Symbol Editor

User Guide

Product version 3.2

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Conventions used in this guide

Typographical conventions

The following typographical conventions are used in this guide:

Font	Usage
Bold	Any text that you see in the user interface appears in **bold**. This font is used, for example, for window and dialog box titles, box and button names, and list items.
Italic bold	New terms are in ***italic bold*** when they appear in the current context for the first time.
`Monospace`	Extracts of program code, HTML, or other material that you would normally edit in a text editor, appear in `monospaced` font. This font is also used for file names and folder paths, and for any text that you should type yourself.

Noteboxes

The following types of noteboxes are used in this guide:

A **tip** might introduce a shortcut, or suggest alternative ways of doing things.

A **note** draws attention to details that you might easily overlook. It can also point you to other information in this guide that you might find useful.

You should always read very **important notes and warnings**, like this one. They will help you avoid making serious mistakes, or wasting your time.

This symbol indicates **advanced or highly technical information** that is usually of interest only to advanced or technically-oriented readers.

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Show or hide background image 49

1 About Symbol Editor

Symbol Editor is for creating, modifying and managing symbols and symbol files in your products.

Find out more:

Main features of Symbol Editor (7)

What are primitives? (7)

What are symbols? (8)

What are symbol files? (9)

1.1 Main features of Symbol Editor

With Symbol Editor you can do the following:

- View and modify symbol and font files.
- Create symbols whose line, color, fill or other properties are determined by the product at run-time when the symbol is used at run-time.
- Fine-tune the drawing order of the symbol primitives.
- Import graphics from AutoCAD and MicroStation files.
- Use a background image as a drawing aid to draw a symbol that is available only in bitmap format.

See also

Symbol files (19)

Modifying primitive attributes (39)

Modifying transparent primitives (42)

Importing AutoCAD or MicroStation files (47)

Using a bitmap file as a background image (48)

1.2 What are primitives?

Primitives are the building blocks of symbols.

A symbol is made up of primitives and their combinations such as lines, polygons, arcs, circles, rectangles, filled areas, and text.

Primitives have properties such as line color, fill color or size. The properties of the primitives determine the final appearance and are defined with attributes.

See also

Symbol primitives (29)

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1.3 What are attributes?

Attributes define various properties of symbols in Symbol Editor. Attributes determine things such as the size, color, font and output options of a primitive. You can modify attributes through primitive-specific property dialog boxes.

The attributes can be fixed in the symbol file or they can be defined at run-time by the product. The run-time defined attributes are called *transparent attributes*. Transparency allows the product to display the symbol, for example, in different colors for different contexts on the screen.

Here are the terms you should be familiar with.

Term	Description
Current attributes	Attributes of the currently selected primitive i.e. properties of line, fill or font. Attribute values can be fixed or transparent.
Default attribute value	If you select the **Default** value for an attribute instead of using one of Symbol Editor's preset values or a product-specific value, you make the attribute transparent, and the product determines the value for this attribute at run-time.
Fixed attributes	A fixed attribute value is specified in Symbol Editor. It applies to the selected primitive and all the primitives below the selected one in the **Primitive List** down to a primitive that defines another fixed value. Fixed values override transparent values
Selection attributes	Attributes of the selected primitive.
Transparent attributes	A transparent attribute is specified by the product when it uses the symbol. In Symbol Editor transparent attributes appear in Symbol Editor default values and do not have an effect on the final symbol.

See also

Opening the attributes dialog box (39)

Setting attributes for new primitives (40)

Making an attribute transparent (40)

Modifying line color, type and width (41)

Modifying fill color and type (41)

Modifying font color, type and dimensions (42)

1.4 What are symbols?

Symbols are used for a variety of different purposes, for example to represent parts used in a construction assembly, to denote electrical network items such as distribution stations or utility poles; or to represent buildings, highways or parks.

You create symbols with Symbol Editor and save them in a symbol file with the file extension .sym.

You use symbols in your product. The output options of symbols may vary between different products. Basically symbols can be output on the screen, to a printer or to a file.

See also Symbols (23)

1.5 What are symbol files?

A symbol file is a collection of individual symbols. A symbol file can contain up to 256 symbols. Individual symbols are identified with numbers from 0 to 255.

NOTE: Do not modify the standard symbol files delivered with your product. If you need to modify any symbols, copy the original symbol file and work on the copy and keep the original symbol file intact.

See also Symbol files (19)

2 User interface overview

This is an overview of the Symbol Editor user interface and its basic features.

Find out more:

Interface components (11)

Setting up the drawing grid (14)

Symbol Editor windows (15)

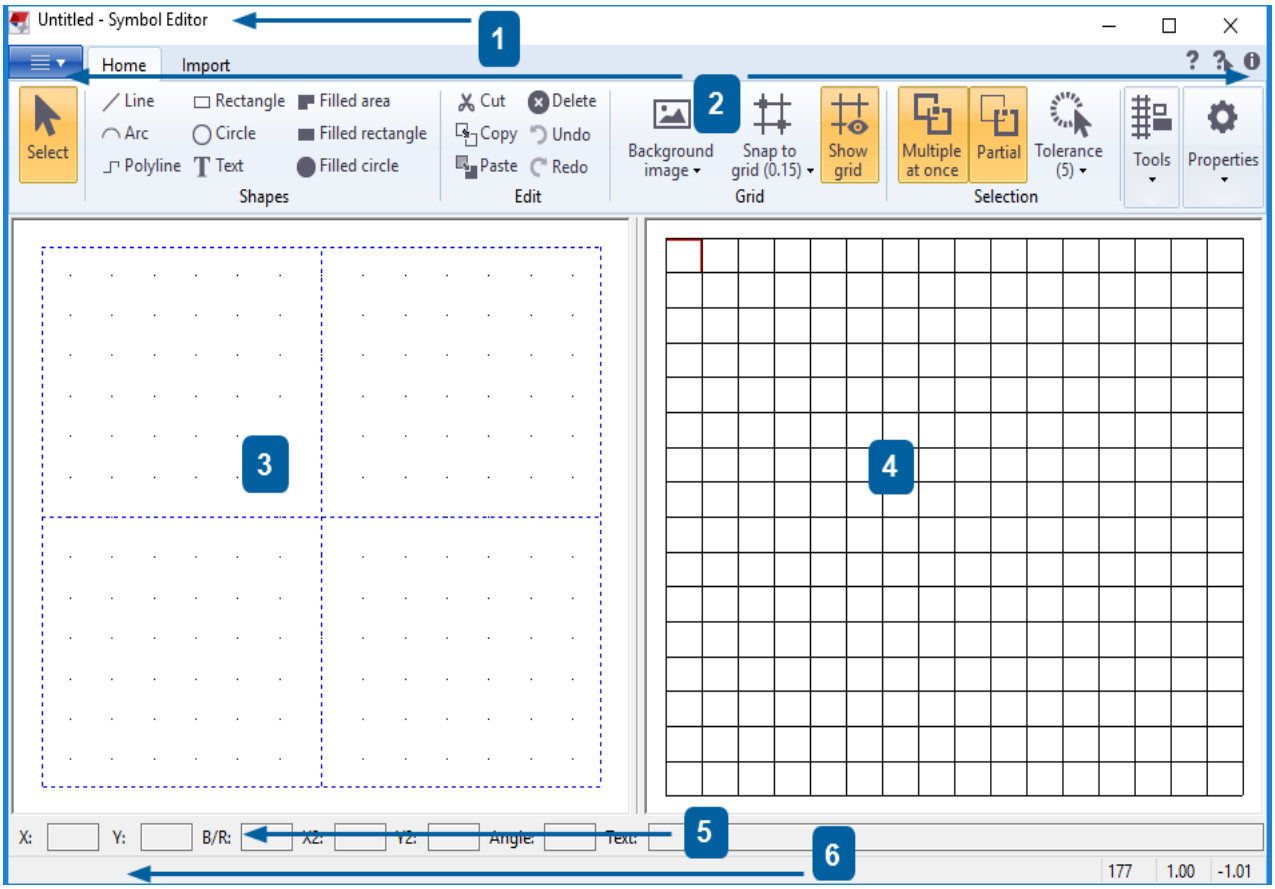
2.1 Interface components

This is an overview of the Symbol Editor user interface components.

The size of the main window can be adjusted to suit your preferences.

1. The title bar displays the Symbol Editor program name and the name and path of the currently loaded file. If no file is open at the moment, it displays the text **Untitled**. The menu bar contains program commands.
2. The ribbon commands run the most common file, drawing and modifying operations.
3. The **Edit workarea**.
4. The **Library workarea**.
5. The **Value bar**.

6. The **Status bar**.



Find out more:

Library workarea (12)

Edit workeara (13)

Value bar (13)

Status bar (13)

Symbol Editor ribbon (14)

Library workarea

The **Library workarea** shows the contents of the current symbol file, so you can select a symbol to modify. There are 256 symbol slots, indexed from 0 to 255, each containing a single symbol.

Symbols are identified by the index number of the slot. Click a symbol in the library to see the index number in the **Status bar**.

See also

Creating a new symbol in Symbol Editor (24)

Selecting a symbol to modify (25)

Cutting, copying, pasting and deleting symbols in Symbol Editor (26)

Status bar (13)

Arranging symbols in Symbol Editor (25)

Edit workeara

The **Edit workarea** shows the symbol that you have selected in the **Library workarea** so you can create new primitives or modify the existing ones. The sizes and distances are measured in world units.

The size of the **Edit workarea** is 2x2 world units. The coordinate system is a regular Cartesian coordinate system:

- the origin (x=0 and y=0) is in the center of the workarea
- x is the horizontal distance from the origin in world units
- y is the vertical distance from the origin in world units
- values increase up and right and decrease down and left from the origin.

The world units do not determine the final size of the symbol. Instead, they define the proportions so you can enlarge or reduce the symbol in your product with a constant scaling rate, or set the size in pixel units.

For more details on using symbols in your product, refer to the product documentation.

See also Symbol primitives (29)

Modifying the text primitive size (36)

Value bar

The **Value bar** appears below the workareas in the Symbol Editor main window. You can view and modify the fields that describe the location, size and some primitive-specific properties of the primitive that you have selected in the **Edit workarea**.

Field	Description
X	Sets the X-coordinate of the selected primitive's starting point.
Y	Sets the Y-coordinate of the selected primitive's starting point.
X2	Sets the X-coordinate of the selected primitive's ending point.
Y2	Sets the Y-coordinate of the selected primitive's ending point.
B/R	Applies only to lines, arcs and circles. Sets the bulge factor if a line or an arc is selected, or radius if a circle is selected.
Angle	Applies only to text primitives. Sets the rotation angle of the selected text primitive.
Text	Applies only to text primitives. Sets the text string of the selected text primitive.

See also Modifying the text primitive string (36)

Status bar

The **Status bar** appears at the bottom of the main window. As you move the mouse pointer in the main window, you see:

- tool tips for the selected command

- the index number of the symbol that the mouse pointer is on
- x- and y-coordinates of the mouse pointer in the **Edit workarea**.

Symbol Editor ribbon

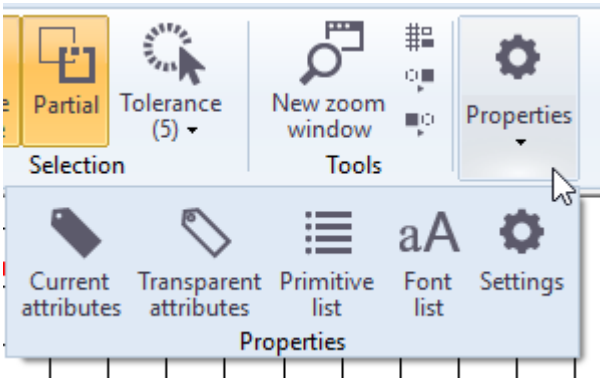
You can select the most common symbol file, symbol and primitive modification operations from the ribbon in the Symbol Editor main window.

Active command buttons are highlighted on the ribbon.

There are buttons that have no menus.

Split command buttons allow you to define grid spacing and picking tolerance in the **Edit workarea**.

Depending on how large the main window is, you can select commands from a list. Resize the window to show all ribbon commands.



See also

Interface components (11)

Edit workeara (13)

Setting the grid size (15)

Setting picking tolerance for the grid (15)

2.2 Setting up the drawing grid

Here you will find out more about the options in Symbol Editor that allow you to customize drawing grid options, such as specifying the dimensions, visibility and dynamics of the drawing grid.

Activating the grid (14)

Setting the grid size (15)

Setting picking tolerance for the grid (15)

Showing or hiding the grid (15)

Activating the grid

The drawing grid is an aid for drawing primitives in the **Edit workarea**. When the grid is active, each click snaps to the nearest grid point, so you can easily draw regular shapes.

On the **Grid** ribbon, click **Snap to grid** to activate or deactivate the grid.

See also

Setting the grid size (15)

Setting picking tolerance for the grid (15)

Showing or hiding the grid (15)
Snapping a primitive to the grid (37)

Setting the grid size

Set the grid size in order to facilitate the drawing of symbols and to customize the drawing interface.

To set the size of the drawing grid, click the split button **Snap to grid** on the **Grid** ribbon and choose the grid spacing value.

Grid settings are not saved across sessions.

See also

Activating the grid (14)
Showing or hiding the grid (15)
Setting picking tolerance for the grid (15)
Snapping a primitive to the grid (37)
Selecting multiple primitives with one click (33)

Setting picking tolerance for the grid

Set the picking tolerance on the grid in order to facilitate the drawing of symbols and to customize the drawing interface.

To set the pick tolerance:

1. On the **Selection** ribbon, click **Tolerance**.
2. Set the maximum distance (in pixels).

Setting the distance means that you do not need to place the cursor right on top of a primitive or symbol in order to select it.

Picking tolerance settings are not saved across sessions.

See also

Setting the grid size (15)
Activating the grid (14)
Snapping a primitive to the grid (37)

Showing or hiding the grid

Activating the grid does not automatically make it visible. On the other hand, the grid may be visible without being active.

On the **Grid** ribbon, click **Show grid** to show or hide the grid.

See also

Activating the grid (14)
Setting the grid size (15)

2.3 Symbol Editor windows

The Symbol Editor main window displays the symbols of the currently loaded file in the **Library workarea** and if you select a symbol you can view and modify it in the **Edit workarea**. You can open one file at a time. You can create zoom windows from either one of the workareas in order to work with symbol details. Here you will find out more about zoom windows and browsing in Symbol Editor windows.

Find out more:

Creating a new zoom window in Symbol Editor (16)

Panning in a Symbol Editor zoom window (17)

Zooming in and out in a Symbol Editor zoom window (17)

Browsing through the view history in a Symbol Editor zoom window (17)

Restoring the original view in a Symbol Editor zoom window (17)

Turning a Symbol Editor zoom window into magnifier (17)

Creating a new zoom window in Symbol Editor

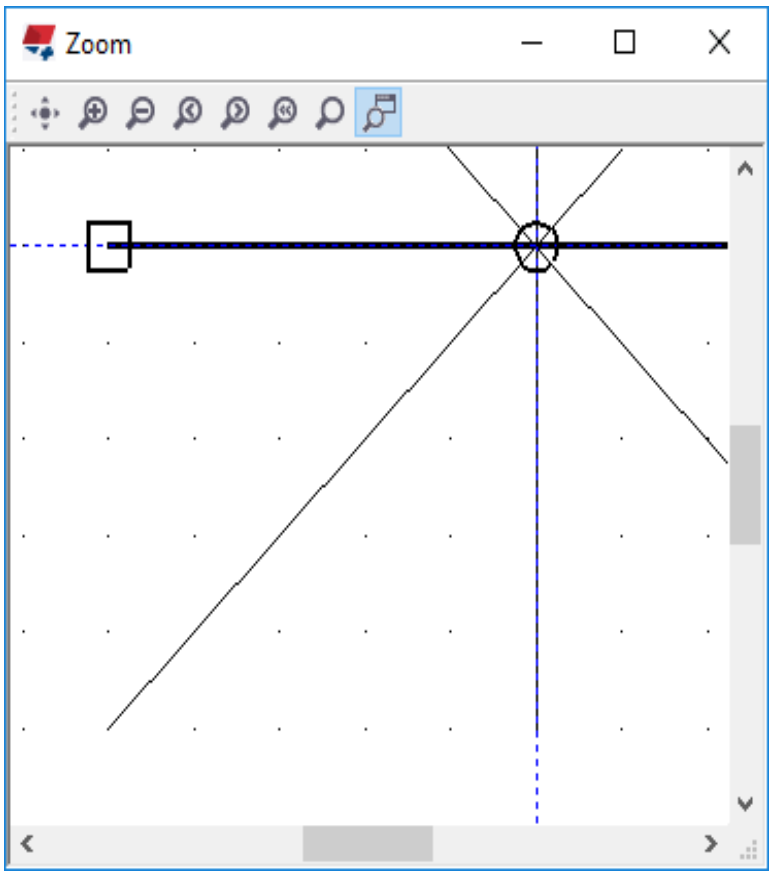
You can create independent zoom windows for both Symbol Editor workareas. This allows you to modify a symbol in an enlarged workarea. The zoom window functionality is inherited from the workarea.

In the **Library workarea** window you can select symbols. In the **Edit workarea** window you can modify symbols.

To create a new zoom window:

1. On the **Tools** ribbon, click **New Zoom Window**.
2. Then do one of the following:
   - Drag over the area you want to view in the new window.
   - Click a symbol, centering the display around the point you click.

   The zoom window opens and displays the selected area or symbol.



See also Zooming in and out in a Symbol Editor zoom window (17)

Panning in a Symbol Editor zoom window

Panning is the easiest way to position the view in a Symbol Editor window.

To pan in a zoom window:

1. Click the **Pan** button in the **Zoom** toolbar.
2. Drag in the zoom window to pan, or click to set the center point of the viewing window.

See also Restoring the original view in a Symbol Editor zoom window (17)

Zooming in and out in a Symbol Editor zoom window

Enlarge the current zoom window to see symbols in more detail.

To enlarge the display in the current zoom window:

1. Click the **Zoom In** button in the **Zoom** toolbar.
2. Drag over the area you want to zoom in, or click to zoom in to the next preset percentage.
   The display is centered around the point you click.

To zoom out and reduce the display in the current zoom window:

1. Click the **Zoom Out** button in the **Zoom** toolbar.
2. Click to zoom out to the previous preset percentage.
   The display is centered around the point you click.

See also Restoring the original view in a Symbol Editor zoom window (17)

Browsing through the view history in a Symbol Editor zoom window

Browse through history of your actions when you need to review your work. You must have a zoom window open in order to view the history.

Do the following:

- Click the **Previous View** button to go back in the viewing history in the zoom window.
- Click the **Next View** button to go forward in the viewing history in the zoom window.

See also Creating a new zoom window in Symbol Editor (16)

Restoring the original view in a Symbol Editor zoom window

Click the **Original View** button in the zoom window to return to the original view.

The zoom window view will be restored to what it was when you first opened that specific zoom window.

See also Creating a new zoom window in Symbol Editor (16)

Turning a Symbol Editor zoom window into magnifier

You can turn a zoom window into a magnifier and magnify a part of either the **Library** or the **Edit workarea** in the zoom window.

You can magnify only one workarea at a time, i.e. the workarea that is displayed in this zoom window.

To turn a zoom window into a magnifier:

1. Click the **Magnifier** button in the **Zoom** toolbar.
2. Move the mouse into the workarea displayed in the zoom window. The view in the zoom window changes as you move the mouse.
3. Click **Select** to end the current command.

See also Browsing through the view history in a Symbol Editor zoom window (17)

Restoring the original view in a Symbol Editor zoom window (17)

3 Symbol files

This is an overview of symbol files and discusses how they are created and modified.

Find out more:

Setting a font folder in Symbol Editor (19)

Setting a font list for the symbol file (19)

Creating a new symbol file in Symbol Editor (20)

Opening a symbol file (21)

Saving a symbol file (21)

3.1 Setting a font folder in Symbol Editor

Symbol Editor can access only the font files in the same folder as the program file **SymEd.exe** or in the folder specified in the **Settings** dialog box.

To set the font folder in Symbol Editor:

1. In the **Properties** ribbon, click the **Settings** button.
   The **Settings** dialog box opens.
2. In the **Font folder** field, click the folder button to open the location from which you want to select the folder.
3. Select the folder and click **Select Folder**.
4. Click **Close** to complete the operation.
   You have to restart Symbol Editor in order for the preferences to take effect.

Symbol Editor does not support TrueType, OpenType or PostScript font technologies.

See also Setting a font list for the symbol file (19)

3.2 Setting a font list for the symbol file

Each symbol file must define a font list that determines the fonts to use with text primitives. Symbol Editor accepts only the proprietary font files (*.FON). They are delivered with your product, for example romsim.fon and fixfont.fon. You can use up to 20 different fonts in a symbol file.

If you do not define the font list, you can use only the default font of your product. We recommend that you set the font list before you create symbols and use those fonts with your text primitives.

Note: Before you get started you must define the folder where the fonts are stored.

To set or modify the font list of the currently open symbol file:

1. In the **Properties** ribbon, click the **Font list** button. This opens the **Font List** dialog box.
2. In the **Name** column, click on the line that you want to modify.
   The number in the left most column is the font index.
3. Type in the name of the font, for example "romsim" or "fixfont".
   The name must be exactly the same as the base name of the corresponding font file.
4. Repeat steps 2 and 3 to define all the fonts that you want to use in symbols of the current symbol file.
5. Click **Close**.

Symbol Editor loads the fonts immediately and you can use them in your symbol.

Symbol Editor can access only the font files in the same folder as the program file **SymEd.exe** or in the folder specified in the **Settings** dialog box.

Symbol Editor does not support TrueType, OpenType or PostScript font technologies.

When using fonts in symbols be sure that your product has the correct settings for exporting content. Consult your product documentation for more information.

See also Setting a font folder in Symbol Editor (19)

Modifying font color, type and dimensions (42)

3.3 Creating a new symbol file in Symbol Editor

It is a rare occasion that you will create a symbol file from scratch.

In case you need to, do the following:

1. On the **File** menu, click **New**.
   This creates a new, empty symbol file. If you already have a symbol file open, Symbol Editor asks if you want to save changes to the current file.

- Click **OK** to save the changes and close the current file before creating a new file.
- Click **No** to close the current file without saving changes and to create a new file.
- Click **Cancel** to return to work with the current symbol file and cancel the creation of a new file.

2. Set the font list for the new file.
3. You can now create a new symbol in an empty slot of the symbol file, by clicking a primitive button on the ribbon.

See also Setting a font list for the symbol file (19)

Saving a symbol file (21)

Creating a new symbol in Symbol Editor (24)

3.4 Opening a symbol file

Open a symbol file in order to modify symbols and primitives.

Do the following:

1. On the **File** menu, click **Open**, which opens the file selection dialog box.
2. Select the file to open and click **OK**.

   If you already have a file open, Symbol Editor asks if you want to save changes to the current file. Choose the desired option.

   Be sure you have set the font file before getting started.
3. Now you can modify and add to the symbol file.

With Symbol Editor you can also view and modify font files (*.FON).

See also Setting a font list for the symbol file (19)

Saving a symbol file (21)

Symbols (23)

Symbol primitives (29)

Bitmaps and pictures in Symbol Editor (47)

3.5 Saving a symbol file

Save a file to keep the contents intact.

Do the following:

1. On the **File** menu, click **Save**.

   To save a symbol file with a new name, location or format, click **Save As** on the **File** menu.

   - For a symbol file, add the extension .SYM after the file name.
   - For a font file, add the extension .FON after the file name.
2. When you save the file for the first time, the file selection dialog box opens so you can specify the name and location for the file.

   If you specify an existing file name, Symbol Editor will overwrite the existing file without a warning. Make sure all files you want to keep intact are write-protected (read-only).

3. Click **Save**.

See also Creating a new symbol file in Symbol Editor (20)
Opening a symbol file (21)

4 Symbols

Here you will find out more about creating and modifying symbols.

Find out more:

Using symbols in products (23)
Selecting items in Symbol Editor (23)
Creating a new symbol in Symbol Editor (24)
Selecting a symbol to modify (25)
Deselecting a symbol (25)
Arranging symbols in Symbol Editor (25)
Magnifying and modifying a symbol in Symbol Editor (26)
Cutting, copying, pasting and deleting symbols in Symbol Editor (26)

4.1 Using symbols in products

Use Symbol Editor files in products for creating user interface items. Some products (Tekla Structures, for example) use symbol files directly, others (Trimble NIS, for example) use a combination of symbol and presentation files created with Presentation Editor (PresEd). To find out how your product uses symbol files, refer to the product documentation.

You can adjust symbols for your own needs by modifying symbol files and introduce your own customized symbols without making changes in the product.

NOTE: Do not modify the standard symbol files delivered with your product. If you need to modify any symbols, copy the original symbol file and work on the copy. Keep the original symbol file intact.

4.2 Selecting items in Symbol Editor

Here you find out more about the options in Symbol Editor that affect selecting symbols or primitives.

Extending or reducing the amount of selected items (23)
Setting the options for selecting symbols (24)

Extending or reducing the amount of selected items

In Symbol Editor you can use the common Windows shortcut keys to extend or reduce the amount of the selected items.

To...	Do this...
Extend the selection by selecting more items	Hold down the **Ctrl** key while selecting.
Select several items sequentially	Hold down the **Shift** key and click the first and the last item of the sequence that you want to select. This applies when selecting items in the **Primitive List**.
Deselect an item	Hold down the **Ctrl** key and click a selected item. To deselect all selected items, click outside the grid.

See also

Selecting a primitive in the Edit workarea (33)

Selecting a primitive in the Primitive List (34)

Selecting multiple primitives with one click (33)

Selecting primitives partially inside the drag frame (33)

Arranging symbols in Symbol Editor (25)

Setting the options for selecting symbols

In Symbol Editor you can specify how to select symbols to modify in the **Library workarea**. By default you have to double-click a symbol, but you can enable the single-click option by doing the following:

1. In the **Properties** ribbon, click the **Settings** button. This opens the **Settings** dialog box.
2. Under **Options**, click **Use single click to select symbol from symbol grid**.
3. Click **Close**.

4.3 Creating a new symbol in Symbol Editor

Create new symbols if they do not already exist in the currently open symbol file.

Be sure you have set the font file before creating a new symbol.

Do the following:

1. Click **Select** to end the current command.
2. Double-click an empty symbol slot in the **Library workarea**.
   A red outline in the slot indicates that you can modify the symbol in the **Edit workarea**.
3. Draw the symbol by inserting primitives, importing AutoCAD or MicroStation files, or to draw a copy of an image in a bitmap file, use it as a background image in Symbol Editor.
4. On the **File** menu, click **Save** to retain the changes.

See also

Setting a font list for the symbol file (19)

Inserting a primitive (32)

Using a bitmap file as a background image (48)

Importing AutoCAD or MicroStation files (47)

4.4 Selecting a symbol to modify

Open a symbol file to start modifying symbols.

Do the following:

1. Click **Select** to end the current command.
2. Double-click the symbol you want to modify in the **Library workarea**.

   You can also use the arrow keys to move around the **Library workarea** slot by slot.

   A red outline in the slot indicates that you can modify the symbol in the **Edit workarea**.

Note: If you turn on the **Single Click Select** option, you will be able to select a symbol to modify with one click.

See also Selecting items in Symbol Editor (23)

Magnifying and modifying a symbol in Symbol Editor (26)

4.5 Deselecting a symbol

Deselect symbols to disable modifying operations.

Do the following:

1. Click **Select** to end the current command.
2. To deselect all symbols, click outside the symbol grid in the **Library workarea** or in an empty area in the **Edit workarea**.

   To deselect one symbol, hold down the **Ctrl** key and click the symbol slot.

Note that if you want to change the symbol that you are modifying in the **Edit workarea**, simply select a new symbol to modify.

See also Selecting a symbol to modify (25)

4.6 Arranging symbols in Symbol Editor

Arrange symbols in the **Library workarea** when you want to reorder them according to your preferences. Note that products identify each symbol by the symbol id, which is determined by the symbol's location in the **Library workarea**.

Do the following:

1. Click **Select** to end the current command.
2. Click the symbol that you want to move to a different slot. A black outline around the selection indicates that you can proceed.
3. Drag the selected symbol to the desired slot.

Hold down the **Ctrl** key to select several symbols. Release the **Ctrl** key and drag to move the symbols to different slots. The other symbols are moved with the one that you drag, keeping the relations between slots intact.

Arranging symbols also changes the symbol ids in Symbol Editor and in the products that use the symbol library in question. This will affect the output in your product.

See also Extending or reducing the amount of selected items (23)

4.7 Magnifying and modifying a symbol in Symbol Editor

Enlarge a symbol when you need to see it in more detail.

Do the following:

1. Select the symbol you want to modify.
2. On the **Tools** ribbon, click the **New zoom window** button to create a zoom window that displays the **Edit workarea**.
3. Resize the zoom window to suit your needs.

   Take care that you can see the drawing tools of the Symbol Editor main window.
4. Zoom in and pan the view in the zoom window to your liking.
5. Modify the symbol in the zoom window. You can select drawing tools and commands from the Symbol Editor ribbon, and select, insert and modify primitives in the zoom window.

See also Symbol Editor windows (15)

4.8 Cutting, copying, pasting and deleting symbols in Symbol Editor

You can cut or copy symbols and paste them into another location. Symbol Editor saves the most recently cut or copied symbol in the symbol cut buffer. Symbol Editor maintains cut buffers until you exit the program. You can copy symbols across symbol files by opening symbol files during a Symbol Editor session. Delete a symbol from a file when you no longer need it.

To cut, copy, paste and delete symbols, do any of the following:

To...	Do this...
Cut a symbol	Select the symbol and click the **Cut** button. If you want to delete a symbol without adding it to the cut buffer, click the **Delete** button.
Copy a symbol	Select the symbol and click the **Copy** button.
Paste a symbol	To paste a symbol, click the **Paste** button, and select a target slot in the **Library workarea** or vice versa.
Delete a symbol	To delete a symbol, select a symbol in the **Library workarea** and click the **Delete** button.

See also Selecting items in Symbol Editor (23)
Selecting a symbol to modify (25)
The cut buffer in Symbol Editor (27)

The cut buffer in Symbol Editor

All cut or copied objects (whole symbols or primitives) are stored in the Symbol Editor cut buffers. They can be retrieved in Symbol Editor with the **Paste** command. The **Library workarea** and the **Edit workarea** both have their own cut buffers that are not connected to each other. If you cut or copy a whole symbol in the **Library workarea** you can only paste it into another symbol slot. If you cut or copy individual primitives you can only paste them into the **Edit workarea**.

See also Cutting, copying, pasting and deleting symbols in Symbol Editor (26)
Cutting, copying, pasting and deleting primitives (35)

5 Symbol primitives

Here you will find out more information about inserting and modifying primitives and primitive attributes.

Find out more:

Symbol Editor primitives (29)

The Primitive List (30)

Inserting primitives in Symbol Editor (32)

Selecting primitives in Symbol Editor (33)

Modifying primitives (34)

Modifying primitive attributes (39)

Modifying transparent primitives (42)

5.1 Symbol Editor primitives

Individual primitives are basic geometric shapes: lines, arcs, circles, text strings and filled areas.

Primitive groups are shapes that consist of primitives: rectangles (four lines), polylines and polygons (groups of lines) and free forms (groups of lines and arcs).

The primitives of a symbol are listed in the **Primitive List**. Use this list as an aid while drawing and modifying primitives.

If you want to draw with the help of the grid, ensure the grid is active.

Here is a list of the primitives and any exceptions that apply to them. To insert primitives, click the related button on the **Shapes** ribbon.

Primitive	Notes
Line	Click at both ends of the line or insert by dragging.
Polyline	Move the mouse and click to define each vertex point, double-click to end drawing. The lines building the polyline or polygon appear in the **Primitive List** as separate line primitives. To modify the attributes of the polyline or polygon, select all of its lines.

Primitive	Notes
Rectangle	Click to give two opposite corner points or draw by dragging. The lines building the rectangle appear in the **Primitive List** as separate primitives. To modify the rectangle, you must modify the separate lines.
Circle	Click to define the center point and click to define the radius. You can also draw by dragging.
Arc	Click at both ends of the arc, then move the mouse and click to define the bulge of the arc.
Filled rectangle	Insert the same way as a Rectangle. A filled rectangle appears in the **Primitive List** as a "Fill area".
Filled circle	Insert the same way as a circle. A filled circle appears in the **Primitive List** as a "Fill area".
Filled area	Click to define a vertex point, and continue until you have clicked all vertex points. If you want to arch the line starting from the most previously given vertex, do not click but drag to give the next vertex point. This both arches the line and inserts the new vertex. The point where you start dragging becomes the next vertex point. Click the starting point to finish drawing.
Text	Enter text into the dialog box that appears and click **OK**. Double-click in a symbol slot to define the lower left corner of the text.

See also

Activating the grid (14)

Setting a font list for the symbol file (19)

Making a fill area from lines (35)

Modifying the text primitive string (36)

Modifying the text primitive size (36)

Making lines from a fill area (35)

Rotating primitives (38)

Modifying line color, type and width (41)

Modifying font color, type and dimensions (42)

5.2 The Primitive List

The **Primitive List** displays the symbol primitives that appear in the **Edit workarea**. Symbol Editor adds new primitives at the end of the list as you draw them.

Transparent primitives are effective only when they appear at the top of the list. You can use the list as an aid when selecting primitives to modify or when arranging the transparent primitives at the top of the list after drawing them.

Symbol Editor updates the primitive list automatically when you create or delete primitives.

Find out more:

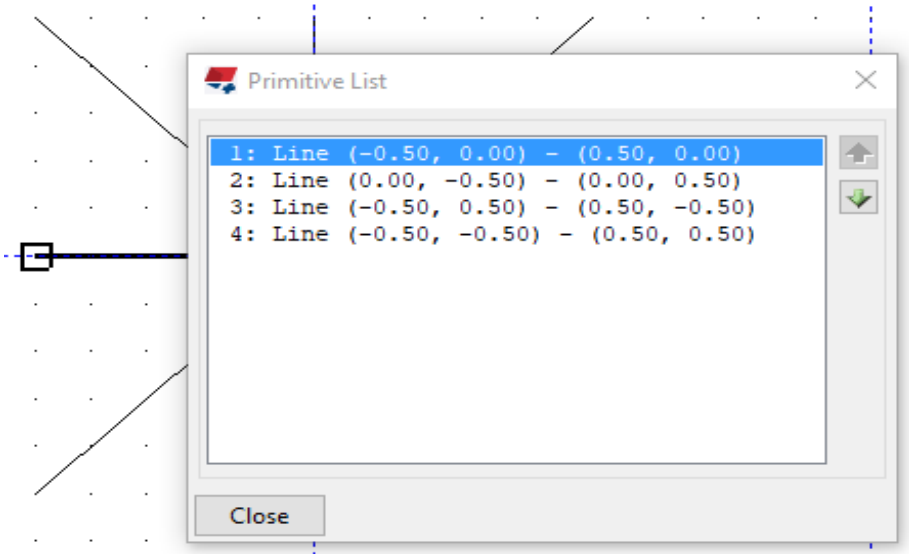
Displaying the Primitive List in Symbol Editor (31)
Arranging primitives in Symbol Editor (31)

Displaying the Primitive List in Symbol Editor

Display the **Primitive List** when you want to view or modify the list.

In the **Properties** ribbon, click the **Primitive List** button to display the primitive list of the current symbol.

For example, when you create a rectangle, Symbol Editor adds four line primitives to the list. The following shows an example of the **Primitive List** dialog box displaying three fill areas:



See also

Arranging primitives in Symbol Editor (31)
Selecting a primitive in the Primitive List (34)

Arranging primitives in Symbol Editor

The order of primitives in the **Primitive List** has a significant effect on their appearance. Transparent primitives are effective only if they appear at the top of the list before primitives that have fixed attributes. Symbol Editor adds new primitives at the end of the list as you draw them so you may need to arrange their order in the list later on.

Do the following:

1. In the **Properties** ribbon, click the **Primitive List** button to display the list of primitives in the current symbol.
2. Select the primitive that you want to order.

   The selection is highlighted both in the **Primitive List** and in the **Edit workarea**.
3. Order the selected primitive by moving it up or down in the list by clicking the **Move Up** or **Move Down** arrow.

If you select an existing primitive before you draw a new one, Symbol Editor adds the new one in the **Primitive List** before it.

See also

Selecting primitives in Symbol Editor (33)
Opening the attributes dialog box (39)
Making an attribute transparent (40)

5.3 Inserting primitives in Symbol Editor

Here you will find out more about inserting primitives.

Inserting a primitive (32)

Draw several primitives running with one tool (32)

Draw several primitives running with all tools (32)

Inserting a primitive

Insert primitives to complete the design of the symbol you are working on.

Do the following:

1. Select the primitive you want to insert from the **Shapes** ribbon.
2. Drag or click to specify the size for the primitive in the **Edit workarea**.
   The definition of starting point and ending point depends on the primitive type.

   Note that you can rotate line, arc and text primitives while dragging.
3. If you use both transparent and fixed primitives, arrange the **Primitive List** so that the transparent ones are at the top of the list, and fixed primitives after them.

See also

User interface overview (11)

Symbol Editor primitives (29)

Setting attributes for new primitives (40)

The Primitive List (30)

Cutting, copying, pasting and deleting primitives (35)

Draw several primitives running with one tool

If the continuous drawing mode is switched off, you must repeatedly click a primitive button in order to draw new primitives.

You can make a single drawing tool of the **Shapes** ribbon temporarily continuous. This way you can draw several primitives of the same type without having to select the tool again.

Do the following:

1. Click the **Settings** button in the **Properties** section of the ribbon.
   The **Settings** dialog box opens.
2. In the **Options** section, click **Use continuous mode with all drawing tools**.
3. Click **Close**.
4. On the **Shapes** ribbon, click the primitives you want to draw.
5. Draw the primitives in the **Edit workarea** and modify them as needed.
6. On the **File** menu, click **Save** to retain the changes.

Symbol Editor retains the settings across sessions.

See also

Draw several primitives running with all tools (32)

Draw several primitives running with all tools

You can draw several primitives at a time with any tool in the **Shapes** ribbon without having to reselect it when the continuous drawing mode is on.

When continuous drawing is on, you must click the **Select** button or press **Esc** to end the current command before you can select symbols or primitives to modify.

Do the following:

1. Click the **Settings** button in the **Properties** section of the ribbon.
   The **Settings** dialog box opens.
2. In the **Options** section, click **Use continuous mode with all drawing tools**.
3. Click **Close**.
4. On the **Shapes** ribbon, click the primitives you want to draw.
5. Draw the primitives in the **Edit workarea**, using as many primitive types as you require. Modify them as needed.
6. On the **File** menu, click **Save** to retain the changes.

Symbol Editor retains the settings across sessions.

See also Draw several primitives running with one tool (32)

5.4 Selecting primitives in Symbol Editor

Here you find out more on how to select and deselect primitives.

Selecting multiple primitives with one click (33)

Selecting primitives partially inside the drag frame (33)

Selecting a primitive in the Edit workarea (33)

Selecting a primitive in the Primitive List (34)

Selecting multiple primitives with one click

Enable the picking of multiple primitives in order to speed up your work.

Do the following:

1. In the **Selection** ribbon, click the **Multiple at once** button.
2. Consider modifying the pick tolerance settings so that picking primitives need not be exact.

The result is that a single mouse click in the **Edit workarea** selects all primitives within the pick tolerance, not only the nearest one.

See also Selecting primitives partially inside the drag frame (33)

Setting picking tolerance for the grid (15)

Selecting primitives partially inside the drag frame

If you drag the mouse to select primitives, you can modify the settings so that selections need not be so precise.

In the **Selection** ribbon, click the **Partial** button to enable the selection of all primitives that are either completely or partially inside the drag frame.

See also Selecting multiple primitives with one click (33)

Selecting a primitive in the Edit workarea

Select primitives in the **Edit workarea** as a precursor to modifying them.

Do the following:

1. Click **Select** to end the current command.
2. Click the primitive that you want to select.
   You can also drag to select several primitives inside a rectangular area.
   All selected primitives are highlighted and you can see their resize handles.

You can also select a primitive to modify in the **Primitive List**. This is useful, for example, when you modify a symbol that is made up of several overlapping primitives.

See also Extending or reducing the amount of selected items (23)
Selecting a primitive in the Primitive List (34)

Selecting a primitive in the Primitive List

You can select a primitive to modify in the **Primitive List**. This is useful when you modify a symbol that is made up of several overlapping primitives. This also speeds up your work if you need to arrange the drawing order of primitives.

Do the following:

1. Click **Select** to end the current command.
2. In the **Properties** section of the ribbon, click the **Primitive list** button.
3. Click a primitive in the list.
   You can also drag to select multiple primitives.

Selected primitives are also highlighted in the **Edit workarea** so you can see their resize handles.

Click **Select** to deselect a primitive.

To deselect all primitives, click outside the **Library workarea** or in an empty area in the **Edit workarea**.

To deselect one primitive, hold down the **Ctrl** key and click the primitive that you want to deselect.

See also Extending or reducing the amount of selected items (23)
Arranging primitives in Symbol Editor (31)
Selecting a primitive in the Edit workarea (33)

5.5 Modifying primitives

Here you find out more on the different ways to modify Symbol Editor primitives.

Cutting, copying, pasting and deleting primitives (35)
Making a fill area from lines (35)
Making lines from a fill area (35)
Modifying the text primitive string (36)
Modifying the text primitive size (36)
Moving a primitive by dragging (37)
Snapping a primitive to the grid (37)
Resizing the primitive by dragging (37)
Moving or resizing primitives with exact coordinate values (37)
Rotating primitives (38)

Modifying the shape of a primitive (38)

Cutting, copying, pasting and deleting primitives

You can cut and copy primitives in Symbol Editor and paste them to another slot in the same symbol file or in another symbol file. Delete primitives when you no longer need them.

To...	Do this...
Cut a primitive	Select the primitive and click the **Cut** button. If you want to delete a primitive without adding it to the cut buffer, click the **Delete** button.
Copy a primitive	Select the primitive and click the **Copy** button.
Paste a primitive	Click the **Paste** button, and click in the **Edit workarea** to give the exact insertion point for the primitive.
Delete a primitive	To delete a primitive, select it in the **Edit workarea** and click the **Delete** button.

See also

Selecting items in Symbol Editor (23)

The cut buffer in Symbol Editor (27)

Making a fill area from lines

You can convert a sequence of line primitives into a filled area. This is useful, for example, when you need to group primitives that are imported from AutoCAD or MicroStation images and treat them as one object.

You can set the fill color and fill type before you select the command.

Do the following:

1. Select the line primitives you want to convert into a filled area. Note that selected lines must form a closed shape.
2. On the **Tools** ribbon, click **Convert lines to filled area**.

The lines are converted into a fill area.

See also

Setting attributes for new primitives (40)

Making lines from a fill area (35)

Making lines from a fill area

You can convert a filled area to lines.

You can set the line color, type and width of the new line primitives before you select the command.

Do the following:

1. Select the fill area primitive you want to convert to line primitives.

2. On the **Tools** ribbon, click the **Convert filled area to lines** button.

The fill area is converted into lines.

See also Setting attributes for new primitives (40)

Making a fill area from lines (35)

Modifying the text primitive size

You can modify the size of a text primitive by setting the height or width of a character.

Before modifying the size you must set the scaling properties of the text primitive. It can be either scalable or have a fixed pixel size. Scalable text is scaled together with the rest of the symbol, and pixel-sized text always appears in the given size regardless of the scaling of the symbol.

Do the following:

1. Select the text primitive you want to modify.
2. On the **Properties** ribbon, click the **Current attributes** button.
   This opens the **Selection Attributes** dialog box, where you can modify the font.
3. To set the scaling of the text, choose appropriately in the **Unit** field:
   - **World** sets the text to be scalable. This means that you will use world units to set the height and the width of text (steps 3 and 4). The characters are scaled when the symbol is scaled in a product.
   - **Pixel** sets the text to a fixed size. You will use pixel units to set the height and the width of text (steps 3 and 4). The characters are not scaled in a product, even though the rest of the symbol would appear scaled. Note that the view in the **Library workarea** may appear distorted: the text might not fit in the symbol slot because the view in there is scaled.
4. In the **Height** field, type in the new height to apply to the text primitive. The capital letters inherit the given height and lowercase characters are scaled accordingly.
5. In the **Width** field, type in the new width to apply to a single character. Each character consumes the given amount of space.

See also Modifying the text primitive string (36)

Snapping a primitive to the grid (37)

Moving or resizing primitives with exact coordinate values (37)

Modifying the text primitive string

Modify the text in a string when you need to make corrections or add or remove information.

Do the following:

1. Select the text primitive.
2. In the value bar at the bottom of the **Edit workarea**, click in the **Text** field and modify the contents.
3. Press **Enter** to the save changes and update the text.

See also Snapping a primitive to the grid (37)

Modifying the text primitive size (36)

Moving a primitive by dragging

You can move primitives by dragging them.

Do the following:

1. Click **Select** to end the current command.
2. Select the primitive that you want to move.
3. Middle-drag to move the selection around the **Edit workarea**.

If you drag with the left mouse button, you must start dragging on top of a selected object, otherwise you will make a new area selection.

See also Selecting a primitive in the Edit workarea (33)

Moving or resizing primitives with exact coordinate values (37)

Resizing the primitive by dragging

You can resize symbol primitives by dragging them, but you cannot resize text primitives in this manner.

Do the following:

1. Click **Select** to end the current command.
2. Select the primitive(s) that you want to resize.
3. Hold down the **Shift** key and drag to resize.

   Note that if you use the left mouse button, you must place the mouse pointer on top of a selected primitive when you start dragging.

   If you use the middle mouse button in dragging, you can start resizing anywhere.

You see a temporary resize box. Resizing starts when you cross any of its borders and ends when you release the mouse button.

See also Modifying the text primitive size (36)

Moving or resizing primitives with exact coordinate values (37)

Moving or resizing primitives with exact coordinate values

You can move, resize or reshape primitives by specifying exact coordinate values in world units.

You can give an exact rotation angle in degrees for text primitives.

Do the following:

1. Click **Select** to end the current command.
2. Select the primitive that you want to modify.
3. Type in the new coordinates in the value bar that appears right below the workareas of the Symbol Editor main window. Symbol Editor updates the primitive as you change the values and move to the next field.

See also Selecting a primitive in the Edit workarea (33)

Moving a primitive by dragging (37)

Resizing the primitive by dragging (37)

Snapping a primitive to the grid

You can move primitives onto the closest grid point in the **Edit workarea**.

Do the following:

1. Click **Select** to end the current command.
2. Set the grid size.
3. Select the primitive(s) that you want to snap to the grid.
4. On the **Tools** ribbon, click **Align selected objects to grid**.

The selected objects move onto the closest grid points.

Both the starting point and the ending point are placed on the closest grid points so this may also change the size or proportions of the primitive, especially if its dimensions are smaller than the distance between grid points. Coordinates are rounded, the accuracy depends on the grid size.

See also Setting the grid size (15)

Selecting a primitive in the Edit workarea (33)

Rotating primitives

Rotate the primitives in a symbol when you need to reposition them.

Do the following:

1. Click **Select** to end the current command.
2. Select the primitive(s) that you want to rotate.
3. Hold down the **Control** key and drag to rotate.
4. Save the file.

Note that if you use the left mouse button, you must place the mouse pointer on top of a selected primitive when you start dragging. The point where you start dragging is the anchor point while rotating.

If you use the middle mouse button for dragging, you can start rotating anywhere. To select the anchor point, middle-click it before you start to rotate by dragging.

You can also rotate a text primitive by typing in a new angle in the value bar that appears right below the workareas in the main window.

See also Selecting primitives in Symbol Editor (33)

Modifying the shape of a primitive

You can modify the shape of a primitive by dragging the resize handles, that appear when you select the primitive. Corner handles appear in starting and ending points of the primitive, and curved lines also have a bulge point.

Do the following:

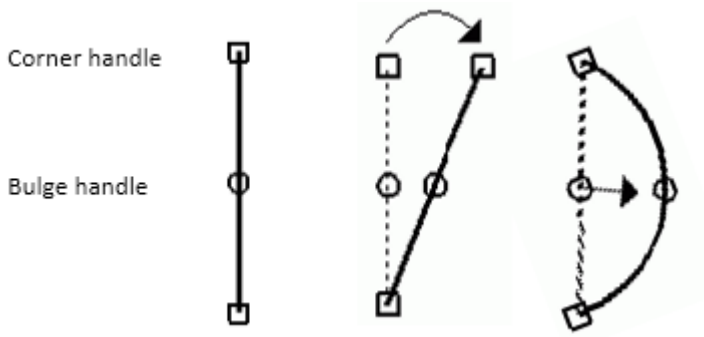
1. Click **Select** to end the current command.
2. Click a primitive to select it.

   Corner handles appear as small boxes, and bulge handles as small circles within the selected primitive.
3. Move the mouse pointer on a handle.

   Drag a corner handle to move a starting, ending or vertex point.

   Drag a bulge handle to change the curvature.

   The following figure illustrates the handles of a single straight line:



You can also modify primitive shapes by typing in new coordinates and bulge values in the value bar.

See also Selecting a primitive in the Edit workarea (33)

5.6 Modifying primitive attributes

Primitive attributes define the following properties of the primitive:

- line width, color and type
- fill color and type
- font face, color, measurement unit, height, width, slant and thickness

When you modify primitive attributes, be aware that fixed attribute values override transparent attributes across primitives. You can avoid this by ordering transparent primitives at the top of the **Primitive List**.

If you create a symbol file, which contains symbols with default attributes (**read**: transparent attributes) and save it as such; when you use the symbol file in another product, the settings for symbols in the product will override the attributes assigned in Symbol Editor.

Find out more:

Opening the attributes dialog box (39)
Setting attributes for new primitives (40)
Making an attribute transparent (40)
Modifying line color, type and width (41)
Modifying fill color and type (41)
Defining a color with the color index (41)
Modifying font color, type and dimensions (42)

Opening the attributes dialog box

You can modify primitive attributes by opening the **Selection Attributes** dialog box.

Do one of the following:

- Double-click the primitive you want to modify.
- Select the primitive you want to modify, and click the **Current attributes** button on the **Properties** ribbon.

This opens the **Selection Attributes** dialog box.

Modify the attribute values to your liking. Symbol Editor updates the appearance of the primitive on the screen as you select new values.

See also Making an attribute transparent (40)

Modifying line color, type and width (41)

Modifying fill color and type (41)

Modifying font color, type and dimensions (42)

Setting attributes for new primitives

When you draw a new primitive, Symbol Editor inserts it with the current attributes that determine the line, fill or font properties.

Do the following:

1. *Double-click* on empty area within the **Edit workarea**
   This opens the **Current Attributes** dialog box.
2. Modify the attribute values.
3. Click **Close** when you are done.

All new primitives are now added with the given attributes. Be aware that transparent attributes are overridden if preceding primitives in the **Primitive List** have **fixed values** for those attributes.

If you select the **Default** value for an attribute instead of using one of Symbol Editor's preset values or a product-specific value, you make the attribute transparent, and the product determines the value for this attribute at run-time.

See also Opening the attributes dialog box (39)

Making an attribute transparent

Make the attributes of a primitive transparent when you want the product to adjust the attributes at run-time.

Do the following:

1. Double-click the primitive you want to modify. This opens the **Selection Attributes** dialog box.
2. Set the value of the attribute that needs to be adjustable to **Default**.
3. Click **Close**.

When you are working in Symbol Editor, the default value is displayed with Symbol Editor's transparent attribute setting.

Primitives with an outline can have transparent line color, type or width. Any of the attributes may be transparent, while some of them may be fixed.

Filled primitives can have transparent fill color and type. Both attributes must be transparent, if you want to use transparency with a filled primitive.

Text primitives can have transparent font color, type and dimensions. All attributes must be transparent, if you want to use transparency with a text primitive.

See also Modifying line color, type and width (41)

Modifying fill color and type (41)

Modifying font color, type and dimensions (42)

Modifying transparent primitives (42)

Defining a color with the color index

Symbol Editor has eight preset colors, indexed from 0 to 7, which you can apply to line, fill or font. Some products use a wider selection of colors, with product-specific index numbers.

Do the following:

1. Choose the symbol you want to work with and double-click the primitive you want to modify.

   The **Selection Attributes** dialog box opens.
2. Determine what you are going to modify: line, fill or font.
3. Type the color index number in the field to the right of the **Color** list.
4. When you are done, click **Close**.
5. On the **File** menu, click **Save**.

Note that Symbol Editor may not be able to display product-specific colors correctly.

Modifying line color, type and width

You can modify the color, line type and line width of lines, arcs, polylines and circles.

Do the following:

1. Double-click the primitive you want to modify.

   This opens the **Selection Attributes** dialog box.
2. Modify the fields in the **Line** area of the dialog box.
   - **Color** - Sets the line color. Select from eight (8) preset colors, or use a product-specific color index.
   - **Type** - Sets the line type. Select a solid line or a dotted line from four preset dotted lines.
   - **Width** - Sets the line width in pixels.

   You can select **Default** in any field instead of using one of Symbol Editor's preset values. This makes the line transparent and thus adjustable in your product.

   The symbol is updated as you make the changes.
3. When you are done, click **Close**.
4. On the **File** menu, click **Save**.

See also Defining a color with the color index (41)

Modifying fill color and type

You can modify the fill color and type of fill area primitives.

Do the following:

1. Double-click the primitive you want to modify.

   This opens the **Selection Attributes** dialog box.
2. Modify the fields in the **Fill** area of the dialog box.
   - **Color** - Sets the fill color as well as the outline color. You can select from eight (8) preset colors, or use a product-specific color index.
   - **Type** - Sets the fill type. You can select a solid fill or a fill pattern from four preset patterns.

You can select **Default** in any field instead of using one of Symbol Editor's preset values. This makes all fill attributes transparent, and thus adjustable in your product.

The symbol is updated as you make the changes.

3. When you are done, click **Close**.
4. On the **File** menu, click **Save**.

See also Defining a color with the color index (41)

Modifying font color, type and dimensions

You can modify the font color, type and dimensions of text primitives.

Do the following:

1. Double-click the text primitive you want to modify.
   This opens the **Selection Attributes** dialog box.
2. Modify the fields in the **Font** area of the dialog box.
   You can select **Default** in any of the first three fields instead of using one of Symbol Editor's preset values. This makes *all* text attributes **transparent**, and thus adjustable in your product.
   - **Color** - Sets the font color. Select from eight (8) preset colors, or use a product-specific color index.
   - **Font** - Sets the font type. Select from the font list of the current symbol file.
   - **Units** - Defines the measurement unit to apply to this text primitive, world units or pixel units.
   - **Width** - Sets the width of one character in world units or pixels, depending on the value of the **Units** field.
   - **Height** - Sets the height of one character in world units or pixels, depending on the value of the **Units** field.
   - **Slant** - Sets the slanting of font, allowing you use italic typeface. Negative values (from -1 to -11) slant the text to the right.
   - **Thickness** - Sets the thickness of font in pixels, allowing you to use bold typeface.

   The symbol is updated as you make the changes.
3. When you are done, click **Close**.
4. On the **File** menu, click **Save**.

See also Setting a font list for the symbol file (19)

Defining a color with the color index (41)

5.7 Modifying transparent primitives

When you insert new primitives into a symbol, Symbol Editor automatically uses transparent line, fill and font. This means that the product can adjust the line, fill or font properties of the symbol at run-time.

If you have modified the line, fill or font of any primitive in the symbol, or are working with an existing symbol, there may be transparency overrides so you need to make sure that transparency works the way you want in the final symbol. Here you find out more about transparency.

Symbol Editor settings for transparent attributes do not affect the final appearance of symbols. products adjust and determine the final appearance, when symbols with transparent attributes are used.

Find out more:

Setting appearance of transparent attributes (43)

Making a primitive transparent (43)

Removing transparency from a primitive (44)

Highlighting transparent primitives (44)

Troubleshooting transparency problems (45)

Setting appearance of transparent attributes

Symbols that have transparent attributes can be adjusted by your product at run-time. You can test how the symbol will appear at run-time, when you change the way transparent attributes, (i.e.) adjustable line, fill and font, appear in Symbol Editor.

To change the way transparent line, fill and font show in Symbol Editor:

1. On the **Properties** ribbon, click the **Transparent attributes** button.
   This opens the **Transparent Attributes** dialog box.
2. Modify the attribute values. Symbol Editor updates the appearance of primitives on the screen as you select new values.
3. Click **Close** when you are done.

The transparent attribute settings are Symbol Editor's internal settings so they do not determine the appearance of the final symbol but assist you when making primitives transparent and testing how it works. The product sets the final appearance of transparent lines, fills and fonts at run-time.

See also

Troubleshooting transparency problems (45)

Making an attribute transparent (40)

Modifying line color, type and width (41)

Modifying fill color and type (41)

Modifying font color, type and dimensions (42)

Making a primitive transparent

You can make a primitive transparent and adjustable when the symbol is used in your product.

Do the following:

1. Select and double-click the primitive to open the **Selection Attributes** dialog box.
2. Decide which attributes should be transparent:
   - Primitives with an outline can have transparent line color, type or width. Any of the attributes may be transparent, while some of them may be fixed.
   - Filled primitives can have transparent fill color and type. Both attributes must be transparent, if you want to use transparency with a filled primitive.

- Text primitives can have transparent font color, type and dimensions. All attributes must be transparent, if you want to use transparency with a text primitive.

3. Modify the primitive attributes to make the selected attributes transparent.
4. Click **Close**.
5. On the **File** menu. click **Save** to save the symbol file.

See also Making an attribute transparent (40)

Troubleshooting transparency problems (45)

Removing transparency from a primitive

Modify the transparency of a primitive when you want to change how it appears at run-time.

Do the following:

1. On the **Properties** ribbon, click the **Transparent attributes** button.
   This opens the **Transparent Attributes** dialog box.
2. Select the primitive whose line, fill or font you want to fix so that the product cannot change it at run-time.
3. Modify the line, fill or font by selecting a pre-defined line, fill or font.
4. Click **Close** to close the **Transparent Attributes** dialog box.
5. On the **File** menu, click **Save**.

If transparency of the other primitives does not work the desired way after this operation, you will have to troubleshoot the problem.

See also Modifying line color, type and width (41)

Modifying fill color and type (41)

Modifying font color, type and dimensions (42)

Troubleshooting transparency problems (45)

Highlighting transparent primitives

You can use any color or style to highlight the transparent primitives of a symbol in Symbol Editor. Highlighting does not affect the final symbol in any way but makes it easy for you to check how transparency works.

Do the following:

1. Select the symbol you want to modify.
2. On the **Properties** ribbon, click the **Transparent attributes** button to open the **Transparent Attributes** dialog box.
   Modify the settings for transparent line, fill and font so that they differ from the current appearance of your symbol as much as possible.
   For example, if you want to check which primitives have transparent fill settings in a symbol that currently appears in black, choose a bright fill color that makes the transparent fill area primitives stand out. Now you can concentrate on working with the fill areas that do not act the way you want them to.
3. Examine the results and make any other modifications as needed.

4. Click **Close** when you are done.

Note that saving the file has no effect on the symbol file. When you exit and restart Symbol Editor the file will exist as it when you opened it in the prior session.

See also Setting appearance of transparent attributes (43)

Troubleshooting transparency problems (45)

Troubleshooting transparency problems

If symbol transparency does not work in the way that you expected, the problem is most likely that a fixed line, fill or font attribute is overriding the transparency.

Do the following:

1. Highlight the transparent primitives of the symbol.
2. Make sure that all the primitives with transparent attributes are at the top of the **Primitive List**.

Be aware that transparency overrides can also occur across partially transparent primitives. A partially transparent primitive has both transparent and fixed attributes. For example, a line primitive can have a transparent line color while its line width is fixed. Any primitives that have transparent line width will be drawn with this fixed width, if they appear below this line primitive in the **Primitive List**. To avoid this, list primitives with solely transparent attributes topmost, and primitives that have both transparent and fixed attributes after them. Primitives that only have fixed attributes should appear last in the **Primitive List**.

See also Arranging primitives in Symbol Editor (31)

6 Bitmaps and pictures in Symbol Editor

Here you will find out more on how to use graphics with other file types for symbols. You can import AutoCAD or MicroStation files and use bitmap pictures as a drawing aid in the background of the **Edit workarea**.

Importing AutoCAD or MicroStation files (47)

Mappings and limitations of file imports (48)

Setting a background image folder in Symbol Editor (48)

Using a bitmap file as a background image (48)

6.1 Importing AutoCAD or MicroStation files

You can use AutoCAD (DXF or DWG) files and MicroStation (DGN) files in Symbol Editor. Symbol Editor imports the files and converts the contents into primitives that you can modify.

Do the following:

1. In the **Library workarea**, select the symbol into which you want to import the image.
2. Click the **Import** tab to set the scaling and the initial positioning of the file to import.
3. Enter the values for scaling the imported image and shifting the x and y coordinates.
   - **Scale X** and **Y**: Type in the scaling rate. A value of 1 means that the image is imported in its original size. A value of 2 means that the image is imported twice as large as the original.
   - **Translate x**: Shifts the imported image in a horizontal direction. Negative values shift the image to the left, and positive values to the right. Values are in world units.
   - **Translate y**: Shifts the imported image in a vertical direction. Negative values shift the image down, and positive values up. Values are in world units.

   If the value of both translation fields is 0, the origin of the imported image is placed on the origin of the **Edit workarea**.
4. Click the **Import** button, which opens the file selection dialog box.

5. Select the file to import and click **Open**.

The image is converted to Symbol Editor primitives that are inserted into the selected symbol. Scaling and positioning are set according to the settings you specified in step 3.

See also

Selecting primitives in Symbol Editor (33)

Mappings and limitations of file imports (48)

Making a fill area from lines (35)

6.2 Mappings and limitations of file imports

This describes how AutoCAD and MicroStation files are converted into Symbol Editor drawing primitives.

Object mappings

The following object types are imported from the original file to the symbol: ARC, LINE, CIRCLE, CELL, CURVE, SHAPE, SOLID, TEXT, TRACE, INSERT, POLYLINE, LWPOLYLINE, LINESTRING and HATCH.

Fill type mappings

The fill type of a filled object is converted as follows:

Fill style name in DWG/DXF/DGN file	Fill type in Symbol Editor
NONE	transparent
SOLID	solid fill
SINGLEHATCH	diagonal lineation
DOUBLEHATCH	diagonal lineation
all other fill types	transparent

Text limitations

The fonts used in text objects are mapped to Symbol Editor fonts. This may slightly distort the font alignment within the text box as the original font geometry is not available in Symbol Editor.

Other limitations

User-defined line styles and world unit line widths from AutoCAD files are not imported.

6.3 Using a bitmap file as a background image

Here you will find out more about how to use a background image in Symbol Editor as a drawing aid to draw a symbol that is available only in bitmap format. You cannot import bitmap files.

Setting a background image folder in Symbol Editor (48)

Setting a bitmap file as the background image (49)

Show or hide background image (49)

Setting a background image folder in Symbol Editor

Use background images to aid in drawing symbols. With Symbol Editor you can specify a folder where these images are stored.

Do the following:

1. In the **Properties** section of the ribbon, click the **Settings** button.
   The **Settings** dialog box opens.
2. In the **Background folder** field, click the folder button to open the location from which you want to select the folder.
3. Select the folder and click **Select Folder**.
4. Click **Close** to complete the operation.

You have to restart Symbol Editor in order for the preferences to take effect.

See also Setting a bitmap file as the background image (49)

Setting a bitmap file as the background image

When a background image is used it does not appear in final symbols. It is intended as an aid for drawing symbols from bitmap files.

Accepted file formats include **.gif**, **.jpeg**, **.bmp** or **.tif**.

To set a bitmap file as the background image:

1. On the **Grid** ribbon, click the **Background image > Open** file to select the image.
   The file selection dialog box opens.
2. Select the file you want to use as a background image and click **Open**.
   The background image appears in the **Edit workarea** of the symbol.
3. Proceed with drawing the symbol.
4. On the **File** menu, click **Save** to retain the changes.

See also Setting a background image folder in Symbol Editor (48)
Show or hide background image (49)

Show or hide background image

If you have selected a background for a symbol file, it appears in the **Edit workarea** for all the symbols of the file.

To show or hide the background image, click the **Background Image** button on the ribbon.

Note that the background does not appear in zoom windows, regardless of this visibility setting.

See also Setting a bitmap file as the background image (49)

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