

## CHAPTER

## 3

## Working in the SAS Windowing Environment

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## Introduction

The SAS System for OpenVMS operating environments features an X Window System interface that is based on Motif. This interface uses the window manager on your system to manage the windows on your display. Window managers govern the placement, sizing, stacking, and appearance of windows, as well as their interaction with the keyboard. All window managers perform the same basic functions, but they differ in their style and in their advanced functions. The appearance of the SAS interface depends partially on which window manager you use.

The basics of interacting with the SAS System are the same for all window managers: opening pull-down and pop-up menus, moving windows, responding to dialog boxes, dragging text, and so on. This chapter describes some of the dialog boxes and features that are specific to the SAS System.

Many features of the SAS graphical interface are controlled by X resources. For example, colors, window sizes, the appearance of the ToolBox, and key definitions are all controlled through X resources. The following sections may refer to a specific resource that controls a feature of the interface. Chapter 4, “Customizing the SAS Windowing Environment,” on page 71 provides general information on resources, such as how to specify resources, and describes all of the resources that you can use to customize the interface.

*Note:* The About SAS System dialog box displays version information about the SAS System, your operating environment, and Motif. You can display the About SAS System dialog box by selecting **About SAS System** from the **Help** menu.  $\Delta$

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## Using Function Keys

Function keys provide quick access to commands. They allow you to issue commands, insert text strings, and insert commands in programs. Function key definitions may be different on different terminals. To display your function key definitions, open the KEYS (DMKEYS) window (see Display 3.1 on page 59) from the **Tools** menu by selecting **Options**, and then selecting **Keys**.

**Display 3.1** KEYS (DMKEYS) Window

The screenshot shows a window titled "SAS: KEYS <DMKEYS>". The menu bar includes File, Edit, View, Tools, Solutions, and Help. The main area contains a table with two columns: "Key" and "Definition". The table lists various function keys and their corresponding actions.

Key	Definition
PF2	help
PF3	submit
PF4	find
Keypd 0	prevfield
Keypd 1	left
Keypd 2	right
Keypd 3	paste
Keypd 4	backward
Keypd 5	forward
Keypd 6	store
Keypd 7	top
Keypd 8	bottom
Keypd 9	mark
Keypd -	home
Keypd ,	reshow
Keypd .	nextfield
Enter	newline
GoldPF2	prevcmd
GoldPF3	recall
GoldPF4	change
Gold 0	prevwind
Gold 1	icon
Gold 2	zoom
Gold 3	
Gold 4	output
Gold 5	keys

To view a single key definition without bringing up the KEYS window, use the KEYDEF command and specify the key definition that you want to view. For example, the following command displays the definition for key F4:

```
keydef f4
```

For information about customizing key definitions, see “Customizing Key Definitions” on page 89. For more information about the KEYS window and the KEYDEF command, refer to the SAS online Help system.

## Using the SAS ToolBox

The SAS ToolBox has two parts:

- A command window that enables you to quickly enter any command.
- A toolbar that contains several tool icons.

You can use the command window to enter commands in the active SAS window. The name of the active window is displayed in the title bar of the ToolBox. The toolbar allows you to associate icons with commands.

You can define multiple toolboxes and switch between them, and you can define toolboxes for specific windows or applications, such as SAS/AF applications. By default, the toolbar and the command window are joined and are automatically displayed when the SAS System initializes unless

- you executed your SAS job in a nonwindowing environment mode.
- the **SAS.defaultToolBox** resource or **SAS.defaultCommandWindow** resource is set to False. The default is True. For more information about the X resources that control the ToolBox, see “Specifying Toolbox X Resources” on page 83.
- you deselect **Display tools window**, **Display command window**, or **Combine windows** from the ToolBox tab in the Preferences dialog box.

Display 3.2 on page 60 shows the command window and the toolbar in their default configuration.

**Display 3.2** SAS ToolBox



When the command window and the toolbar are combined, you can open both of them by doing one of the following:

- issuing the **COMMAND WINDOW** command.
- from the **Tools** menu in the active window, selecting **Options**, and then selecting **ToolBox**.
- From the ToolBox tab in the Preferences dialog box, select **Display tools window**, **Display command window**, and **Combine windows**. (See “Modifying the Toolbox and Command Window Settings” on page 80.)
- issuing the **TOOLLOAD** command. For more information, see the command “**TOOLLOAD**” on page 233.

You can close both the command window and the toolbar by doing one of the following:

- double-clicking on the window menu button in the upper-left corner of the ToolBox.
- from the ToolBox window menu, select **Close**.
- entering the **TOOLCLOSE** command, as described in “**TOOLCLOSE**” on page 232.
- from the **Tools** menu, selecting **Options** and deselecting **ToolBox**.

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## Using the Command Window

You can open only the command window portion of the ToolBox by deselecting **Combine windows** from the ToolBox tab in the Preferences dialog box and doing one of the following:

- selecting **Display command window** in the Preferences dialog box.
- issuing the `COMMAND WINDOW` command.

To issue a command from the command window, click in the command window, type in the command, and then press `ENTER` or click on the check mark. The command is submitted in the active SAS window.

You can use the up and down arrows to scroll through previously entered commands, or you can select a previous command from the drop-down list. Use the middle mouse button (MB2) to select and execute a command from the list. If you use the left mouse button (MB1), the command is selected, but you must then press `ENTER` or click on the check mark to submit the command.

## Using the Toolbar

You can open only the toolbar portion of the ToolBox by deselecting **Combine windows** from the ToolBox tab in the Preferences dialog box and doing one of the following:

- selecting **Display tools window** in the Preferences dialog box.
- from the **Tools** menu, selecting **Options**, and then selecting **ToolBox**.
- issuing the `TOOLLOAD` command, as described in “`TOOLLOAD`” on page 233.

If you invoke an application that does not have an associated `PMENU` entry, the default toolbox is displayed for that application. If you then customize the toolbox for that application, the customized toolbox is stored in `SASUSER.PROFILE.DEFAULT.TOOLBOX`, where `<DEFAULT>` is the same entry name as the `PMENU` entry for the window or application.

You can customize the default toolbox, create multiple toolboxes and switch between them, and create application-specific toolboxes that are automatically loaded when the application is loaded. Only one toolbox is displayed at a time, and the tools in the toolbox change as you move between applications. For more information about customizing your toolboxes, see “Customizing Toolboxes and Toolsets” on page 83.

You can close only the toolbar by deselecting **Combine windows** from the ToolBox tab in the Preferences dialog box and by doing one of the following:

- deselecting **Display tools window** in the Preferences dialog box.
- issuing the `TOOLCLOSE` command, as described in “`TOOLCLOSE`” on page 232.
- from the **Tools** menu, selecting **Options** and deselecting **ToolBox**.

## Using the Tool Icons

If you place the cursor over an icon for the amount of time specified by the `SAS.toolboxTipDelay` resource, a pop-up displays text that describes the command for that icon.

Clicking on a tool icon in a toolbox executes the command or commands associated with that icon.

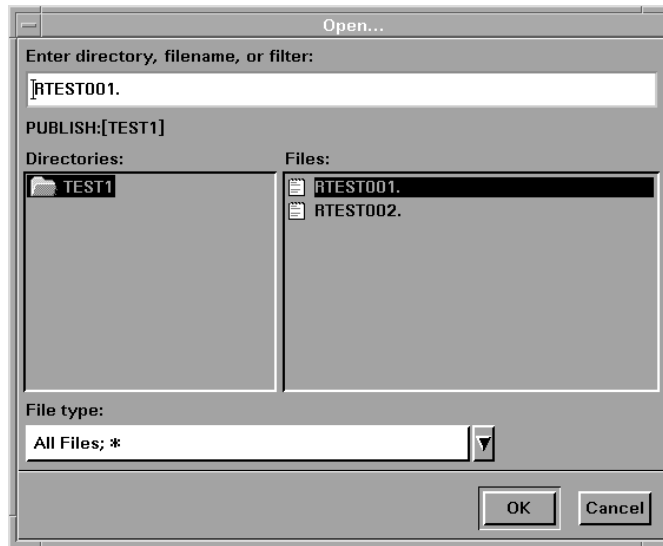
## Opening Files

The Open dialog box (see Display 3.3 on page 62) enables you to select a file to read into the active window. To access this dialog box, issue the `DLGOPEN` command in the command window, or select **Open** from the **File** menu in the active window.

The Open dialog box displays files and directories as a graphical hierarchy. You will not see directories that you do not have read permission for. Double-click on a directory to list the files it contains. Select the desired file.

You can display a list of possible file filters by selecting the down arrow next to the **File Type** field. Click on a file filter to select it.

**Display 3.3** Open Dialog Box



The following is an explanation of the settings:

**Enter directory, filename, or filter:** field  
is where you can type in the name of the directory, file, or file filter (file type) that you want to open.

**Directories:**  
contains the names of the directories specified in the Filter field.

**Files:**  
contains the files in the selected directory that match the file filter specified.

**File type:**  
allows you to select the type or types of files to be shown in the **Files:** list box. You can display a list of possible file filters by selecting the down arrow next to the field. Click on a file filter to select it.

The Open dialog box displays nonreadable directories with a different icon.

To display a list of all the files in a directory, enter the asterisk (\*) wild card in the Filter field or select **All Files;\*** from the list of file types.

The directory listed under the Filter field is the currently selected directory. You can change this directory either by selecting a name from the **Directories:** list or by typing the new name directly into the field.

You can specify the initial file filter in the **File type:** field by assigning a value to the **SAS.pattern** resource. However, the Open dialog box retains its file filter between invocations, so the **SAS.pattern** resource applies only to the first invocation of the Open dialog box. You can also use the **SAS.directory** resource to specify the directory that you want when you first invoked the Open dialog box.

Click on **OK** when you have finished making your selection. Click on **Cancel** to close the Open dialog box without selecting a new file.

For more information about specifying SAS resources, see “Using X Resources to Customize the Motif Interface” on page 74.

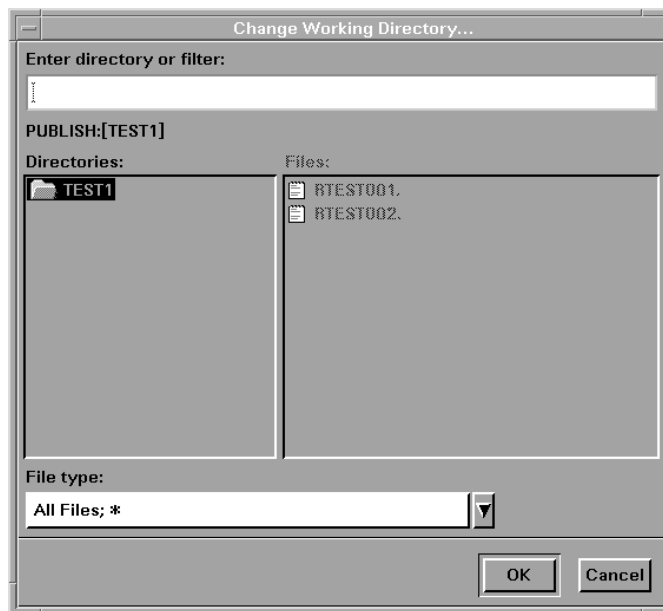
## Changing Your Current Working Directory

The working directory is the operating system directory where you invoke the SAS System. By default, the SAS System uses the current directory as the working directory when you begin your SAS session.

You can change the current working directory during your SAS session. You can use the Change Working Directory dialog box to select a new directory, or you can use the X command, the X statement, the CALL SYSTEM routine, or the %SYSEXEC macro statement to issue the change directory ( **set default**) command.

The Change Working Directory dialog box (Display 3.4 on page 63) works exactly the same as the Open dialog box (Display 3.3 on page 62), except that you can select only a directory (not a file) from the list. To access this dialog box, issue the DLGCDIR command in the command window, or from the **Tools** menu in the active window, select **Options** and then select **Change directory**.

**Display 3.4** Change Working Directory Dialog Box



The following is an explanation of the settings:

**Enter directory or filter: field**

is where you can type in the name of the directory or file filter that you want to open.

**Directories:**

contains the names of the directories specified in the Filter field.

**Files:**

contains the files in the selected directory that match the file filter specified.

**File type:**

allows you to select the type or types of files to be shown in the **Files:** list box. You can display a list of possible file filters by selecting the down arrow next to the field. Click on a file filter to select it.

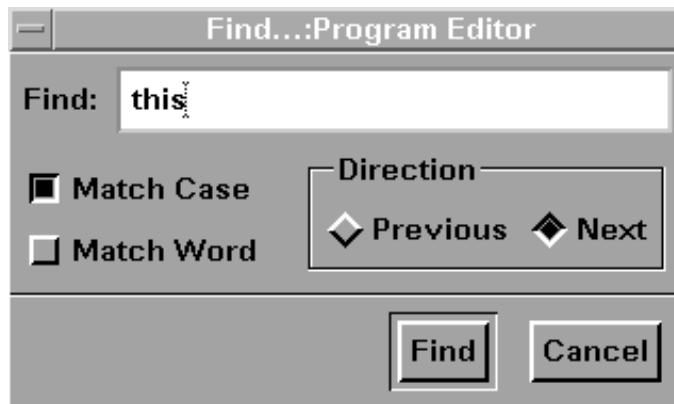
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## Searching for Character Strings

The Find dialog box allows you to search for character strings in any active SAS text editor windows such as the Program Editor, the SCL editor, or the Notepad.

To search for a character string, open the Find dialog box (Display 3.5 on page 64), by issuing the DLGFIND command in the command window, or selecting **Find** from the **Edit** menu in the active window. When the Find dialog box opens, the name of the active window follows the name of the dialog box (for example, Find...:Program Editor).

Display 3.5 Find Dialog Box



The following is an explanation of the settings:

**Find:** field

allows you to type in the character string that you want to find.

**Match Case**

tells the search to match the uppercase and lowercase characters exactly as you typed them.

**Match Word**

searches for the specified string delimited by spaces, end-of-line characters, or end-of-file characters.

**Previous**

searches for the specified string from the current cursor position toward the beginning of the file.

**Next**

searches for the specified string from the current cursor position toward the end of the file.

To find a character string, type the string in the **Find:** field, tailor your search by selecting or deselecting the appropriate check boxes, and click on **Find**. Click on **Cancel** to cancel your choices and close the Find dialog box.



## Replacing Character Strings

The Replace dialog box allow you to search for and replace character strings in any active SAS text editor windows such at the Program Editor, the SCL editor, or the Notepad.

To replace one character string with another, open the Replace dialog box (Display 3.6 on page 65), by issuing the DLGREPLACE command in the command window, or selecting **Replace** from the **Edit** menu in the active window. When the Replace dialog box opens, the name of the active window follows the name of the dialog box (for example, Replace...:Program Editor).

**Display 3.6** Replace Dialog Box



The following is an explanation of the settings:

**Find:** field

allows you to type in the character string that you want to find.

**Replace:** field

allows you to type in the character string that you want to use as the replacement.

**Match Case**

tells the search to match the uppercase and lowercase characters exactly as you typed them.

**Match Word**

searches for the specified string delimited by spaces, end-of-line characters, or end-of-file characters.

**Previous**

searches for the specified string from the current cursor position toward the beginning of the file.

**Next**

searches for the specified string from the current cursor position toward the end of the file.

To find a character string, type the string in the **Find:** field, then click on **Find**.

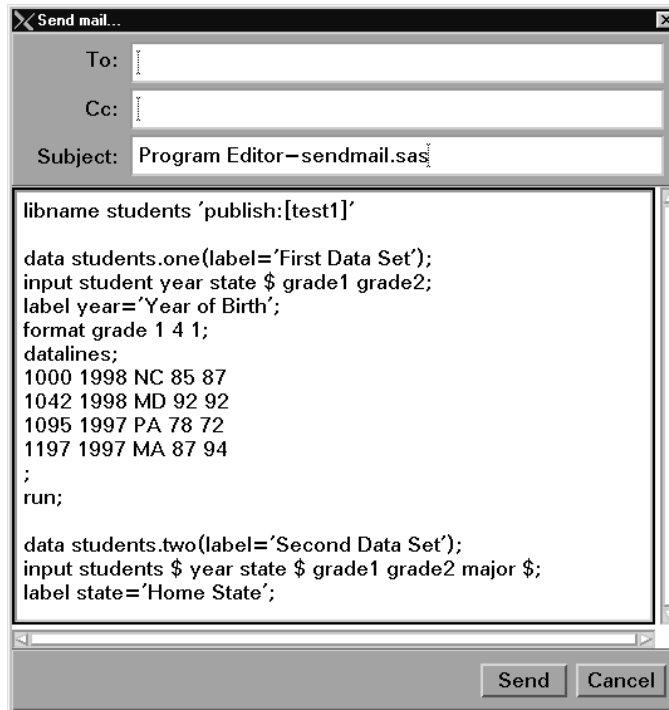
To replace a character string, type the string in the **Find:** field and type its replacement in the **Replace:** field. Click on **Replace**. To change every occurrence of the string to its replacement string, click on **Replace All**.

Click on **Cancel** to cancel your choices and close the Replace dialog box.

## Sending Mail from within Your SAS Session

The Send Mail dialog box (Display 3.7 on page 66) allows you to send e-mail without leaving your current SAS session.

**Display 3.7** Send Mail Dialog Box



The dialog box automatically grabs the contents of the active SAS text window, so you can include the window contents in your message quickly and easily. If you do not want to include the contents of the active SAS editor window in your message, select **Clear All** from the **Edit** menu before opening the Send Mail dialog box.

To open the Send Mail dialog box, select **Send Mail...** from the **File** menu.

To send e-mail, perform the following steps:

- Enter the ID(s) of the e-mail recipients in the **To:** and **CC:** fields. Separate multiple addresses with either blanks or commas.
- Edit the entry in the **Subject:** field as needed.
- Type your message in the message area or edit the contents grabbed from the active SAS text window.
- Click on **[Send]**.

To cancel a message, click on **[Cancel]**.

## Iconizing Windows

Under OpenVMS, you can iconize only top-level SAS windows and windowing environment containers. You cannot iconize groups of windows.

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## Using the Menus

Under OpenVMS, the pull-down menu (PMENU) facility is turned on by default. Also, some of the menus are customized, omitting items that are not applicable.

You can use the PMENU procedure under OpenVMS to create customized menus. Some aspects of this procedure are specific to OpenVMS. For more information about the PMENU procedure, see “PMENU” on page 346 and *SAS Procedures Guide*.

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## Using the Mouse

You can use the left mouse button (MB1) to make a mark, and the middle mouse button (MB2) to paste the mark into a SAS System window. Although the right mouse button (MB3) is not used in cut-and-paste operations, various procedures use MB3 to display a pop-up menu.

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### SAS Mouse Pointer Shapes

When you use the SAS windowing interface under OpenVMS, you see several mouse pointer shapes. If the mouse pointer has its standard shape (usually an arrow), the SAS System is ready to receive your input.

Besides the standard shape, two other mouse pointer shapes are common:

watch (or clock) cursor

indicates that you must wait. The SAS System is performing other tasks and is not ready to accept your input.

dash inside a circle

indicates that the pointer is in an inactive window. User interaction with this window is temporarily disabled.

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## SAS Interface to the TPU Editor

The TPU command (or its aliases, HOSTEDIT or HED) enables you to use the OpenVMS Text Processing Utility (TPU) editor for editing instead of the default SAS Text Editor. For additional details about the TPU command, see “TPU” on page 234.

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## Using Special Character Attributes

SAS software enables you to set the color and highlight attributes of text in some windows. For example, in the Notepad window or in your SAS/AF or SAS/FSP applications, you can turn on character underlining or reverse video to highlight a title. Character attributes are listed in Table 3.1 on page 68. To select an attribute, press and hold the Modifier 1 key on your keyboard (usually labeled “Meta,” “Alt,” “Hyphen,” or “Extend char”). Then, press the attribute key (for example, 1).

**Table 3.1** Selector Characters for Character Attributes

Selector Character	Function
0	Turns off all attributes.
1	Turns on bold.
2	Turns on underlining.
3	Turns on reverse video.
4	Turns on blinking.
A	Sets color to gray.
B	Sets color to blue.
C	Sets color to cyan.
G	Sets color to green.
K	Sets color to black.
M	Sets color to magenta.
N	Sets color to brown.
O	Sets color to orange.
P	Sets color to pink.
R	Sets color to red.
W	Sets color to white.
Y	Sets color to yellow.

Alternatively, you can use the `COLOR` command to combine several of these steps in one command. For more information about the `COLOR` command, see “`COLOR`” on page 221.

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## Getting Help

In the SAS windowing environment, extensive online help is available. You can get information in an abbreviated form or in a more complete form. For the shorter form, select **SAS System Help** from the **Help** menu in the active window. Various topics are available from this point.

To access the OpenVMS documentation online, from the **Help** menu in the active window, select **Books and Training**, and then select **SAS OnlineDoc**. You can open various SAS documentation from this point.

*Note:* The SAS online documentation must also be installed for **SAS OnlineDoc** to function correctly.  $\triangle$

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## Setting Your System for Help and Online Documentation

In Version 8, the SAS online Help system and other online documentation can be displayed only by using an HTML browser. You have to specify the browser and its location before you can use it.

From the **Tools** menu in the active window, select **Options**, and then select **Preferences** to open the Preferences dialog box. Then select the DMS tab. In the **Help and Documentation Browser** field, specify the Netscape browser and point to the location of its executable file.



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