

Chartist User's Manual: Symbols

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Symbol Defined

Symbols are the primary chart objects. A chart is a collection of symbols with optional lines between them. Symbols have the following properties:

Location: The position of the center of the symbol, relative to the top left corner of the chart. Locations are precise to 1/1000".

Shape: A choice of one of the possible prototype shapes for symbol, as defined by the current shape file. Also, the thickness and style (solid, dash,dot) of the border of the symbol, and an indication of which plane the symbol is drawn in.

Size: The height and width of the rectangle bounding the symbol. Measurements are precise to 1/1000".

Text: The text displayed inside the symbol. Also, the fonts used by that text, and how that text is positioned (justified) within the symbol.

Color: The colors used to draw the border, background and text of a

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symbol.

- Picture:** An optional bitmap picture that is displayed to fit within the text area of the symbol.
- Reference:** An optional command line to display a reference document associated with the symbol.

When symbols are added to the chart, they take on the current default settings for each of the properties that are not explicitly defined during the add operation.

Adding A Symbol

To add a symbol to the chart, click on the first button in the Tool Bar (box with +), select the Symbol Add... command from the menu, or press the Ins key. The cursor will change to the box shape. Move the cursor to the grid point where you want the symbol centered, and click or press Enter.

You may cancel an Add operation in progress by pressing Esc.

If the Options Add Symbol Dialog command is not checked, the current default shape properties will be applied to the new symbol.

Otherwise, a dialog box appears: Choose Symbol Shape. You will see a multi-column list box with symbol type names in it. If the current shape file has a large number of symbol types, there may be a scroll bar on the list box to assist you. As you move the list box selection cursor, notice that the selected shape is drawn to the right of the list box at 1/2 normal size.

Note that a few shapes appear to have no representative model. These are text only shapes, such as Titles. The borders of these shapes are visible only when they are displayed in the chart.

The border thickness and style may also be selected, using the appropriate radio buttons.

Finally, the Plane of the symbol may be selected. Symbols in the Bottom plane are drawn first, followed by symbols in the Middle plane, then by symbols in the Top plane. This feature supports visual effects such as layering symbols and framing symbols with other symbols.

Select the desired shape properties and click the OK button (or Enter). A new symbol with the selected properties will be added to the chart at the chosen location. Clicking on Cancel will stop the Add procedure.

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Selecting Symbols

Symbols in the chart may only be operated on when they are selected. When a symbol is selected, it is surrounded by eight selection handles, or a dotted rectangle if multiple symbols are selected.

Some commands require that only one symbol be selected, while others require or allow more. Menu commands are enabled when the number of selected symbols is correct for their respective actions.

To select one or more symbols:

1. Place the cursor inside the symbol and click the mouse (or press Enter).
- or,
2. Choose the Symbol Select command (F7). The gunsight cursor will appear. Click on a point outside but near the symbol(s) to be selected. The cursor will change to the quad arrow. Drag the selection rectangle to touch or include the symbol(s). Click again to complete the process.
- or,
3. Click and hold the left mouse button with the cursor outside but near the symbol(s) to be selected. The cursor will change first to the gunsight shape. Drag the cursor to stretch a selection rectangle as in 2 above. The cursor will change to the quad arrow when it starts to move. Release the cursor to complete the selection.

When one or more symbols is selected, the selection of any other symbols in the chart will be dropped. If you hold the Shift key down while selecting, the previous selections will be retained.

All items may be deselected by clicking on a point outside any symbols and away from any lines.

Changing Symbol Shape

You may change the shape of one or more symbols at any time. Select the symbols to change and click on the second Tool Bar button (box with ?), or choose the Symbol Shape... command (F4). You will see the Choose Symbol Shape dialog box.

If no symbols are selected, the current default settings for shape properties will be selected for modification.

If multiple symbols are selected, the common properties will be shown as selected in the dialog. Any properties modified in the dialog will be applied to the selected symbols.

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Choose new shape properties and click the OK button or press Enter.

Editing Text In Symbols

Double-Click the mouse on the desired symbol, or with only the desired symbol selected, choose Symbol Text (F3). The Edit Symbol Text dialog box is displayed. The area for text entry operates similarly to other Windows applications.

The text edit area appears within the Edit Symbol Text dialog box. Any text in the symbol is displayed in this area and may be edited. The size of the edit text area agrees with the area designated for text in the selected symbol, at 100% scale. If a very small font is being used, the text area can be shown at 2X normal scale by checking Magnify.

The Caret

The caret is a flashing vertical bar. It represents the insertion or deletion point for changes. The caret may be moved through the text, as described below in Edit Text Actions.

Selected Text

Selected text is indicated in reverse video. When there is selected text, the whole selection is subject to deleting, re-fonting, copying or cutting to the Clipboard.

Edit Text Actions

Key/Mouse	Action
Normal Key	Character is inserted into the text at caret. Any selected text is deleted
Arrow Key	Removes any selection and moves caret.
Shift+Arrow	Adds character to selected text.
Ctrl+Left/Right Arrow	Moves caret to beginning of word.
Shift+Ctrl+Left/Right Arrow	Adds word to selected text.
Home	Removes any selection and moves caret to start of line.
End	Removes any selection and moves

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	caret to end of line.
Shift+End	Selects text to end of line.
Ctrl+End	Removes any selection and moves caret to end of text.
Shift+Ctrl+End	Selects all remaining text.
Del	Clears any selected text, or deletes character after caret.
Shift+Del or "Cut" button	Cuts selected text to Clipboard, or deletes character after caret.
Shift+Ins, or "Paste" button	Pastes text from Clipboard, starting at caret. Any selected text is deleted.
Ctrl+Ins, or "Copy" button	Copies selected text to Clipboard.
Enter	Inserts a new line at caret. Any selected text is deleted.
Mouse left button	Moves caret to cursor and drops selection anchor.
Mouse left double click	Selects word at cursor and moves caret to end of word.
Shift+Mouse left button	Moves caret to cursor and selects intervening text.
Drag (Click/hold left button)	Drops selection anchor, moves caret to cursor, and selects intervening text.

Text And The Clipboard

Text from other applications may be pasted into the text area. Simply Copy the text into the Clipboard from the other application, and then Paste it into the text area. Font information is not copied.

When data is cut or copied to the Clipboard, previous data is always cleared.

Justifying Text

The Left, Center and Right radio buttons along the top of the Edit Text area, let you choose how the text is justified horizontally in the symbol.

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Beneath the Edit Text area is the Center Vertically check box.

The justification of text in a symbol may also be changed from the main window. Select the desired symbols and click on the desired justify buttons (9th - 13th) in the Tool Bar or use the Justify commands. the selected symbols will be changed to the new justification.

Completing The Text Edit

To finish editing click the OK button with the mouse, or press Alt+O. The symbol will appear with the new text inside it.

A new symbol uses the last selected font for text. If more text is placed in a symbol than will fit, it is clipped when displayed in the chart, but remains in the symbol.

Selecting Fonts For Symbol Text

Select the symbol whose fonts you want to choose or modify, and choose the Symbol Text command. With the Edit Symbol dialog box displayed, move the caret in the text area to the desired location to start a new font, or select the text to be "re-fonted." See above for how to select text. Click on the Fonts... button, and the Choose Font dialog box will appear.

If the line font is currently in use in all of the selected area of text, all options will be disabled except the Use Line Font check box. Click on the check box to turn this selection off and allow the selection process to proceed.

Note: The Use Line Font check box causes the selected text to track the Line Font selection, which is chosen from the Line Font... command.

How Fonts Are Chosen

The list of fonts represents all fonts directly supported by the printer. Notice the check boxes for font emphasis: Bold, Italic, Strike Out and Underline. You may choose these options. If your printer does not support these options directly, Windows will simulate the font instead of using the printer font.

The font properties currently in use at the cursor, or in the selected text will be shown as selected in the dialog box. If an area is selected where font characteristics vary, only those that are in common will be shown as selected. If emphasis varies, the emphasis check boxes will be "grayed".

Those font properties that are changed during the dialog will be applied to the selected

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text. This means that you can, for example, change the type size of selected text without changing the emphasis, which may vary within the selected area.

To complete the font selection, click on the OK button. The selected text in the Edit Text area will be redrawn with the new font properties. If no text is selected, the new font properties will be applied at the caret.

You can also click on the Cancel button to disregard any changes.

Small Fonts

Chartist shows fonts in the main window as close to their printed size as possible, at the expense of legibility and accurate type face rendition. The reason for this is that the text is being placed into confined areas, and this technique gives visual feedback for how much text can fit in a symbol. The problem that arises is that most printers are much higher resolution than most displays, and able to print very small fonts quite well (readers' eyesight notwithstanding).

Therefore, depending on your display resolution, small fonts may not be legible in the edit text area. The Edit Symbol Text dialog box provides a Magnify check box to allow editing of small fonts. Checking this box will cause the text area of the symbol being edited to display at 2X normal size.

Editing The Symbol Reference

The symbol reference is a command string to display a reference document. Such a document can be displayed by selecting the View Reference (Shift F3) command or double-clicking on the symbol with the Ctrl key held down. This behavior is similar to that of hypertext. When a symbol has a reference established, an asterisk (*) will be displayed in the lower right corner of the symbol, in the text color used by the symbol and in the current line font. The asterisk does not show in data sent to the clipboard nor when the Chartist document is printed.

To establish or modify a symbol reference, select the symbol and then choose the Symbol Reference... command (Ctrl+F4), or click on the fifth button (box with zag) in the Tool Bar. The Reference File Name dialog box will be displayed.

Enter the command string for the reference document into the edit field. File names for documents should be fully qualified with the path name. The following are the possible ways in which the command string may be entered:

1. Document file name alone. When an association exists in the win.ini file for the file type, you may simply enter the file name. Refer to the Windows User's Guide section on the File Manager for information on setting up

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associations of document types to applications. When Chartist installs, an association is set up with .CHT file types. Therefore you can reference another Chartist document in this manner.

2. Execute command line. When no association exists in the win.ini file, you must enter the full command line to execute the program that can display the document. For example if you wanted to reference a text file in this way you could enter:

```
notepad.exe c:\docs\sample.txt
```

This would cause the Notepad to execute and display the indicated file. Note that you should fully qualify the display program name as well, if the path is not contained in the DOS PATH string.

To remove a symbol reference, simply delete the entire reference file name string.

Clicking on the Cancel button will disregard any changes to the reference file name string.

Viewing A Symbol Reference

To view a symbol reference, select the desired symbol and choose the View Reference command (Shift F3), or hold down the Ctrl key and double-click on the symbol. If a reference has been properly established, the application that displays the document will activate with the reference document loaded. Chartist becomes inactivated at this point, until you re-activate it. The reference document application will remain active until you close it or activate another application.

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Editing A Symbol Picture

A symbol may have a bitmap picture displayed within its text area. Any Windows device independent bitmap file may be loaded into the symbol. After that, the bitmap is displayed in the symbol. The bitmap may be shown in its original size or stretched or shrunk as required to fit the text area of that symbol. When a picture is loaded into a symbol, the background color of the symbol is no longer used. The bitmap is used instead (like "wallpaper"). Any text in the symbol is simply displayed on top of the bitmap.

When a bitmap is loaded in this manner, it is incorporated into of the Chartist document. The bitmap picture data is preserved in its original form. This means that the picture will take full advantage of any display or printer that it is drawn onto from Chartist. Pictures are displayed as gray rectangles when the View Pictures command is unchecked (to save display time).

To load a picture, select the Symbol Picture... command (Shift+F4), or click on the fourth button (box with cameo) in the Tool Bar. The Symbol Picture dialog will be displayed.

To load a new picture, click on the Load button. The Open File dialog will be displayed. Bitmap files use .BMP as their standard extension. Select the desired bitmap file and double click on the file name to load, or type in the file name and click on the Open button. The picture will be loaded into the sample display area of the Edit Symbol Picture dialog box. For more information on using the Open File dialog, see File Operations.

Suitable bitmap files are generated by bitmap editors such as Windows Paintbrush, or by scanners and their support software.

Checking the Stretch to Fit box causes the picture to be stretched or shrunk to the same size as the text area of the symbol. After you complete the dialog, you may resize the symbol to adjust the size and aspect ratio of the picture. Depending on how the bitmap was digitized, it may seem distorted on the display. It may take some experimentation with the size of the symbol to get the desired results on printing. If you uncheck the Stretch to Fit box, the bitmap will be drawn bit for bit on the printer with no change from original size. In this case you may resize the symbol so that the picture completely fills the text area. Refer to the section in this chapter on changing the size of symbols.

Clicking on the Clear button removes the bitmap from the symbol. Choosing the Cancel button will close the dialog and disregard any changes. Click on the OK button to return to the main screen with the operation complete.

Deleting Symbols

Select the symbols that you want to delete, then choose the Edit Delete (Del) command. All selected symbols and all lines connected to those symbols are deleted from the

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chart.

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Undeleting Symbols

Symbols and connected lines that are deleted can be recovered with the Edit Undelete (Alt+Backspace) command, as long as no other additions have been made to the chart. Pull down the Edit menu to see if the Undelete command is available for re-instating the last deletion.

Copying Symbols

Copying replicates the selected symbols and connected lines and places that information into the Clipboard. Once in the Clipboard the data may be pasted as a unit back into the chart, into a different chart, or into other applications.

Select the symbols to copy, and choose the Edit Copy command (Ctrl+Ins). The operation will complete. Any information already in the Clipboard will be overwritten.

Cutting Symbols

Cutting symbols means to remove them from the chart and place them into the Clipboard. Once in the Clipboard the symbols may be pasted as a unit back into the chart, into a different chart, or into other applications.

Select the symbols to be cut, then choose the Edit Cut command (Shift+Del). The selected symbols and any lines connected between them will be placed into the Clipboard. Then the selected symbols and all lines connected to them will be deleted from the chart.

Note that lines that no longer have a source or destination are removed from the chart, but if the each end of the line is not connected to one of the cut symbols, it will not be copied to the Clipboard.

Pasting Symbols

If the Clipboard contains Chartist symbol data, the Edit Paste command (Shift+Ins) is made active (not grayed). To paste, select the command. The cursor will change to the box shape.

When you move the cursor, a dashed rectangle will surround the cursor and track its movements, to show you the shape and extent of the area to be pasted. This dashed rectangle bounds the symbols to be added. Click the mouse, or press Enter to complete the operation.

The operation will fail if you attempt to add symbols outside the boundaries of the chart.

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The chart boundaries are set with the Options Chart... command.

When symbols are pasted, they are selected, and any other selections are dropped.

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Moving Symbols

You may move symbols one at a time, or as a group. Select the symbols to move, and:

1. Choose the Symbol Move... command (F2)
or,
2. Click and drag on the selected symbol. If more than one symbol is selected, hold the Shift key down to keep from dropping the multiple selections. Note that you must click inside one of the selected symbols.

The cursor will change to the box shape.

When you move the cursor, a dashed rectangle will surround the cursor and track its movements, to show you the shape and extent of the area to be moved. This dashed rectangle bounds the symbols to be added. Click the mouse, or press Enter to complete the operation.

The selected symbols move as a group, and maintain their relative locations with respect to one another. All lines are rerouted as required, and remain connected to their sources and destinations.

This operation will fail if you try to place symbols outside the chart boundaries. The chart boundaries are set with the Options Chart... command.

Changing Symbol Size

New symbols are added to the chart at the current default symbol size.

You are not restricted to this default symbol size, however, and are free to change the size of any symbol.

Setting The Default Symbol Size

You may select a default size for new symbols. Once you select a default size, all new symbols that you add from that point will start out being that size. Symbols already in the chart are not affected.

To change the default symbol size, click on the 14th button in the Tool Bar (double box with D), or choose the Options Default Symbol Size... command. You will see the Set Default Symbol Size dialog box.

You may choose 50% or 100% standard size with the push buttons, or you may select a

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symbol prior to choosing the command, and copy the dimensions of that symbol. The standard size for symbols is 1.250" wide by 0.750" high. You may override the standard size dimensions with a setting in the initialization file for Chartist. Refer to Options.

You may enter a height and width directly as well. When this command is completed, all new symbols will be scaled to the new default size.

Resetting Symbol Size

Symbols may be set to the current default size at any time. Select the desired symbols, and click on the 15th button (double box) in the Tool Bar, or choose the Symbol Reset Size command (Shift+F6). All selected symbols will change to the current default size setting.

Stretching A Symbol

The size of any symbol may be changed by stretching.

To stretch a symbol, select it and:

1. Move the mouse cursor over one of the eight sizing handles on the selected symbol. The cursor will change to a double arrow when it is over a handle. Click and drag the handle of the symbol to the new size.

or,

2. Choose the Symbol Size... command (F6). The cursor will change to the quad arrow and move to the lower right corner of the symbol's bounding rectangle. Move the cursor to change the symbol size. When you have the symbol at the desired size, click the mouse or press Enter to complete the stretching.

Symbol Colors

To select colors for symbols, click on the third button (box with C) in the Tool Bar, or choose the Symbol Color... comand (F8),

When no symbols are selected, the colors for new symbols are edited. The colors for new symbols are shown in the Tool Bar, just to the right of the buttons.

When multiple symbols are selected, the common color elements are shown. Color elements that differ among the selected group are shown as gray, unless they are changed during the Color dialog.

The Edit Symbol Colors dialog is displayed. A sample symbol is shown in the currently

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selected colors.

Each of the radio buttons represents an element of a symbol that can be a unique color. By clicking on each button, you can change the color selection of that element.