Creating Touchcells in Designer 5.04

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How This Document is Organized

This document outlines the creation of the various types of touchcells and indicator lights possible with Designer 5.04. There are several dialog boxes and index tabs that are common to the majority of the touchcells and indicator lights. These dialog boxes will be addressed as they are encountered. When they occur again in the creation, they will only be referenced to and not explained again in detail. For this reason, it is suggested that the user read this entire document before creating any type of touchcell or indicator light.

A Note on Touchscreen Projects

In order to use the features described in this technote, the operator interface panel being used must contain firmware version 4.10E or greater.

If a user attempts to create a touchcell in a project file that was created using a previous version of Designer, they will be asked if they wish to transform their old touchcells into the new format that is used by Designer 5.04.

If the panel being used *doesn't* have firmware version 4.10E or greater, select *No*. The user will then be able to create touchcells using the methods implemented in previous Designers.

If the panel being used *does* contain firmware version 4.10E or greater, select *Yes*. Doing so will transform the touchcells into the new format.

The Display Window

The display window is a preview window that will appear whenever the user begins defining a touchcell. This window allows the user to see how the touchcell will look before it is actually created and placed into a project file.

Clicking the left mouse button on the touchcell in the preview window will simulate pressing the touchcell. Clicking the right mouse button in the preview window will simulate the indicator light or the light on the illuminated touchcell changing state.

The TouchScreen Menu

The TouchScreen menu will appear whenever the user has selected a touchscreen panel in the Designer software. The menu items include:

Show Touchscreen Grid – This will show the grid in which touchcells can be created. Touchcells can be made as small as a single character and as large as the entire screen.

Show Touchscreen Cells – This feature gives the user the ability to view or not to view the touchcells in the project file. If this item is selected, the user will be able to see the touchcells as they will appear on the panel. If this item is not selected, the user will not be able to see the touchcells in the project file. *Note: Whenever the project file is downloaded, all touchcells will be visible on the operator interface panel.*

Show Toolbox – This selection allows the user to toggle the Toolbox on and off. The Toolbox is a floating toolbar that is used to create various types of touchcells and indicators. *In order for the user to create touchcells, this item must be selected.*

Delete All Touchcells – This allows the user to delete all of the touchcells and associated graphics and commands on the current page of the project file.

Select Touch Font – This allows the user to select the font to be used for a particular touchcell. Once a font is selected, it will continue to be used for all touchcells that are subsequently created. *This font is NOT a global font and may be changed at any time without affecting any of the previously created touchcells.*

The Toolbox

Figure 1

The Toolbox is a floating toolbar that is used to create various types of touchcells and indicators. To create a touchcell or indicator, click and drag an area and select an icon from the Toolbox.

The icons and what they represent are listed below:

- Panel Key

- ASCII Character

- Pushbutton

- Illuminated Pushbutton

- Selector Switch

- Indicator Light

- Generic Command (Panel Key, Macro Command, ASCII Character)

Creating a Touchcell as a Panel Key

To create a touchcell as a panel key, select the area where the touchcell is to be located and click on the *Panel Key* icon in the Toolbox. Doing so will bring up the dialog box shown in Figure 2.

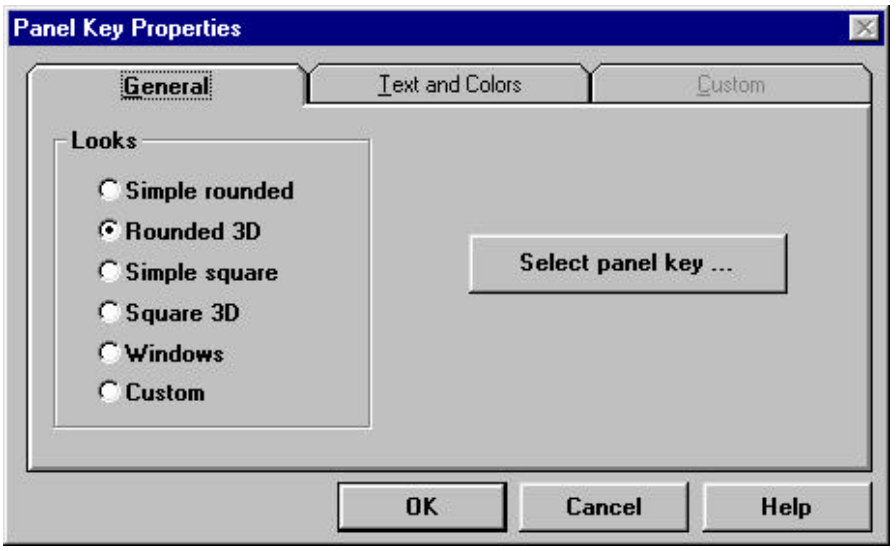

Figure 2

Within the *General* index tab, the user can specify how the touchcell is to look by selecting one of the radio buttons within the *Looks* area of the dialog box.

By clicking on the *Select panel key …* button, the user will be able to select the panel key that the touchcell is to represent. The key that is selected will be highlighted so that is appears as a different shade from the other keys. To access keys other than F1 through F8, click on the right arrow located on the slide bar underneath the function keys.

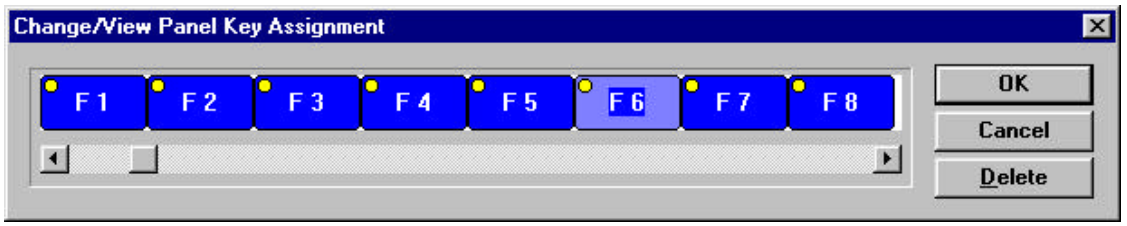

Figure 3

Clicking on the *Text and Colors* index tab, will display the dialog box shown in Figure 4.

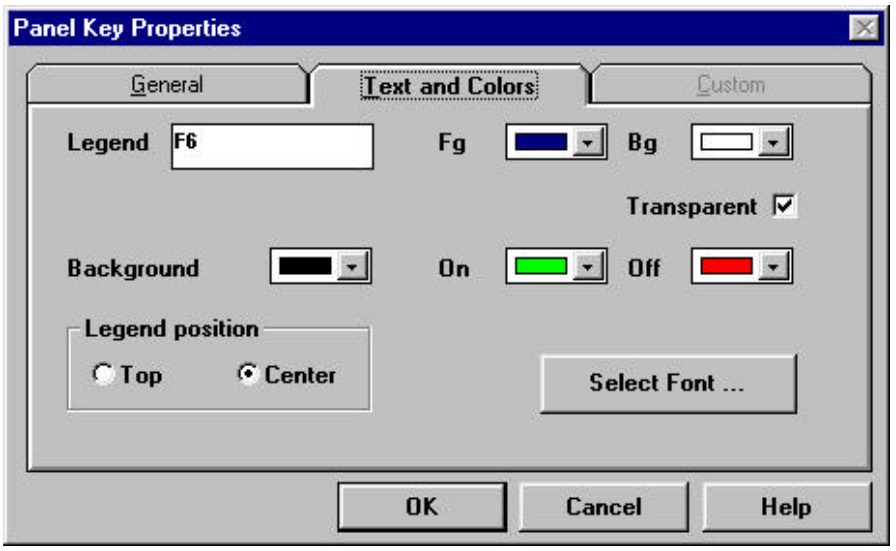

Figure 4

Legend allows the user to specify the text that is placed either on or on top of the touchcell. The position can be selected by choosing either the *Top* or *Center* radio button within the *Legend position* section of the dialog box.

Fg indicates the color of the touchcell text. *Bg* indicates the background color of the touchcell. This color will only be seen when the *Transparent* checkbox is marked. The *Bg* color will appear as the background color of the text entered in the *Legend* box.

On shows the color that the touchcell will be when it is pressed, while *Off* indicates the color that the touchcell will be when it is in the not-pressed state.

Clicking on the *Select Font …* button will allow the user to select the font for the touchcell. This is shown in Figure 5. Keep in mind that this is NOT a global setting. It is possible to use different fonts on all of the touchcells in a single project file.

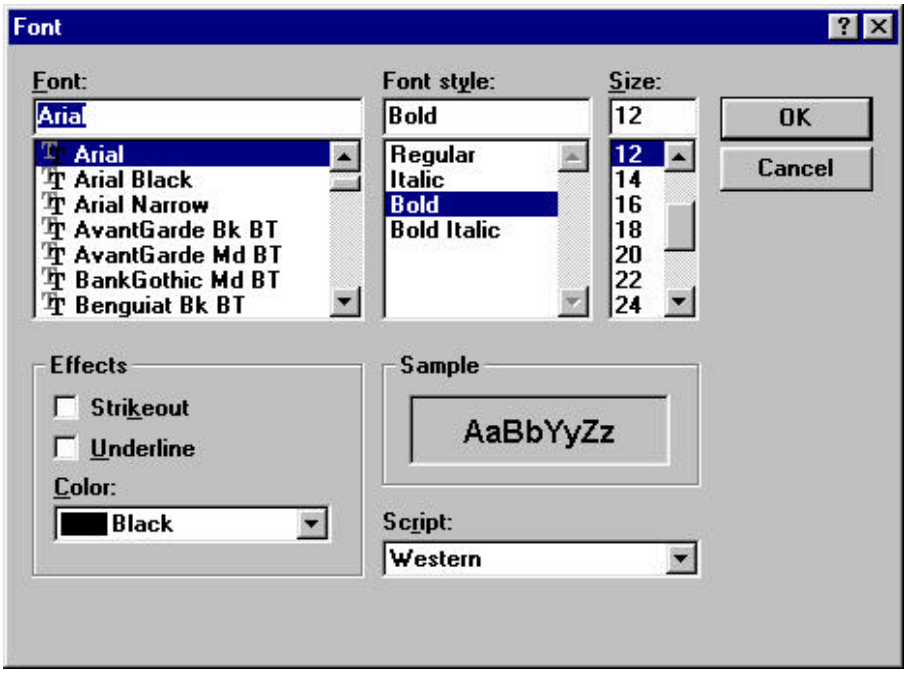

Figure 5

Within the *General* index tab, if *Custom* is selected within the *Looks* portion of the dialog box, the user will be able to import bitmap graphics for the different states of the touchcell. For example, if *Custom* were selected in this example, the *Custom* index tab would appear as is shown in Figure 6.

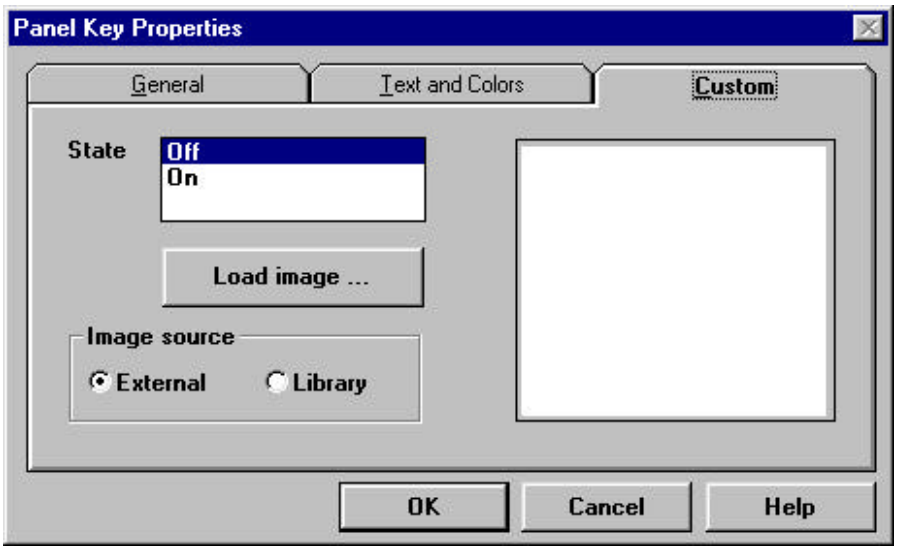

Figure 6

The graphic to be imported can be loaded from disk or from the Graphics Library that is installed with the Designer software.

To import a graphic from disk, perform the following steps:

?? Click on the *External* radio button within the *Image source* portion of the dialog box.
?? Click on the *Load image …* button.
?? Select the path and the filename of the bitmap graphic that you wish to import.
?? This will bring up a dialog box that will allow the user to specify the label that is associated with the graphic (which defaults to the filename without the extension) and whether or not to reverse the image.

To import a graphic from the Graphics Library, perform the following steps:

?? Click on the *Library* button within the *Image source* portion of the dialog box.
?? Click on the *Load image …* button.
?? This will bring up a dialog box in which the user can choose to use a graphic from the Graphics Library or a graphic that is already used elsewhere in the project file. To use a graphic from the Graphics Library, select the *External* radio button within the *Library source* portion of the dialog box. To use a graphic that is used in the current project file, select the *Current Project* radio button.
?? Click on the name of the graphic that is to be used (a preview of the graphic that is selected will be shown) and click on the *Import* button.
?? Another dialog box will appear that allows the user to specify the label that is associated with the graphic (which defaults to the filename without the extension) and whether or not to reverse the image.

Creating a Touchcell as an ASCII Character

To create a touchcell as an ASCII character, select the area where the touchcell is to be located and click on the *ASCII Character* icon in the Toolbox. Doing so will bring up the dialog box shown in Figure 7.

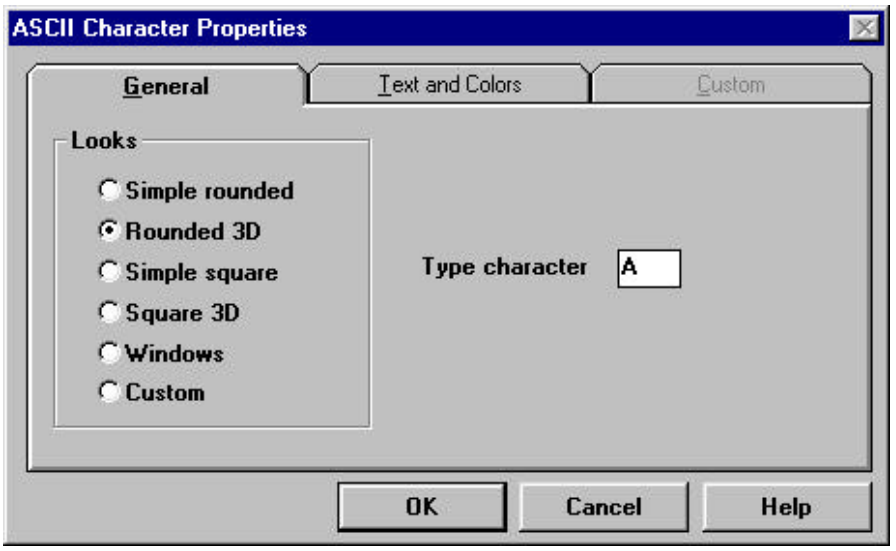

Figure 7

The user can specify how the touchcell appears by selecting one of the radio buttons the *Looks* portion of the *General* index tab. The ASCII character that is to be transmitted when the touchcell is pressed can be entered in the *Type character* box.

The legend and colors of the touchcell can be specified within the *Text and Colors* index tab. Custom images can be imported by selecting the *Custom* radio button within the *General* index tab and then selecting the *Custom* index tab.

Creating a Touchcell as a Pushbutton

To create a touchcell as a pushbutton, select the area where the touchcell is to be located and click on the *Pushbutton* icon in the Toolbox. Doing so will bring up the dialog box shown in Figure 8.

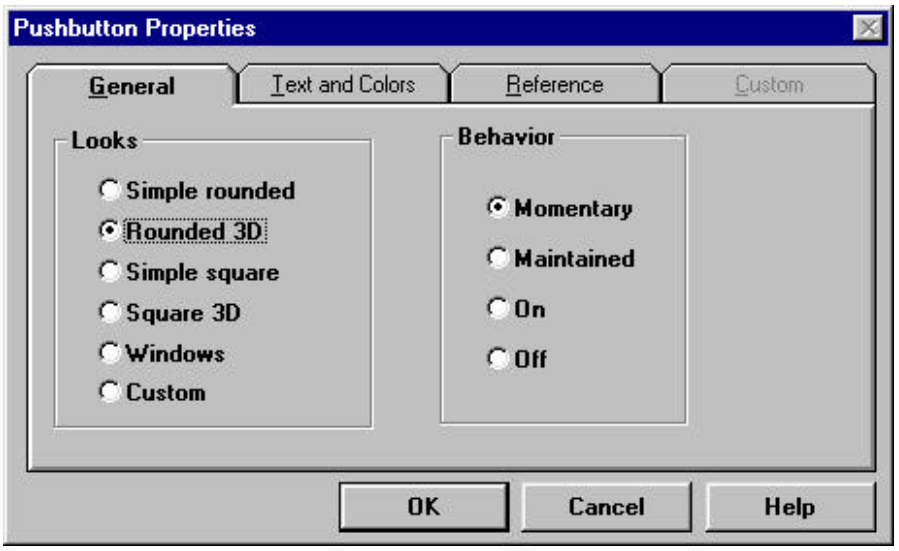

Figure 8

The appearance of the pushbutton can be chosen by selecting a radio button from the *Looks* portion of the *General* index tab. The action of the pushbutton can be selected by picking a radio button from within the *Behavior* portion of the *General* index tab.

The legend and colors of the pushbutton can be specified within the *Text and Colors* index tab. Custom images can be imported by selecting the *Custom* radio button within the *General* index tab and then selecting the *Custom* index tab.

The memory location that the pushbutton affects can be set up by selecting the *Reference* index tab and clicking on the *Button reference …* button. This will bring up the dialog box shown in Figure 9, which allows the user to select the exact memory location to be written to. This dialog box will contain the data types that are present in the PLC being used.

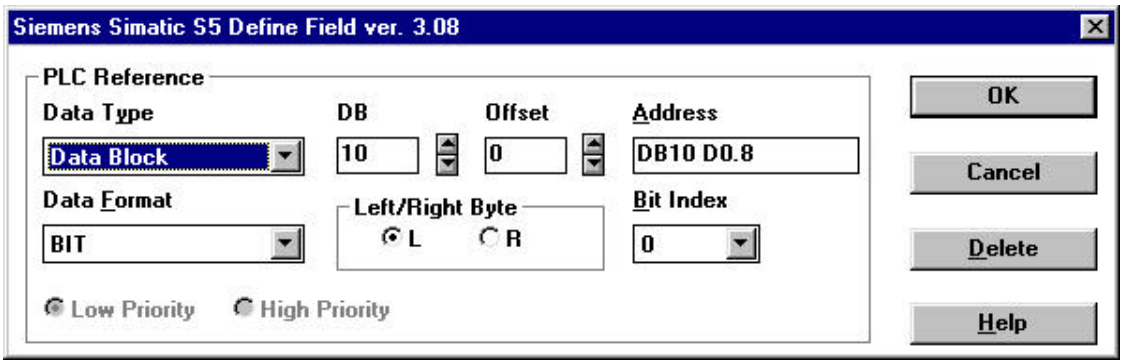

Figure 9

Creating a Touchcell as an Illuminated Pushbutton

To create a touchcell as an illuminated pushbutton, select the area where the touchcell is to be located and click on the *Illuminated Pushbutton* icon in the Toolbox. Doing so will bring up a dialog box exactly like the one shown in Figure 8.

The only difference between an illuminated pushbutton and a pushbutton is that the face of the illuminated pushbutton can reflect the status of a bit in the PLC. The memory location whose status is shown on the face of the button can be specified by selecting the Reference index tab and clicking on the *Light reference* button.

Creating a Touchcell as a Selector Switch

To create a selector switch of N states (where N represents an integer from 2 through 4), the user must select an area that is N characters wide, or some integer multiple of N characters and then click on the *Selector Switch* icon in the Toolbox.

For example, if the user wishes to create a 3 position selector switch, the selected area must be either 3, 6, 9, 12 … characters wide.

Once the user clicks on the *Selector Switch* icon, the dialog box shown in Figure 10 will appear.

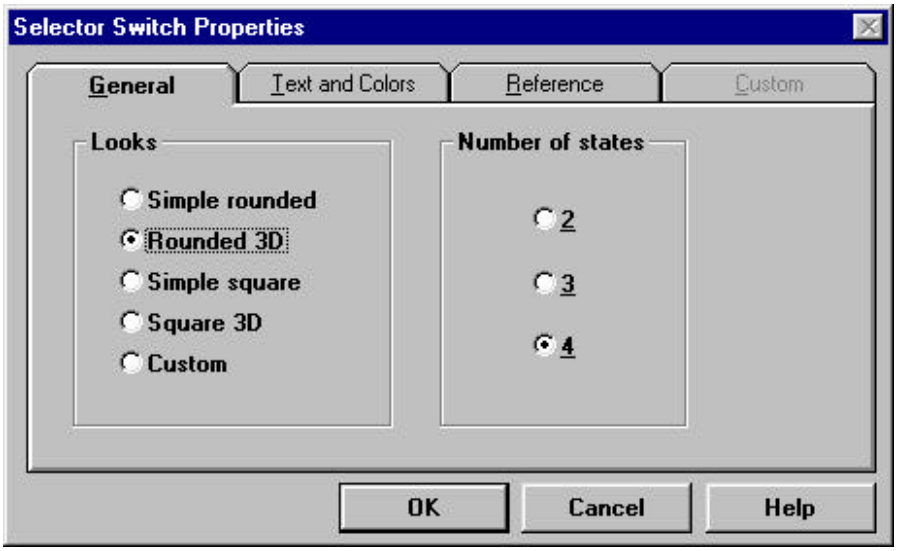

Figure 10

From within this dialog box, the user can specify the looks of the selector switch, as well as the number of states.

By selecting the *Text and Colors* index tab, the user can define the legend for each state of the touchcell, as well as the color scheme, which is shown in Figure 11.

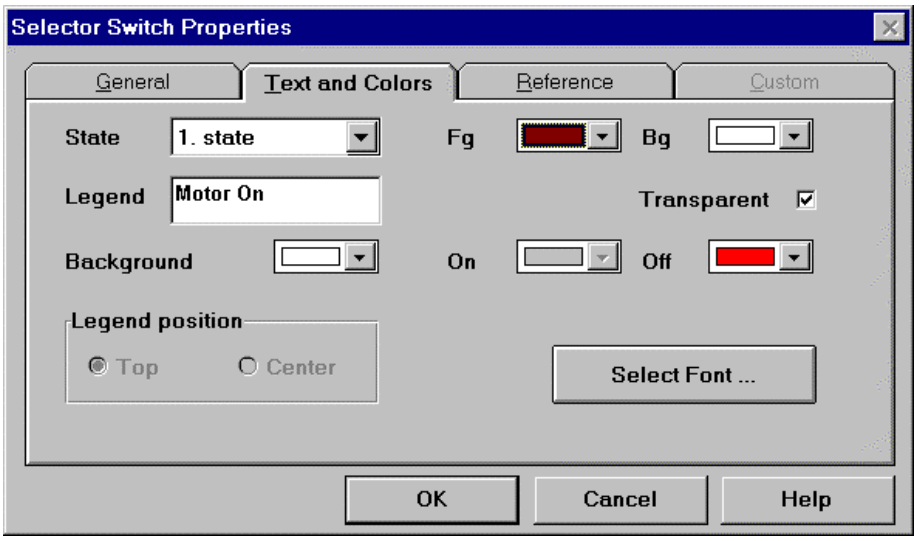

Figure 11

Likewise, by selecting the *Reference* index tab, the user can configure what memory location in the controller is affected by each state of the selector switch. This is depicted in Figure 12.

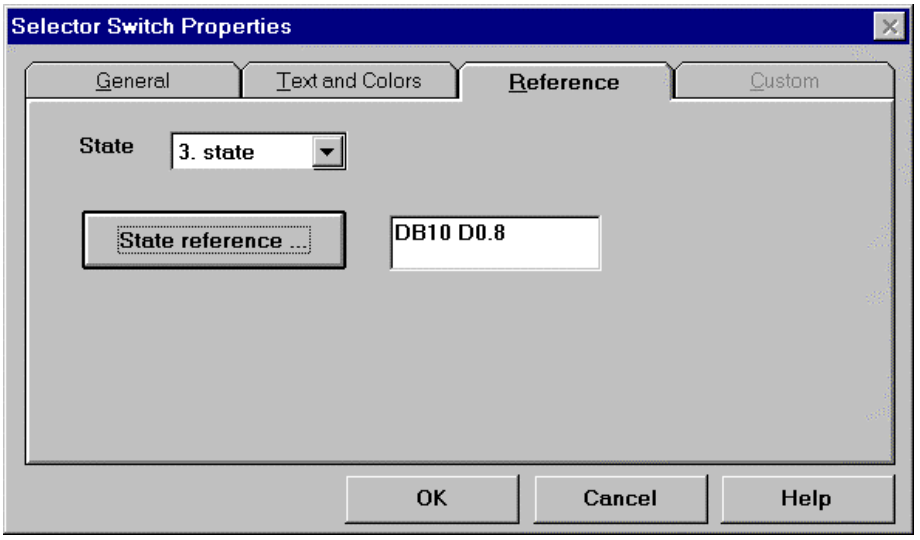

Figure 12

Creating an Indicator Light

To create a touchcell as an indicator light, select the area where the touchcell is to be located and click on the *Indicator Light* icon in the Toolbox. Doing so will bring up the dialog box shown in Figure 13.

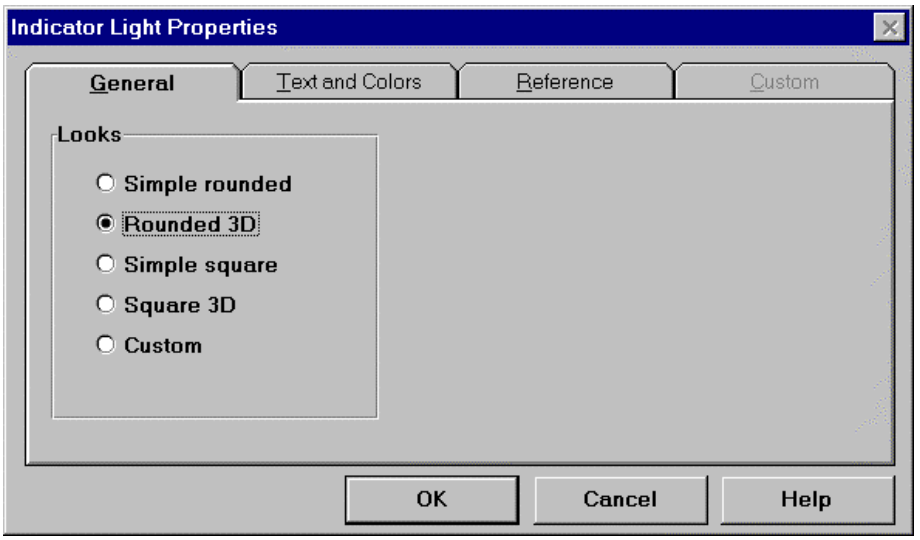

Figure 13

The legend and colors of the indicator light can be specified within the *Text and Colors* index tab. The memory location in the controller that the indicator light is to reflect can be specified within the *Reference* index tab.

Creating a Touchcell as a Generic Command

To create a touchcell as a generic command, select an area for the touchcell and then click on the *Generic Command* icon in the Toolbox. This will bring up the dialog box that is shown in Figure 14.

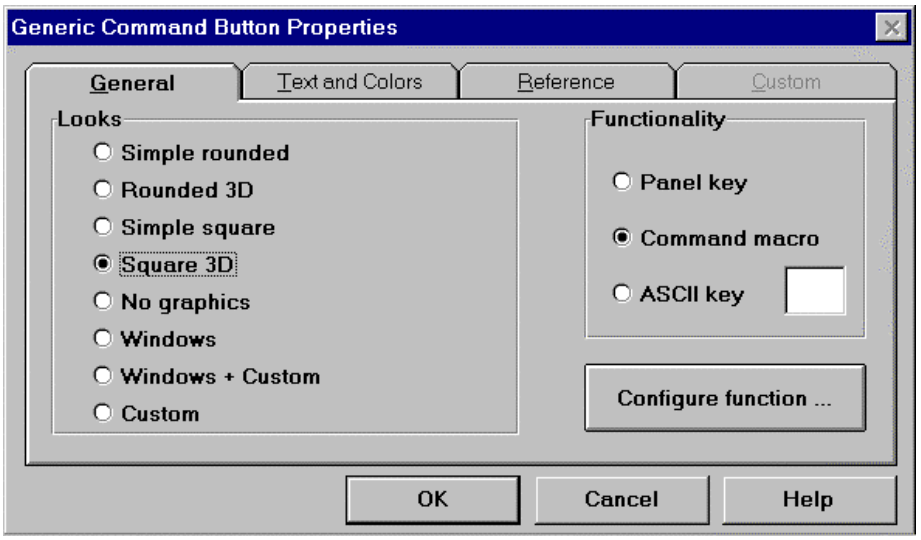

Figure 14

The looks of the touchcell are defined exactly as they were before. To define the functionality of the touchcell, select one of the three radio buttons within the *Functionality* portion of the dialog box and click on the *Configure function …* button.

Depending on the functionality selection, the user will get either a list of panel keys to choose from or the list of macro commands available. If *ASCII key* is chosen, the user simply needs to enter the character to be sent in the box beside of the ASCII key radio button.

The legend and colors of the pushbutton can be specified within the *Text and Colors* index tab.

An LED indicator can be added to a touchcell if, within the *Looks* portion of the *General* index tab, *Windows*, *Windows + Custom*, or *Custom* is selected. If this is the case, the Reference index tab will appear as is shown in Figure 15.

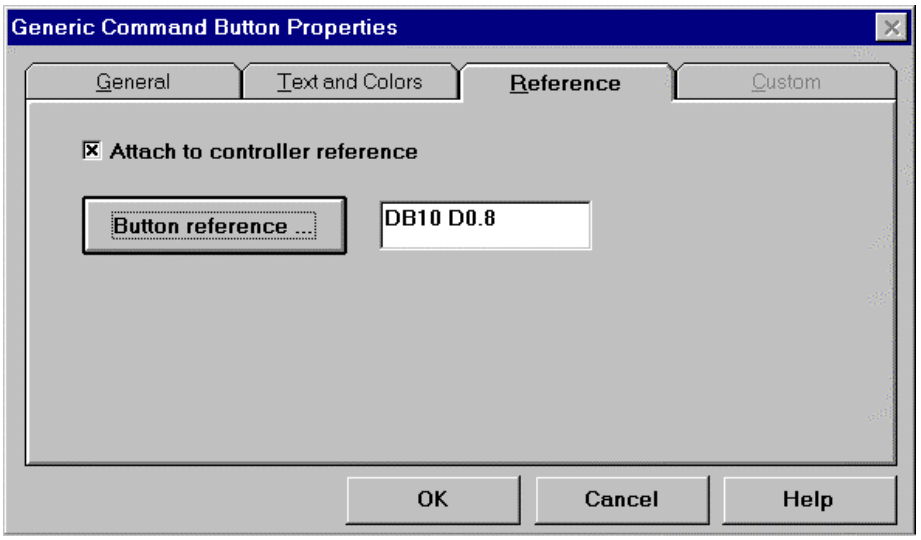

Figure 15

By marking the *Attach to controller reference* box, the user will be able to click on the *Button reference …* button. This will allow the user to specify a bit in the controller whose status will be reflected by the LED on the touchcell.