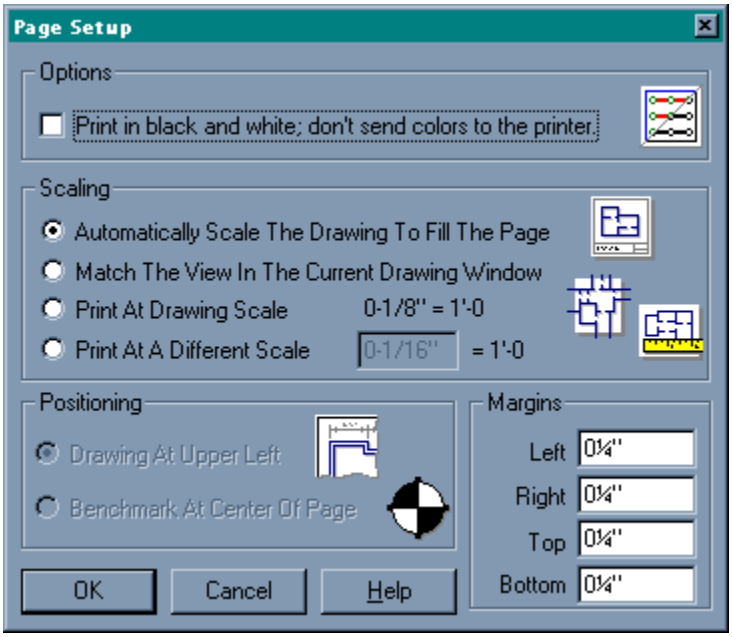
Exporting drawings to AutoCAD

Print Setup

The print setup configuration is largely dependent upon the type of printer you have connected to your computer. Refer to the documentation that came with your printer for the proper setup parameters.

Page Setup

The Page Setup box is used for defining how Symmetrica is going to send the drawing to the printer.



Options

If a black and white printout is desired or your printer doesn't support color, choose this option.

Scaling

Scaling determines the size of the drawing as it relates to the paper size. By default, the drawing will automatically be scaled to the size of the paper specified in Printer Setup.

Positioning

If printing at drawing scale or custom specified scale, you can specify whether the drawing will be positioned in the upper left corner of the paper when printed or centered according to the position of the benchmark.

Margins

The margins can individually be set. They are measured in paper distances.

Step By Step

- Changing the Page Setup.

Optimizing Recommendations

The following are a few helpful tips that may help improve the overall performance of Symmetrica.

- Get more RAM to improve overall performance.
- Turn off snaps that are not necessary. This will improve cursor performance.
- Save your work periodically. This releases memory allocated for
- Undo/Redo objects. This is especially important after importing an AutoCAD drawing, which creates an enormous amount of Undo data.
- Use Windows NT instead of Windows 95.
- Close other applications.
- Layer Management - turn off unneeded layers.

Useful Key Commands

The following is a list of useful key commands that either perform certain actions or modify others.

Alt

- When you select a group of elements by dragging, it creates a rectangular selection cursor. By default, any elements which have locations in the area will be partially selected, if the element supports partial selection. If the Alt key is held down when the selection is made, only elements that are completely within the area will be selected; elements partially in the area will not be selected.

Ctrl

- When dragging an element or a point of an element, the Ctrl key will perform a copy function rather than a move function.

Esc

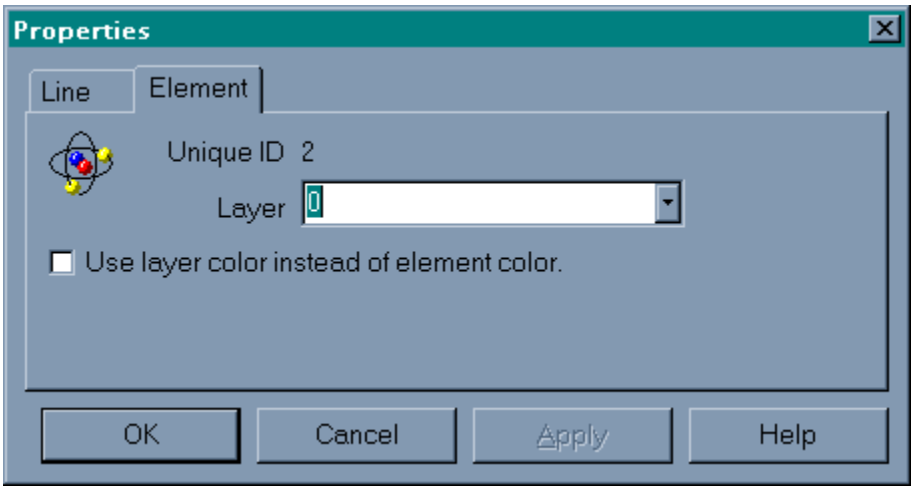
- Clears the text from the text input box, if there's any there.
- Stops the current command if there is no text in the input box.

Space

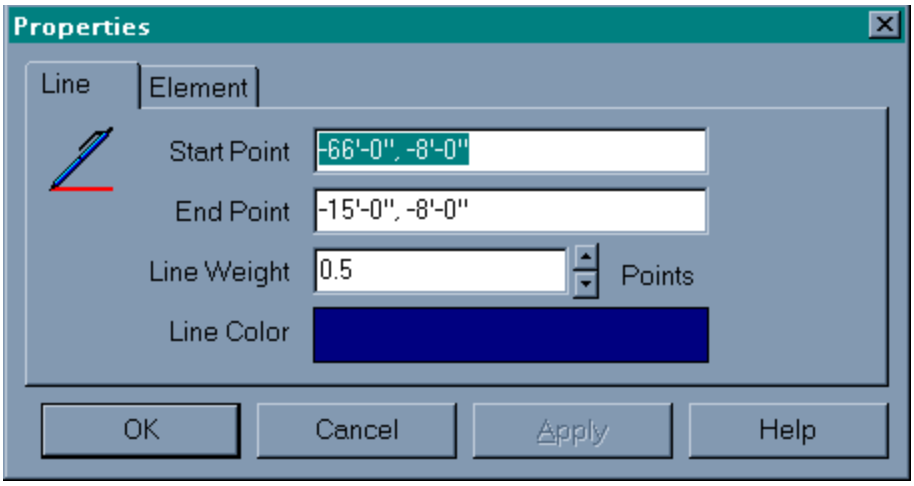
- Stops the current command if there is no text in the input box.
- Restarts the last command if no command is currently running.

Elements

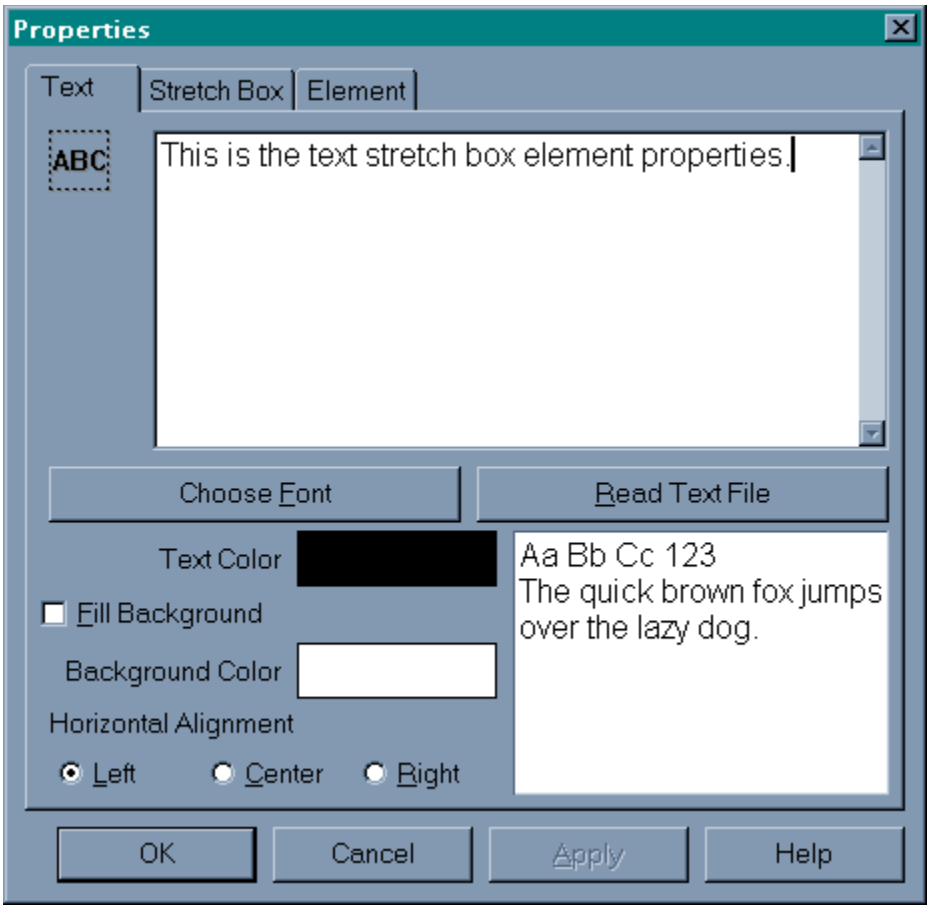
Symmetrica is truly an object-oriented program. The most basic object definition is called an element. This can be illustrated by viewing the properties of a single line element.



Each element is stored with a unique ID in a database created with each new document. Layers can be created in the document and elements assigned to the different layers. You can also make the color of the element assume the color of the layer it is assigned to.



From there, you move up in the hierarchy and find there are different types of elements: line, arc, stretch-box, etc. Different types of elements can additionally have further tiers of properties. For instance, a text box is at its most basic, an element as all objects are. Further, it is a stretch-box element and assumes all the properties of that type of element. More specifically, it is a text stretch box element.



For more information on the different types of elements, click on the element type listed below.

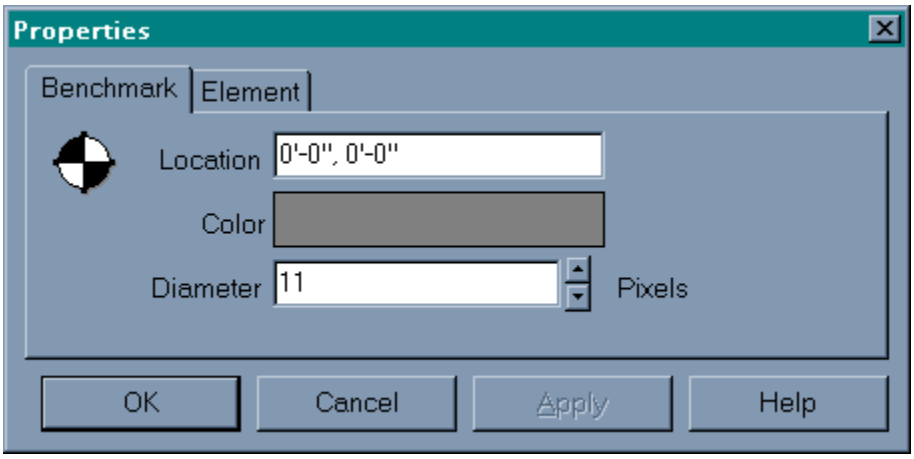
Arc
Circle
Groups
Line Dimension
Line Segment
Point
Polyline
Rectangle
Stretch Box
Symbol
Text Box

Step By Step

Defining Element Properties
Defining Default Element Properties

Benchmark

The benchmark is the current point of reference from which all other measurements are defined. It defines the current location 0'-0", 0'-0" on the X-Y axis. The benchmark is also used when using perpendicular snaps or orthographic snaps.



You can define both the color and the diameter of the benchmark.

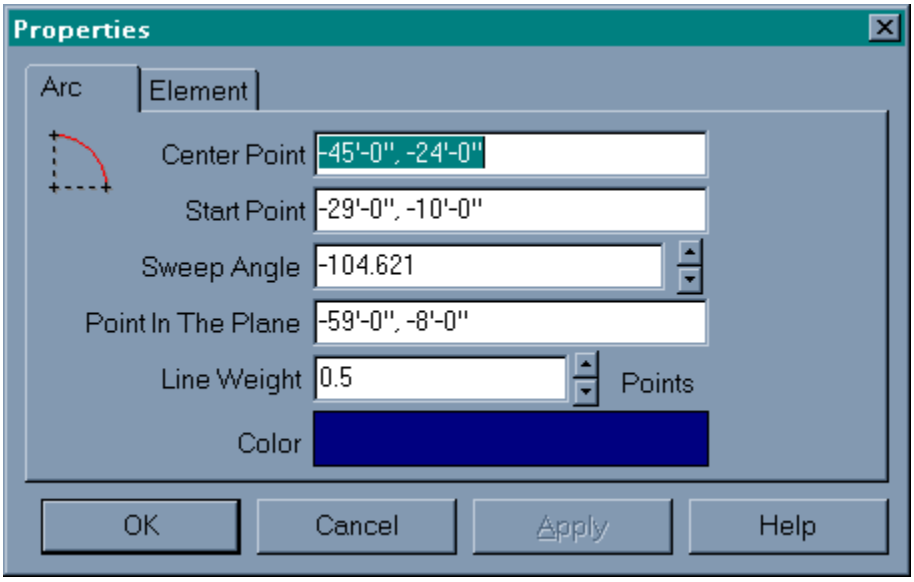
Step By Step

Moving the Benchmark
Defining Element Properties
Defining Default Element Properties

Arc

Arcs are segments of circles defined by three points.

- The Center Point is the point around which the arc curves.
- The Start Point is the first end point.
- The Sweep Angle determines the direction of the arc from the start point. A positive sweep angle indicates a counter-clockwise arc while a negative sweep angle indicates a clockwise arc.
- The Point In The Plane is a third point in space used for defining 3 dimensional arcs.



All point positions are relative to the current position of the benchmark. The Line Weight and Color are definable properties.

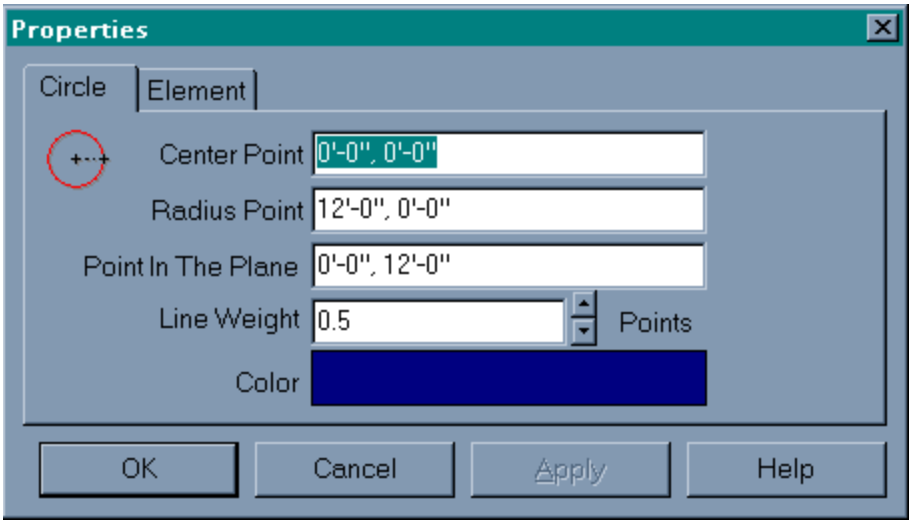
Step By Step

Creating an Arc
Defining Element Properties
Defining Default Element Properties

Circle

Circles are defined by two points.

- The Center Point is the point around which the circle rotates.
- The Radius Point defines the radius of the circle.
- The Point In The Plane is a third point in space used for defining 3 dimensional circles.



All point positions are relative to the current position of the benchmark. The Line Weight and Color are definable properties.

Step By Step

Creating a Circle
Defining Element Properties
Defining Default Element Properties

Groups

A group is a collection of elements treated as a single stretch box element.

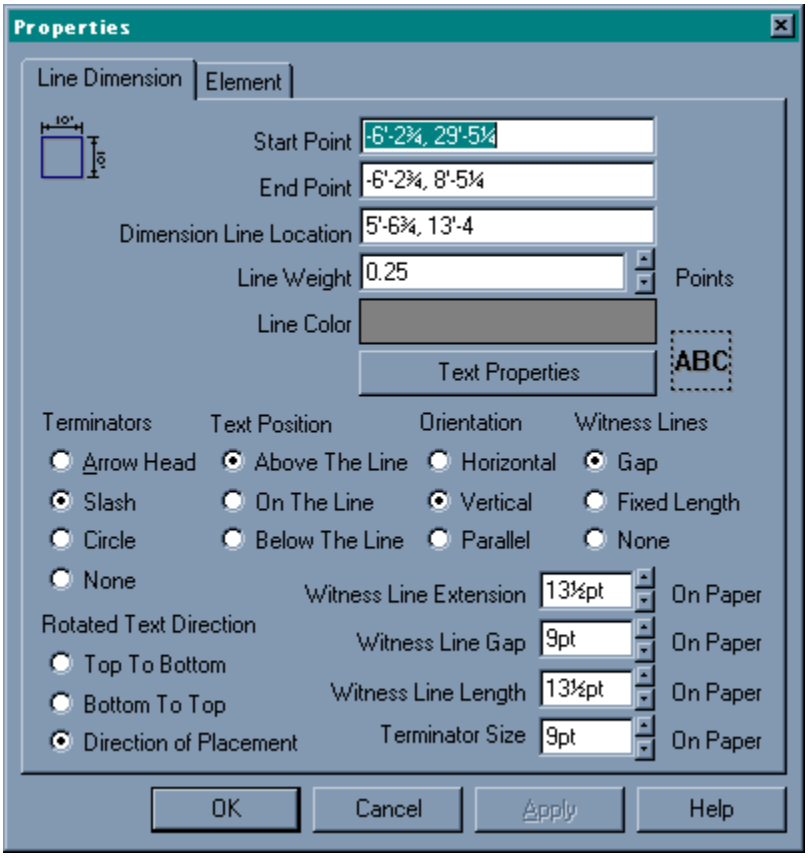
Step By Step

Line Dimension

Line Dimensions are dimension lines defined by two points.

- The start point.
- The end point.

Once a dimension lines points have been defined. Symmetrica automatically calculates all other information concerning the dimension line. (i.e. terminators, witness line extensions, etc.)

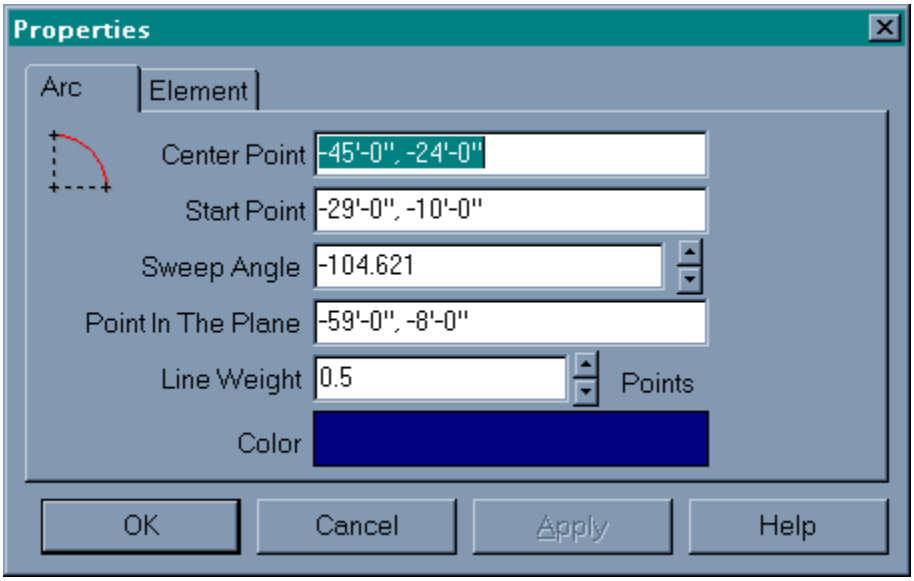


The Dimension Line Location determines

Line Segment

Line Segments are defined by two points.

- The start point.
- The end point.



All point positions are relative to the position of the benchmark. The Line Weight and Color are definable properties.

Step By Step

Creating a Line Segment
Defining Element Properties
Defining Default Element Properties

Point

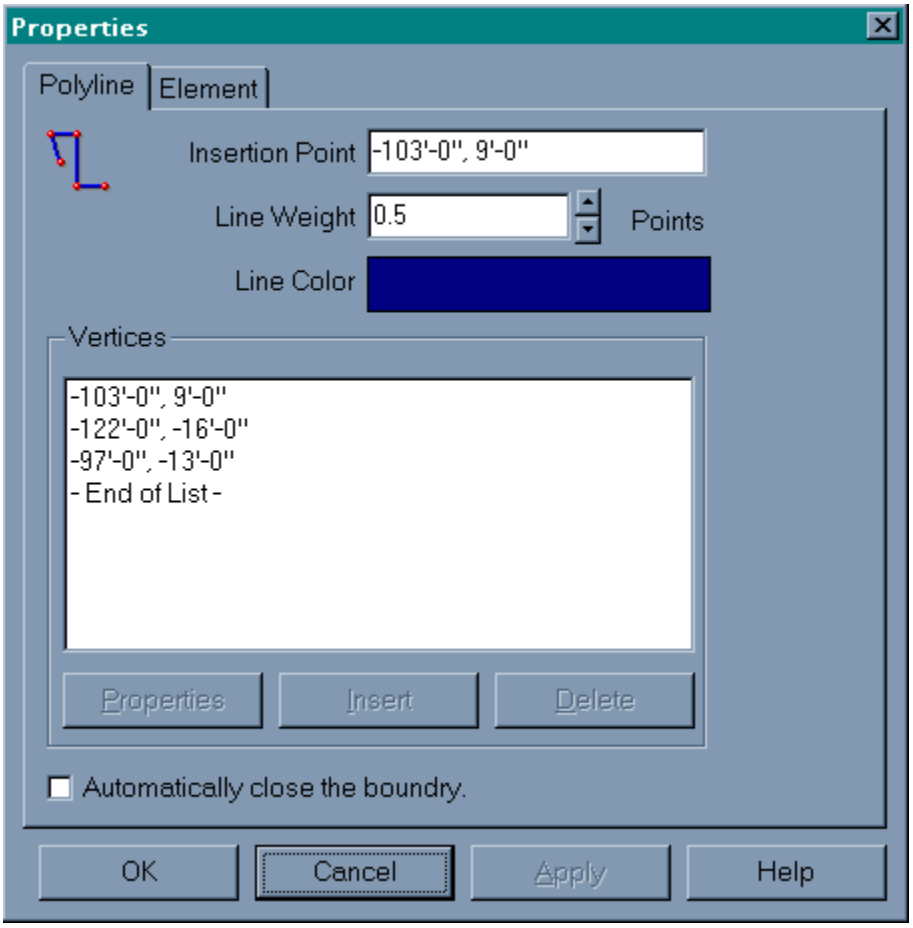
(New topic text goes here.)

Polyline

Polylines are defined by as many points as needed.

- The Insertion Point is the starting point of the polyline.
- As many other vertices as needed..

Polylines have the added ability to automatically close the boundary. This eliminates redundant end points.



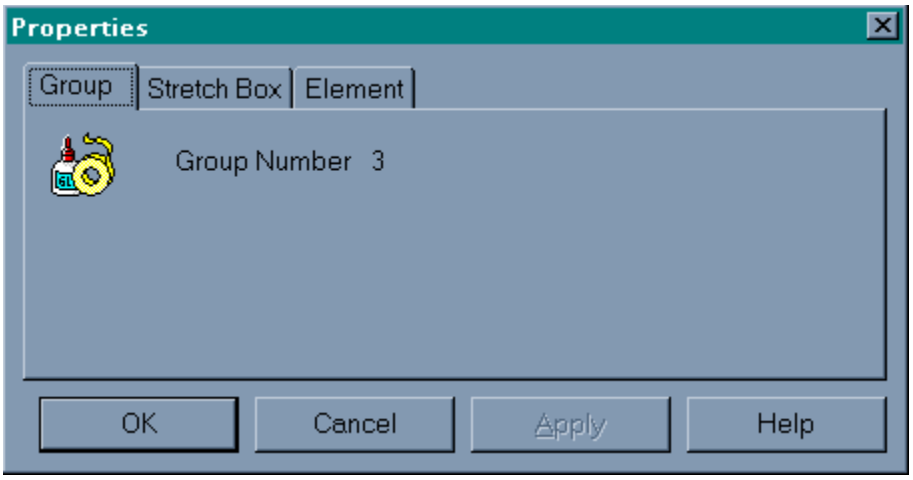
All point positions are relative to the position of the benchmark. The Line Weight and Color are definable properties.

Step By Step

Creating a Polyline
Defining Element Properties
Defining Default Element Properties

Rectangle

A rectangle is not an element type in and of itself. It is actually a polyline group.

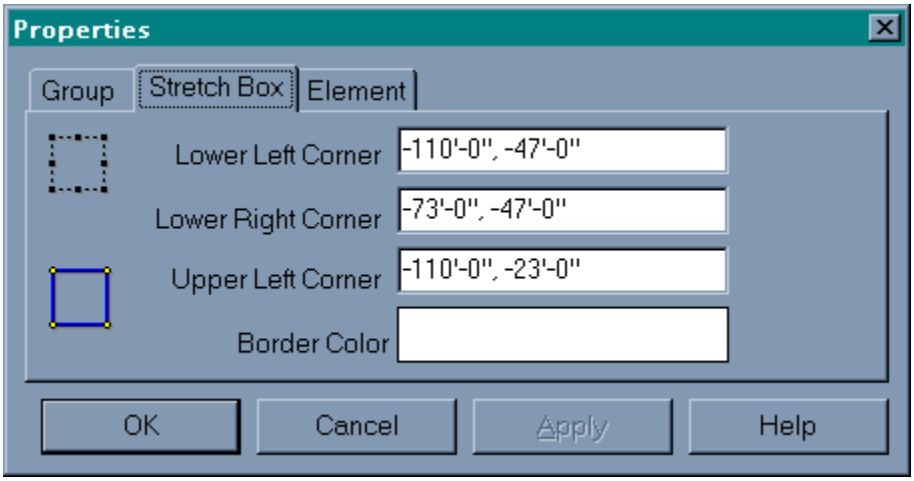


Step By Step

Creating a Rectangle
Defining Element Properties
Defining Default Element Properties

Stretch Box

Stretch boxes are defined by three points which are three of the corners of the box.



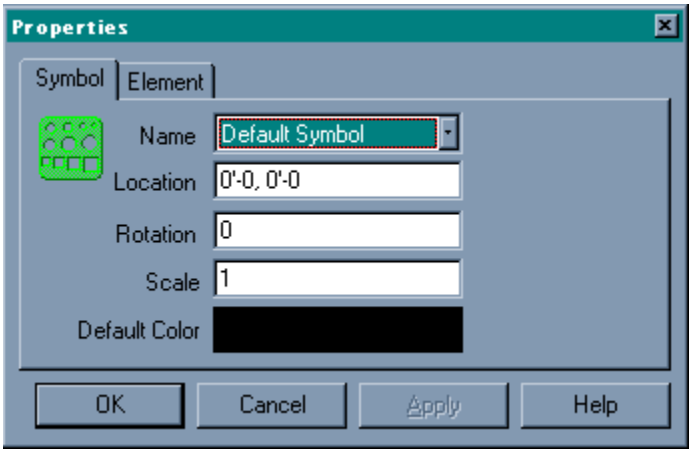
All point positions are relative to the position of the benchmark The border color can be determined by clicking in the Border Color box.

Step By Step

Creating a Stretch Box
Defining Element Properties

Symbols

Symbols are elements that have been grouped together and identified in a database as a separate element.

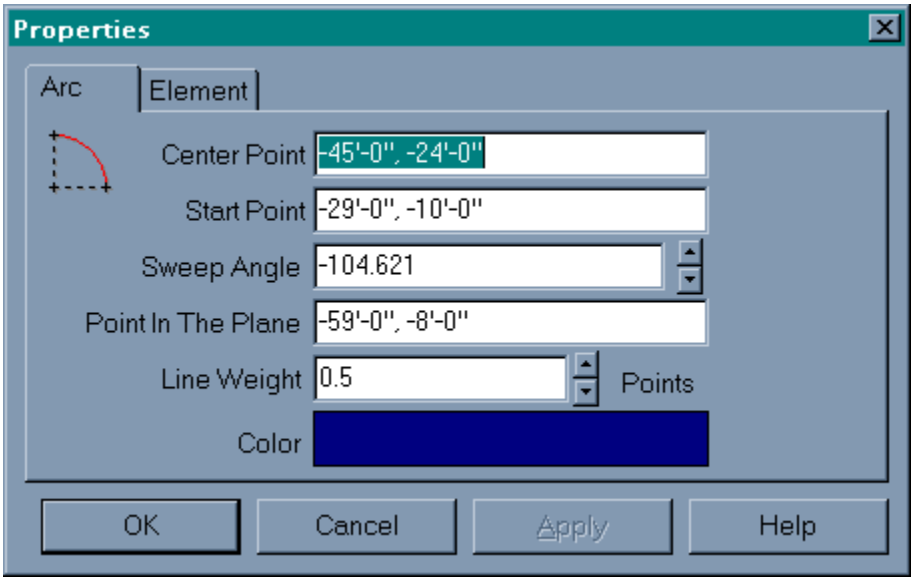


Step By Step

Creating a Symbol
Placing a Defined Symbol
Defining Element Properties

Text Box

Text Boxes are a type of stretch box element.



The large box at the top shows the text in the box. Theoretically, there is no limit to the amount of characters that can be input into this box.

The font, size and other attributes can be defined by clicking the Choose Font button. The fonts available to you are determined by whatever fonts are currently installed in Windows.

If you want to import a text file into a text box, use the Read Text File button.

Text color allows you to change the color of the text. Click in the box to bring up a palette of colors.

The Fill Background check box determines whether the text box will be opaque or not. If it is checked, the background color will then be determined by the Background Color box. Click on the box and choose the color from the palette displayed.

Finally, the left, right or centered alignment of the text within the text box can be selected with the Horizontal Alignment buttons.

Step By Step

Creating a Text Box

Line Weight

The line weight is the thickness of the line(s) defining the element.

Line Color

The line color determines the color of the line(s) defining the element.

Default Element Properties

(New topic text goes here.)

Step By Step

Defining Default Element Properties

Choose Font

(New topic text goes here.)

Read Text File

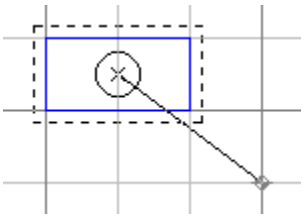
(New topic text goes here.)

Changing the Page Setup

(New topic text goes here.)

Snaps

Snaps are tools that help place points on the drawing. Each snap will act as a magnet to different types of points in the drawing (i.e. center points, perpendicular points, etc.). When a point is being snapped, the mouse cursor has a circle around it and the element being snapped to has a dotted line bordering it.



Example shown with a line being drawn to the center of a rectangle with Center Point snap enabled.

By using snaps and the grid, very precise drawings can be sketched in a short time. To learn more about the different types of snaps and the grid, go to one of the following topics:

Rounding
Visible Grid
Benchmark
Autobenchmark
Orthographic
Center Point
Locations
Perpendicular
Intersection
Nearest Point

Visible Grid

The grid is a measuring tool which determines the rounding scale.

Orthographic Snap

Orthographic snaps are snaps at angles of 45. The Alt key will toggle orthographic snap while drawing.

Perpendicular Snap

Perpendicular snaps are snaps at right angles to other elements.

Rounding

Rounding determines whether points will snap to the nearest current rounding increment. When rounding is turned off, strange values can be stored for points entered.

Center Point Snap

Center Point snap will find the center of an element.

Location Snap

Location snap will snap to the points that define other elements.

Intersection Snap

Intersection snap will snap to intersections of lines.

Nearest Point Snap

Nearest Point snap will snap along the lines of the element.

Autobenchmark

Autobenchmark forces the benchmark to follow you as you draw elements. It will move from point to point as you draw an element.

Hide/View Benchmark

The benchmark can be hidden from view.

Step By Step

Hiding/Viewing the Benchmark

Mouse Command Detail

The following table summarizes the basic mouse interface, including selection and direct manipulation (drag and drop).

Table A. Interaction Guidelines for Common *Unmodified* Mouse Actions

Action	**Target**	**Effect on current selection state**	**Effect on anchor point location**	**Resulting operation using button 1**	**Resulting operation using button 2**
Press	Unselected element	Clears the active selection.	Resets the anchor point to the element.	Selects the element.	Selects the element.
	Selected element	None	None	None	None
	White space (background)	Clears the active selection.	Resets the anchor point to the button.	Initiates a region (marquee) selection.	Initiates a region (marquee selection)
Click	Unselected element	Clears the active selection.	Resets the anchor point to the element.	Selects the element.	Selects the element and displays its pop-up menu.
	Selected element	None	None	Selects the element.	Selects the element and displays the selection's pop-up menu.
	White space (background)	Clears the active selection.	None	None	Displays the pop-up menu for the white space.
Drag	Unselected element	Clears the active selection.	Resets the anchor point to the element.	Selects the element and carries out the default transfer operation upon the button release at the destination.	Selects the element and displays the non-default transfer pop-up menu upon the button release at the destination.
	Selected element	None	None	Carries out the default transfer operation on the selection upon the button release at the d3estination.	Displays the non-default transfer pop-up menu upon the button release at the destination.
	White space (background)	Clears the active selection.	None	Selects everything logically included from anchor point to active end.	Selects everything logically included from anchor point to active end and displays pop-up menu for the resulting selection.
Double-Click	Unselected element	Clears the active selection.	Resets the anchor point to the	Selects the element and carries out	Selects the element.

		element.	the default operation.	
Selected element	None	None	Carries out the selection's default operation.	Selects the element.
White space (background)	Clears the active selection.	None	Carries out the default operation for the white space.	None

Splitting

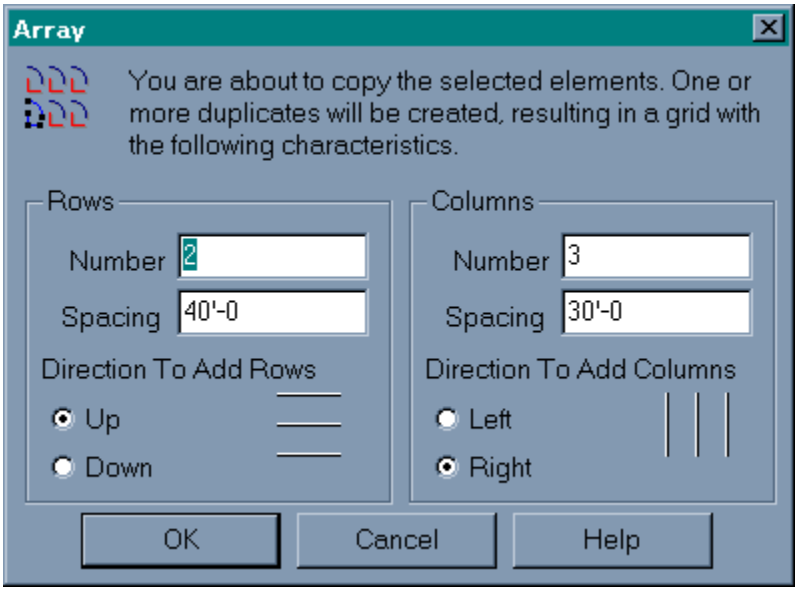
It may be desirable to split groups or symbols into their component elements. This can be accomplished by using the split action. Polylines can also be split into component line segments.

Step By Step

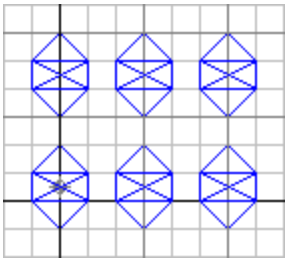
- Splitting Groups
- Splitting Polylines
- Splitting Symbols

Arrays

Using arrays makes it easy to duplicate elements across a large area of the drawing.



With the previous settings, an object was duplicated in the following manner:

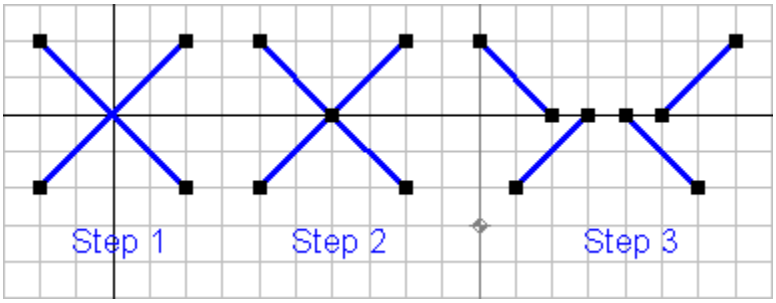


Step By Step

- Duplicating Elements Across An Array

Clean Up Intersections

Use Cleaning Up Intersections to divide intersections into separate points on the drawing.



In the example above, Step 1 shows two crossed lines. Step 2 shows the lines after being cleaned up. Step 3 shows how the lines were separated at the intersection and are separate elements.

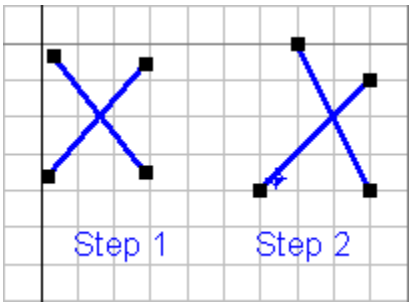
Not only does it break lines and walls at intersections, it also fuses similar collinear line segments and walls into a single segment. Lines need only overlap to fuse. Walls will only fuse if they share a common end point location and are collinear and the same width etc. Basically they have to look alike on the screen and they will fuse. This capability has not been extended to other elements yet, only to lines and walls. Basically, anything that knows how to break itself also knows how to fuse itself.

Step By Step

- Cleaning Up Intersections

Round

The Round action will round all the selected elements insertion point to the nearest grid point according to the current rounding increment.



In the example above, Step 1 shows two lines drawn without the Rounding option on. Step 2 shows the lines after being rounded. Notice each end point snapped to the nearest grid point according to the rounding increment. This action should be used with caution.

Step By Step

Rounding

Global Properties

Global properties define properties for everything currently being drawn.

Input Box Tool Bar

The input box is used for entering specific points on the x,y,z axis.

When creating an element, the points for the element can be entered manually. Any combination of units can be used and will be understood. If no units are entered, the output units for this drawing will be used.

The input box is always active when drawing window is active. To clear text from the input box, press the Esc key.

prefix/qualifier/input codes:

a - absolute.
This specifies coordinates relative to the origin of the database. This would not be relative to the benchmark but rather from the starting point of the drawing. Example: a5,10 would be right 5 units, up10 units from the origin.

r - relative.
This is to help Arris users who are used to using the prefix. It will be ignored.

@ - relative.
This is to help users of AutoCAD who are used to using the prefix. It will be ignored.

p - polar.
This specifies that the numbers entered are distance,angle,angle of inclination. Angles are degree values with 0 being to the right. The value entered is relative to benchmark.

Prefixes can be combined. Example: ap20,30 would be polar coordinates absolute to the origin of the database.

Values
The default units of the values entered are determined by the Units In Which To Display Values (output units) setting in the Number Format Settings for Lengths.

The default is not always the desired units however. Any unit in either standard or metric can be specified on the value entered and any combination of values can be used. For instance the value 6m,10' would be properly interpreted. Keep in mind however, that the base units specified in the drawing settings is the unit in which every value is stored in the database. Therefore, if the base unit is in feet, Symmetrica will convert the 6m into the standard value of 19'-8 ¼". The value is rounded in the drawing according to the ?

If no value is entered, the assumed value is 0. Ex: 5,,12 is interpreted as 5,0,12.

Fractional amounts can be entered as well. Ex: 6-3/4,5-1/2. If the output units are set to feet, this would be interpreted as six and three quarters feet by five and one half feet. It could also be input as 6 9,5 6.

Other examples of proper input values would include:
6m 5cm,10' or 13km,12m 3". While these examples may seem impractical and perhaps a bit odd, they do illustrate the flexibility of the values that can be entered.

When you enter points using the mouse cursor, they are entered in the plane that is parallel to the XY plane (top) which passes through the benchmark. In other words, they are entered at the Z height of the benchmark.

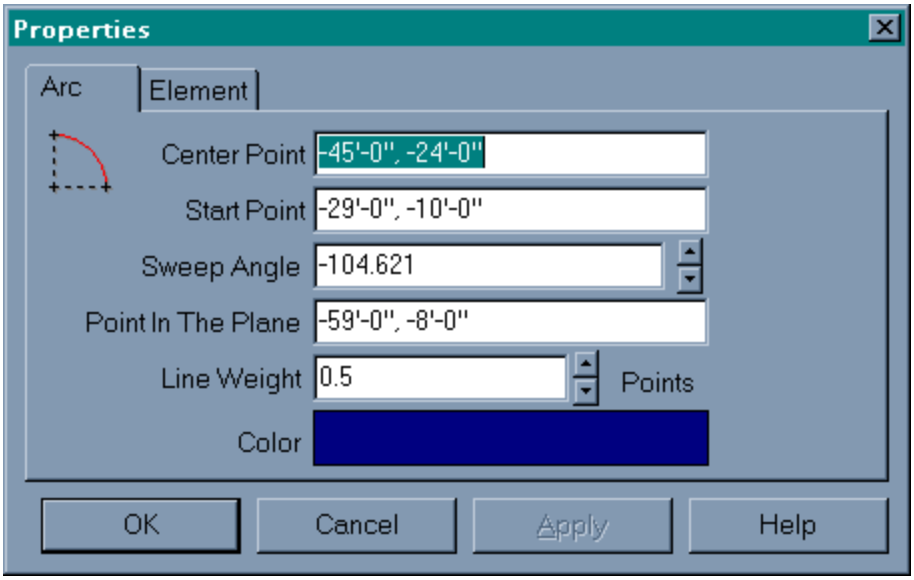
Sometimes, the XY plane is only a line in the view, such as when viewing from various side angles. In this case,

the point is entered in the plane that is parallel to the XZ plane (front) which passes through the benchmark.

In two views, "Left" and "Right", the XZ plane is a line also. In this case, the point is entered in the plane that is parallel to the YZ plane (side) which passes through the benchmark.

The use of the benchmark is important here because it allows you to establish the "Z-level" in the view at which you will draw.

Snap Tool Bar



View Tool Bar

View Tools

Click the button on the tool bar or one of the topics below to see more information on the different view tools.

Redraw
Zoom Rectangle
Zoom All
Last View
Zoom In
Zoom Out
Isometric View
Top View
Back View
Left Side View
Front View
Right Side View
Roll Left
Pitch Up
Roll Right
Yaw Left
Look At Benchmark
Yaw Right
Rotate Left
Pitch Down
Rotate Right

Redraw

There are times when you may need to have Symmetrica redraw the screen. Keep in mind that with very large drawings, this could take a moment.

Zoom Rectangle

The Zoom Rectangle tool allows you to zoom in on a selected area of your drawing.

Zoom All

The Zoom All tool will show the entire drawing on the screen.

Last View

Use Last View to use the last view level you were at.

Zoom In

Zoom In takes you in one increment.

Zoom Out

Zoom Out takes you out one increment.

Isometric View

The Isometric View is a stand off view rotated in three dimensional space.

Top View

The top view of the drawing.

Back View

The back view of the drawing.

Left Side View

The left side view of the drawing.

Front View

The front view of the drawing.

Right Side View

The right side view of the drawing.

Roll Left

(New topic text goes here.)

Pitch Up

(New topic text goes here.)

Roll Right

(New topic text goes here.)

Yaw Left

(New topic text goes here.)

Look At Benchmark

(New topic text goes here.)

Yaw Right

(New topic text goes here.)

Rotate Left

(New topic text goes here.)

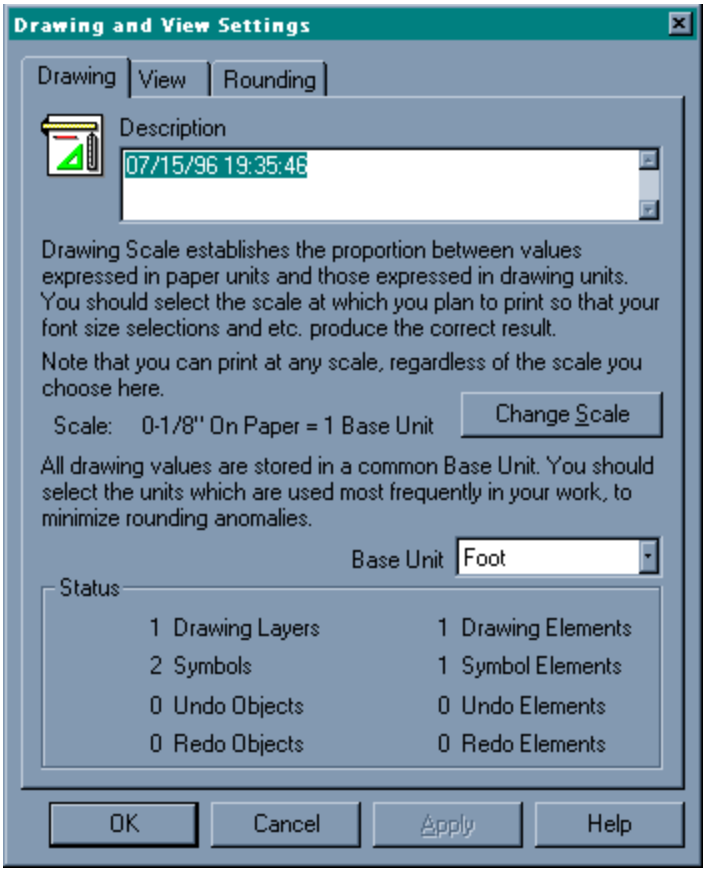
Pitch Down

(New topic text goes here.)

Rotate Right

(New topic text goes here.)

Drawing Settings



By default, the description of the drawing is the date and time the document was created. The description is optional but can be used for entering a detailed description of the drawing. Theoretically, there is no limit to the amount of text that can be typed into the description box.

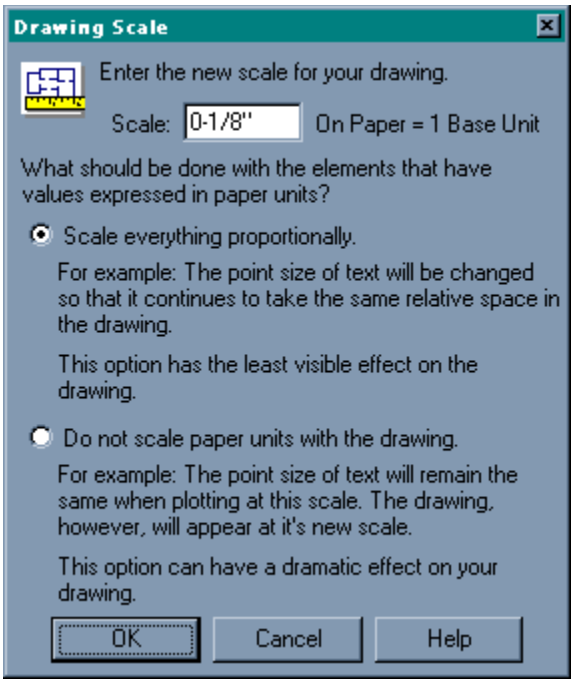
The Drawing Scale establishes the proportion between values expressed in paper units and those expressed in drawing units. You should select the scale at which you plan to print so that your font size selections and etc. produce the correct result. Note that you can print at any scale, regardless of the scale you choose here.

All drawing values are stored in a common Base Unit. You should select the units which are used most frequently in your work to minimize rounding anomalies.

The Status section displays the total number of elements, symbols, etc. in the current document.

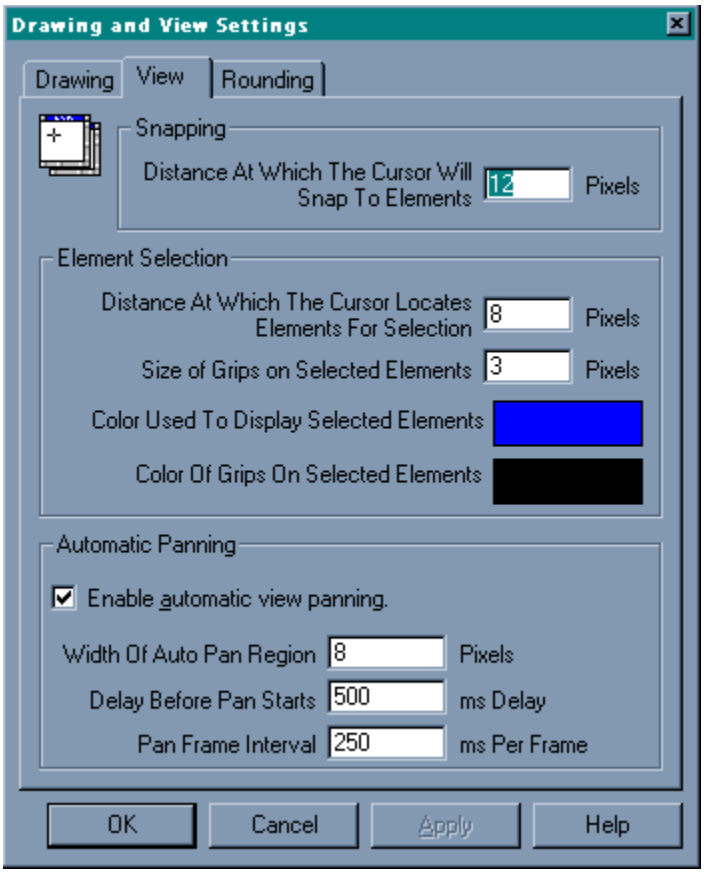
Drawing Scale

(New topic text goes here.)



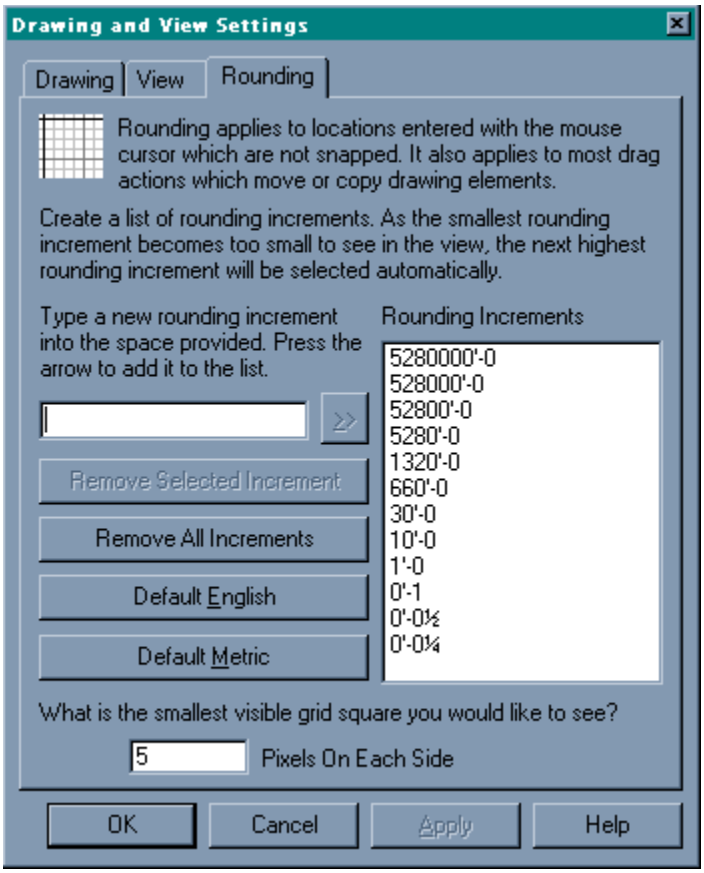
View Settings

(New topic text goes here.)



Rounding Settings

(New topic text goes here.)



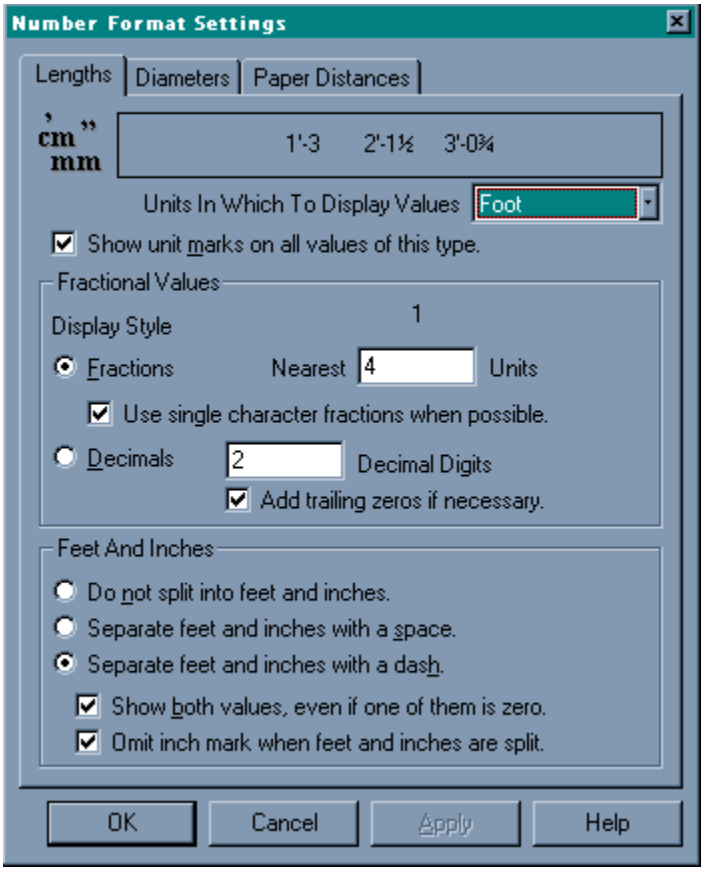
Number Format Settings

The Numbers Format Settings deal with the way Symmetrica displays values that are in real world lengths. as determined by the Drawing and View Settings and the way actual paper distances are scaled to your drawing.

The output units are the default used in the input box and property sheets and anywhere else you enter a value that is in database space. Exception is line weight., font size, .

Paper distances determines how to display units that are known to be paper distances. 72 point text is 1 inch tall this is paper distance. Look for the words “on paper”.
For instance the margins on the page or arrow heads.

Look at line dimensioning properties for examples of all.



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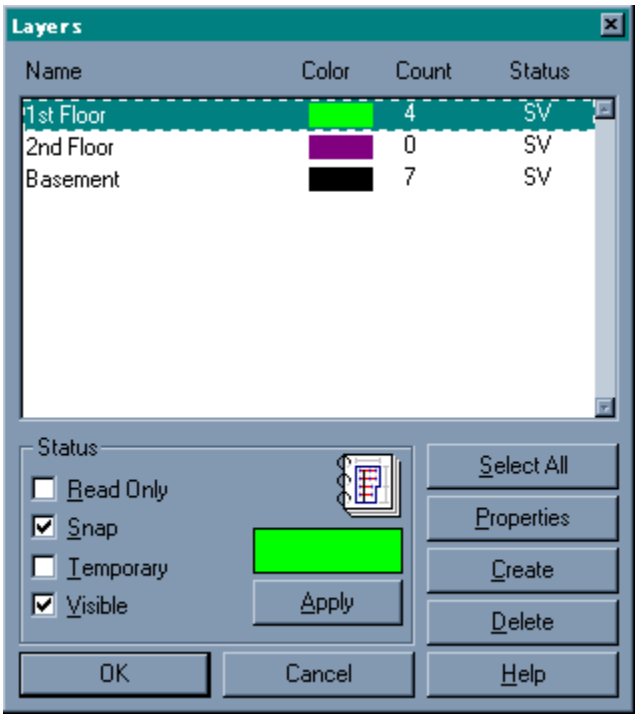
Layers

Layers can best be described as having multiple transparencies with different parts of the drawing on each one. Properties can be changed for each layer or multiple layers can be changed simultaneously.



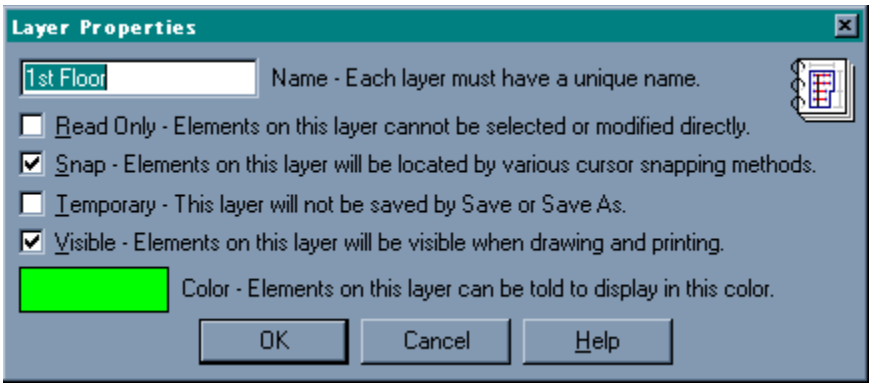
The first section of the layers box shows the different layers currently defined. It lists names of the layers, the colors assigned to each layer, a count of the number of elements in each layer and the current status options assigned to each layer.

The Status section shows the different options that can quickly be assigned to a layer or layers. These options can also be set through the properties button or by double-clicking on the layer.

- Read Only - Elements on this layer cannot be selected or modified directly.
- Snap - Elements on this layer will be located by various cursor snapping methods.
- Temporary - This layer will not be saved by save or save as
- Visible - Elements on this layer will be visible when drawing or printing.

Layer Properties

(New topic text goes here.)



Select All Layers

This button will select all layers currently defined.

Creating a new layer

1. On the Settings menu, click Layers. (or click on the Layers button  located on the Global properties tool bar.)
2. Click the create button.
3. In the properties box, type in a name and modify the settings as needed for the new layer.
4. Click the OK button.

Tip

- A new layer can be created on the fly by editing the element properties of any element or group of elements, then typing in a *new* layer name.

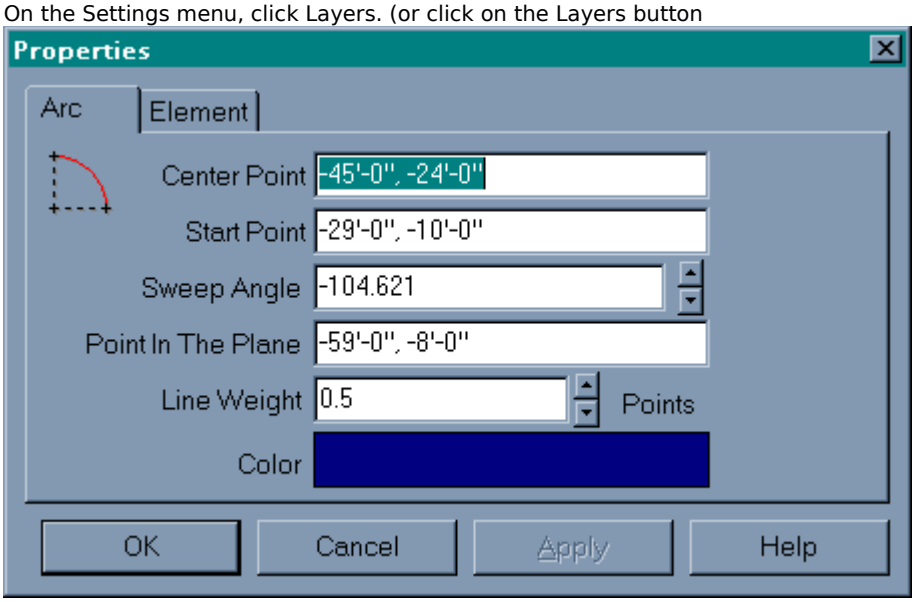
Changing the current layer.

1. On the Settings menu, click Layers. (or click on the Default Layer pull down menu 

located on the Global Properties tool bar.)
2. Select the layer you want to work with.
3. Click the OK button.

Deleting layers

1 On the Settings menu, click Layers. (or click on the Layers button



located on the Global Properties tool bar.)

2 Click the delete button.

3 Click the OK button.

Tip

- This will delete all elements associated with the layer.

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New Window

This menu item will make a new duplicate of the current window.

Cascade

This will cascade all windows currently opened.

Tile

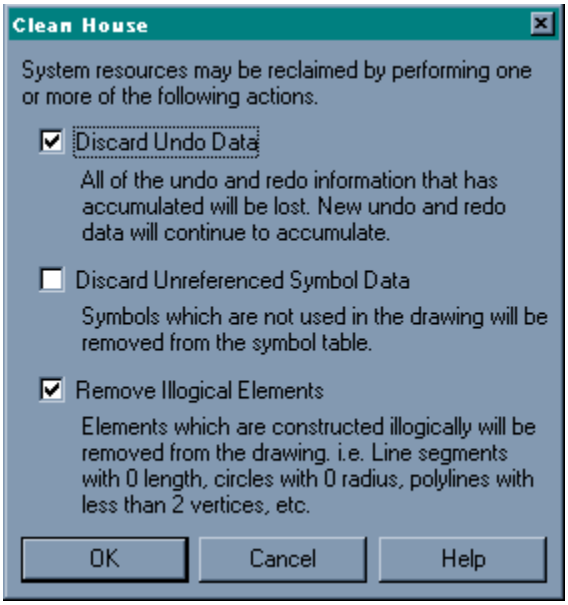
This will tile all windows currently opened.

Arrange Icons

This will arrange the icons of the desktop.

Clean House

Cleaning house is way to free up system resources should you run short.



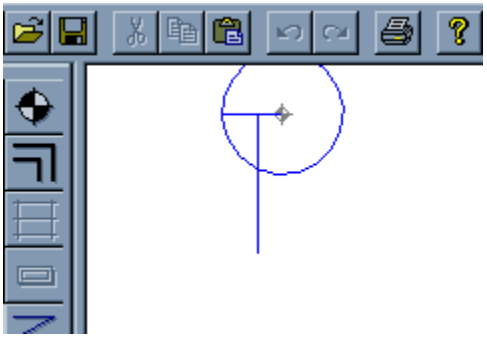
Resetting the Undo/Redo database information will eliminate all Undo and Redo references up to the current point. This does not turn the Undo/Redo function off, it simply clears out the current log and starts a new one. The information will continue to accumulate.

Discarding unreferenced symbols will clear from the symbol table all the extra symbol information that isn't used in the current drawing.

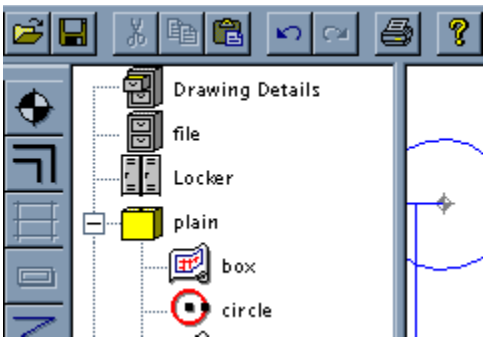
By removing illogical elements, you clear the drawing of oddball pieces that get left behind by such things as accidental mouse clicks, etc.

Detail Gallery

The Detail Gallery is an area where you can store pieces of drawings for use at a later time. When Symmetrica loads, the Detail Gallery is hidden from view as seen below.



By clicking and dragging the bar to the right of the Tools tool bar, the Detail Gallery will be revealed.



Creating a new document

1 On the File menu, click New. (or click on the New button  located on the tool bar.)

Tip

- To name the new file, click the File menu, and then click Save As.

Opening a document

1. On the File menu, click Open. (or click on the Open button  located on the tool bar.)
2. In the Look In box, click the drive that contains the document you want to open.
3. Below the Look In box, click the folder that contains the document you want to open.
4. Click the document's name, or type it in the File Name box.

Tips

- If you don't see what you're looking for, click a different file type in the Files Of Type list.
- To open a document you opened recently, click its name at the bottom of the File menu.

Closing the current document

1 On the File menu, click Close.

Tip

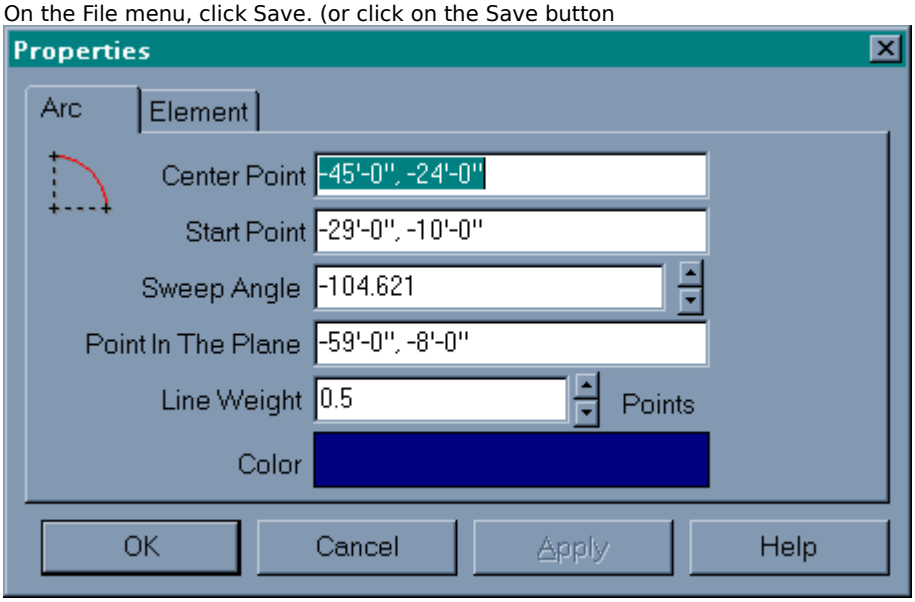
- If the document has not been saved, Symmetrica will ask whether you wish to save the document or not.

Saving a document for the first time.

1. On the File menu, click Save or Save As. (or click on the Save button  located on the tool bar.)
2. Type in a file name.
3. Select the location where you want to save this file.
4. Click the Save button.

Saving changes to a document

1 On the File menu, click Save. (or click on the Save button



on the tool bar.)

Tip

- To save an existing document with a new name, click Save As, and then type a new name in the File Name box.

Printing a document

1 On the File menu, click Print. (or click on the Print button  located on the tool bar.)
2 Select the desired printer, number of copies, etc. and click the OK button.

Print Preview

To see how your document will look before you print it

1 On the File menu, click Print Preview.
2 Zoom in on sections of the drawing by clicking on the desired area.

Tip

- To return to the previous view from Print Preview, click the Close button.

Undoing/Redoing an action

Undo:

On the Edit menu, click Undo to back up one action. (or click on the Undo button  located on the tool bar.)

- The Undo file is kept for every action since the session began.

Redo:

On the Edit menu, click Redo to move forward one action that was undone. (or click on the Redo button  located on the tool bar.)

Copying information between documents

1 In the document that contains the information you want to copy, select the information by highlighting it.

2 On the Edit menu, click Copy. (or click on the Copy button  located on the tool bar.)

3 In the document where you want the information to appear, click the place where you want to put the information.

4 On the Edit menu, click Paste. (or click on the Paste button  located on the tool bar.)

Tips

- You can paste the information multiple times.
- Elements from Symmetrica will appear in scale in any other program.
- Paste places elements relative to the benchmark.

Deleting Elements

1. Select the element(s) you want to delete.
2. To remove elements so that you can place it in another part of the document, click Edit, and then click Cut. (or click on the Cut button  located on the tool bar.)
3. To remove elements entirely from the document, press the DEL (Delete) key.

Tips

- To cancel a selection, click anywhere in the document.
- To undo a deletion, click Edit, and then click Undo.
- To select all the elements in a document, click Select, and then click All.

Creating an Arc

1. On the Tools menu, click Arc. (or click on the Arc button  located on the tool bar.)
2. Click the point on the drawing where you want the center of the arc to be located.
3. Click the point on the drawing where you want the starting point of the arc to be located.
4. Click the point on the drawing where you want the ending point of the arc to be located.

Tip

- Holding down the Alt key while clicking will enable Orthographic snap.
- Use the Input Box Tool Bar to enter specific points.

Creating a Circle

1 On the Tools menu, click Circle. (or click on the Circle button  located on the tool bar.)
2 Click the point on the drawing where you want the center of the circle to be located.
3 Click the point on the drawing where you want the perimeter of the circle to be located.

Creating a Line Segment

1 On the Tools menu, click Line Segment. (or click on the Line Segment button  located on the tool bar.)
2 Click the point on the drawing where you want the starting point to be located.
3 Click the point on the drawing where you want the ending point to be located.

Tip

- Holding down the Alt key while choosing the end point will enable Orthographic snap.

Creating a Polyline

1. On the Tools menu, click Polyline. (or click on the Polyline button  located on the tool bar.)
2. Click the point on the drawing where you want the starting point to be located.
3. Click the point on the drawing to place each successive point.

Tip

- Holding down the Alt key while choosing each point will enable Orthographic snap.

Creating a Rectangle

1. On the Tools menu, click Rectangle. (or click on the Rectangle button  located on the tool bar.)
2. Click the point on the drawing where you want the first corner of the rectangle to be located.
3. Click the point on the drawing where you want the opposite corner of the rectangle to be located.

Tip

- To create a square, hold down the Alt key while placing the opposite corner.

Moving the Benchmark

1 On the Tools menu, click Benchmark. (or click on the Benchmark button  located on the tool bar.)

2 Click the point on the drawing where you want to place the benchmark.

Creating a Group

1 Select the elements you want to make part of the group.

2 On the Actions menu, click Group. (or click on the Group The Selection button  located on the Actions Toolbar.)

Tip

- Right click on an element for a pop-up menu of actions.

Defining Element Properties

1 Click on the element in the drawing you want to check properties on.
2 On the Settings menu, click Properties.

Or

1 Double click on the element.

Or

1 Right click on the element.
2 Click on Properties from the menu that pops up.

Related Topics

- Global Properties
- Default Element Properties
- Elements

Defining Default Element Properties

1 On the settings menu, click Default Properties.
2 From the pop down menu, click on the element whose properties you want to set.
3 Enter the values desired.
4 Click the OK button.

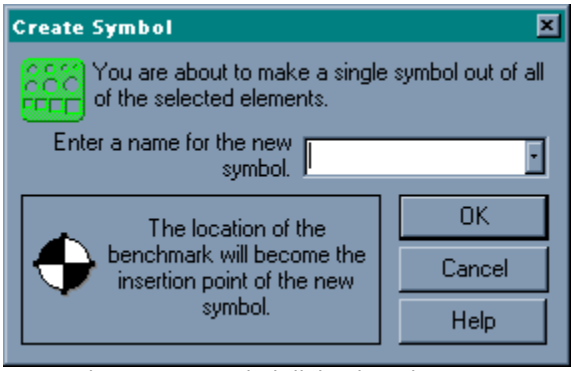
Related Topics

What are Default Element Properties?

Creating a Symbol

1 Select the elements you want to make part of the symbol.

2 On the Actions menu, click Create Symbol. (or click on the Create Symbol button  located on the Actions Toolbar)



4 On the Create Symbol dialog box that appears, type in a name for this symbol or choose from the list of default names.

5 Click the OK button.

Tips

- Be sure to have the benchmark placed correctly. It will become the insertion point for the new symbol.
- Right click on an element for a pop-up menu of actions.

Importing AutoCAD drawings

1 On the File menu, click Import.
2 In the Look In box, click the drive that contains the drawing you want to import.
3 Below the Look In box, click the folder that contains the drawing you want to import.
4 Click the drawing's name, or type it in the File Name box.
5 When the drawing is finished importing, click OK on the Import Status box.

Tip

- For a detailed description of the Import Status box, see Importing.

Exporting drawings to AutoCAD

1 On the File menu, click Export.
2 Type in a file name for this AutoCAD drawing.
3 Select the location where you want to save this file.
4 Click the Save button.

Tip

- For a detailed description of the Export Status box, see Exporting.

Creating a Text Box

1. On the Tools menu, click Text. (or click on the Text button  located on the Tools tool bar.)
2. Locate the first corner of the Text box.
3. Locate the second corner of the Text box.
4. In the Text Box Properties box, type in the text you want in the Text Box and define it's properties.
5. Click the OK button.

Placing a Defined Symbol

1. On the Tools menu, click Symbol. (or click on the Symbol button  located on the Tools tool bar.)
2. Place the insertion point of the symbol by clicking the point on the drawing.
3. Edit the properties of the symbol and selected the name from the drop down list.

Tip

- Manually enter the coordinates in the input box to more accurately place the insertion point on the drawing.

Splitting Symbols

To split a symbol into it’s original elements

1 Select the symbol you want to split.
2 On the Actions menu, click on split and select symbol from the pop-up menu.

Splitting Polylines

To split a polyline into individual lines

1 Select the polyline you want to split.
2 On the Actions menu, click on split and select polyline from the pop-up menu.

Or

1 Right click on the polyline and select Split Polylines from the pop-up menu.

Splitting Groups

To split a group into it’s original elements

1 Select the group you want to split.
2 On the Actions menu, click on split and select Group from the pop-up menu.

Or

1 Right click on the group and select Ungroup from the pop-up menu.

Duplicating Elements Across An Array

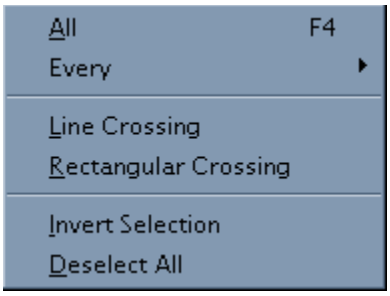
(New topic text goes here.)

Cleaning Up Intersections

(New topic text goes here.)

Selecting groups of elements

There are numerous ways of selecting various groups of elements. Select from the methods below:



All

To select all elements in a document

On the Select menu, click on All.

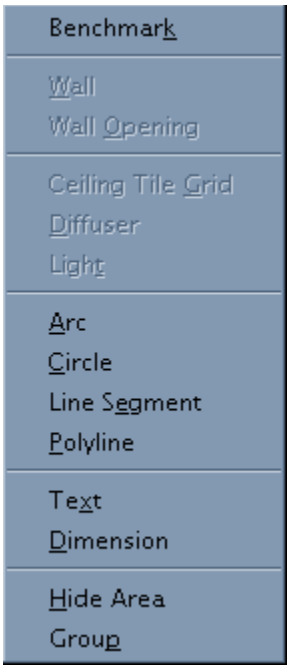
Tip

- The shortcut key is ‘F4’.

Every

To select every element of a specific type

1 On the Select menu, click on Every
2 From the pop-up menu, click on the type you want to select.



Line Crossing

To select line elements crossing a defined path

1 On the Select menu, click on Line Crossing
2 Click on the point of the drawing you want to have as the starting point, then on the point you want to have as the ending point.
3 All line elements crossing the defined line are then selected.

Rectangular Crossing

To select all rectangular elements crossing a defined path

1 On the Select menu, click on Rectangular Crossing
2 Click on the point of the drawing you want to have as the starting point, then on the point you want to have as the ending point.
3 All rectangles crossing your defined line are then selected.

Invert Selection

To deselect all currently selected elements and select all other elements

On the Select menu, click on Invert Selection

Deselect All

To deselect all elements

On the Select menu, click on Deselect All