Are You a Commander or a Mouser?

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Abstract
This poster describes easy techniques for obtaining and using commands that perform functions documented only as click-able. It demonstrates how to find obscure Global (Command Line) commands and how to include Global commands in BASE and SAS/AF® programs.

Introduction
With the introduction of GUI's (graphical user interfaces) many handy new features have been added to the SAS Display Manager System. These features are typically accessed by clicking with a mouse on a pulldown menu. However, some people prefer entering commands from a keyboard. And sometimes mice break. And sometimes a programmer needs to exercise these features from a batch program or SAS/AF application.

Most click-able display manager features are associated with text commands. These commands can be

- typed onto a display manager Command Line,
- invoked from an AF or SAS/FSP® application with the **EXECCMD** SCL command,
- actuated with a function key, or
- executed from a BASE SAS program with the **DM** command.

The trick is to figure out what command is being executed when the mouse goes "click". The Help screens and documentation generally show how to perform tasks using pull-down menus. Available commands for them are carefully hidden or even undocumented. This paper shows how to easily find the alphanumeric commands for menu features and how to make good use of them. The screen views in this paper all show MS Windows 95® screens, but the concepts have been tested under Windows, IBM OS/2®, and Unix (Sun OS).

Getting Started
Our approach is to successfully perform a task using the pull-down menus and then to retrieve the text of the command SAS executed for the task. Start by opening the SAS display manager. This may mean clicking on a SAS icon or entering 'SAS' ('sas') at the operating system prompt (such as **C:**). When the SAS session begins, the cursor will be in a window labelled **Program Editor** (see Figure 1). At the top of the window there may (or may not) be a blank line labelled 'Command'. This Command Line is necessary for entering and retrieving text commands. A Command Box, which appears as an empty block with an arrow button on the right, will not work. Our first example demonstrates

how to bring up that needed Command Line if it is not visible.

A note on case used in the examples: While I have shown all commands in UPPER case, you may use either UPPER or lower case for SAS commands. The only items that may be case-sensitive are certain parameters such as file names and words surrounded by quotes (" or ').
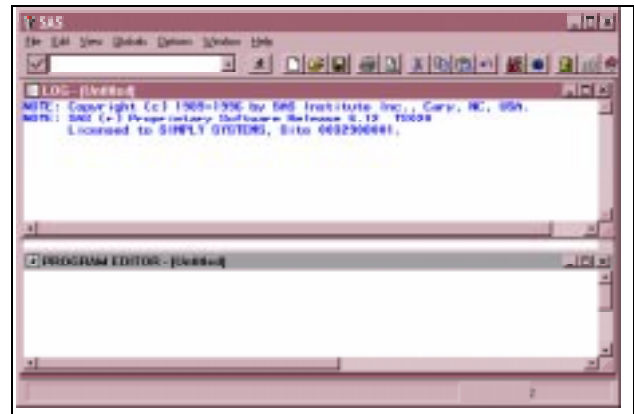

Figure 1 Default SAS Display Manager in Windows 95

Example 1: Command Me
Windows or OS/2: On the ring menu at the top of the screen, click on **Options,** then **Preferences**. A **Preferences Window** will open. Click on the box that says **Command Line**, then click on **Save**.

Unix: On the ring menu at the top of the screen, click on **Globals**, then **Options**, then **Menu Bar Off.**

When the main window reappears, there will be a Command Line at the top, possibly replacing some of the ring menu. If you already had a Command Line, it will be gone now. In that case, repeat the above procedure to get it back.

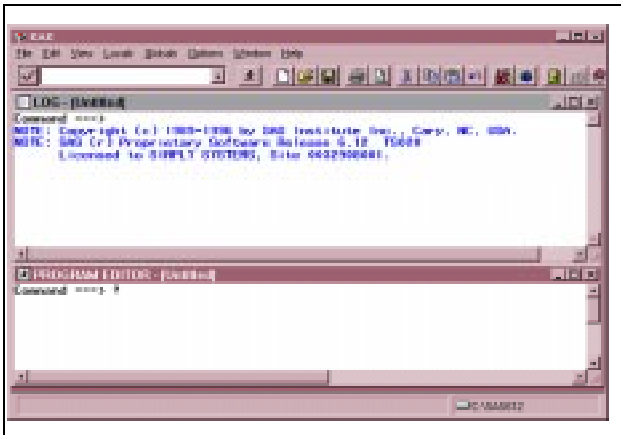How can you change your window layout without a pointing device?

Figure 2 Question Mark on Command Line (Previous Command)

Move your cursor to the new Command Line and ask how, by typing a question mark (**?**) and pressing **Enter** (see Figure 2). Your question mark will be replaced by the words **PMENU OFF**. Repeat the question mark if it didn't work at first. That's the answer. If you type **PMENU ON** (UPPER or lower case) onto a Command Line and press **Enter**, the Command Line will disappear, possibly to be replaced by another text menu, which SAS calls a **pmenu**. The **PMENU** command without parameter toggles between Command Line on and off.

How does this work? The display manager documentation states that typing a question mark (alias for **PREVCMD**) on a Command Line retrieves the last command executed. Entering another question mark will bring back the command before that, etc. When you selected the Command Line from the Pull-down menus, SAS responded by executing its **PMENU OFF** command. When you entered the question mark SAS played it back to you. There's the secret.

The remaining examples show uses for this technique of eliciting commands.

Example 2: Control the Environment with SCL
The standard window layout in SAS V6.12 (see Figure 1) includes a toolbox (or tool bar), a command box (or bar), and a pmenu (SAS ring menu). In an AF/Frame application for end users you may want to suppress the command bar and tools to free up space on the screen and to prevent your clients from accidentally wandering into windows they shouldn't. The on-line Help says that the tools and command bar can be turned off using the **Options-Preferences** menu selections (**Globals-Preferences** for Unix). But you want to turn them off in your application. How?

First, find the command to eliminate the Toolbox. Click on **Options** then **Preferences** and select **Tools Off** (in

Unix that's **Globals-Preference-Toolbox** and click off **Display**). Save the change and check that the Toolbox disappeared. Repeat, this time turning off the **Command Bar/Box** (see Figure 3). On the Command Line (explained in the first example) enter **?** (question mark). The words **COMMAND CLOSE** will appear. Enter another question mark and **TOOLCLOSE** will appear (these commands are valid under Unix but they won't echo here). These are the commands you will need.
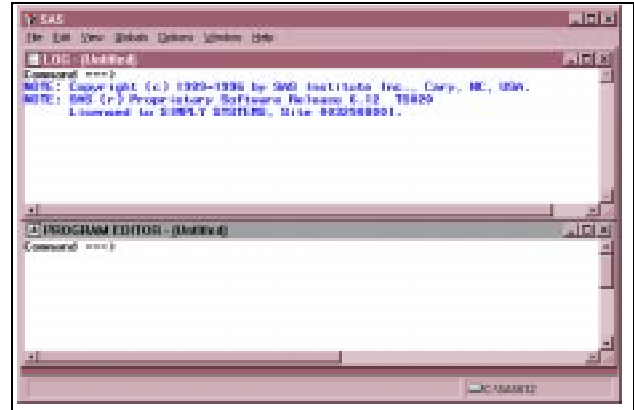

Figure 3 After TOOLCLOSE and COMMAND CLOSE

From the **BUILD** window edit the first SCL program in your application. In the **INIT** section include the following:

```
 CALL EXECCMD('TOOLCLOSE;COMMAND CLOSE');
```

Compile the program. Now, whenever your application is invoked the Toolbox will be invisible and no Command Bar/Box will be exposed, regardless of any changes to the normal setup at your site.

Example 3: Cascading Windows - Oops!
Command Line commands (Global commands) can also be executed by pressing function keys (F3, F4, etc.). When this happens by mistake, the screen view can change and the operator might not know how to recover. In this example the operator was looking at the screen in Figure 4, when he hit Shift-F5 (it has a default value assigned by SAS). The screen suddenly looked like Figure 5.
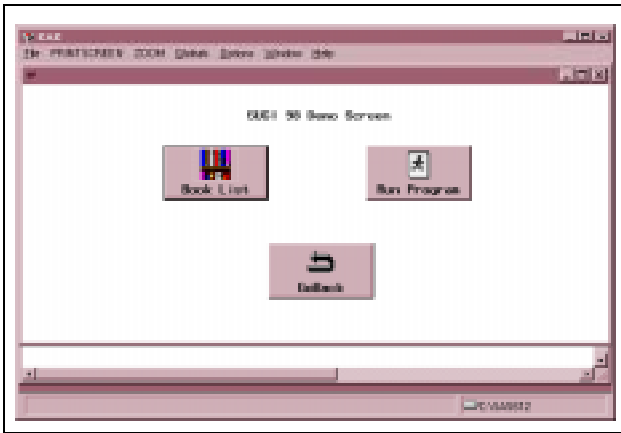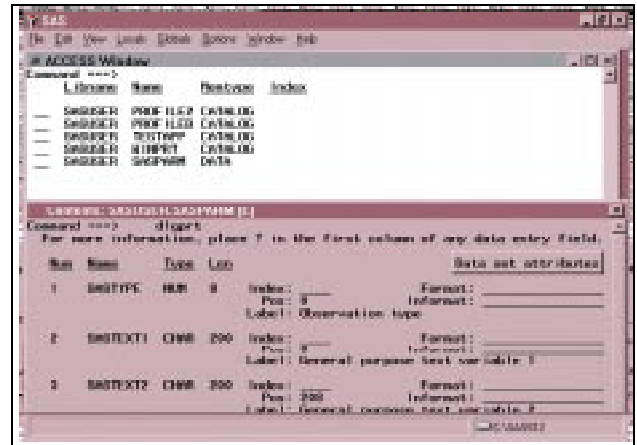
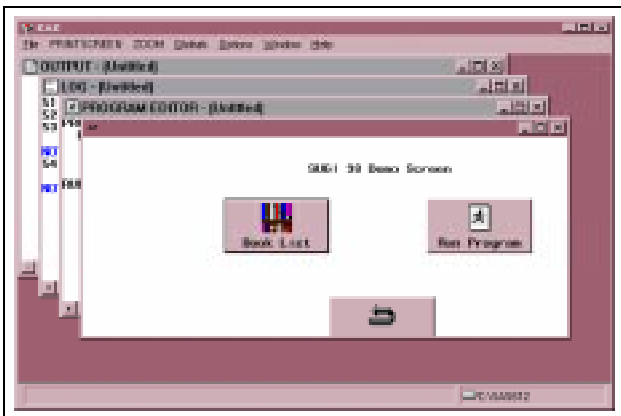**Figure 4** Sample SAS AF/Frame Application - Before

Figure 5 Sample Application - After CASCADE

How to tell which key was pressed? What command was executed? How to undo it?

The answer - type a question mark (**?**) on the Command Line (if it is not visible, get it using the instructions given in Example 1). The magic word **CASCADE** appears. To undo the cascading windows, type **UNCASCADE** on the Command Line and your screen will return to its Figure 4 form. (NOTE: This was a trial and error discovery. The non-working trials were NOCASCADE and CASCADE OFF).

Example 4: Gimme ACCESS
Exploring the main SAS ring menu, you may have found a useful window (see Figure 6) that lists all the data sets in all your defined LIBNAMEs and lets you view info equivalent to that from PROC CONTENTS (variables, date created, etc.). How can you get there faster, without traversing all the intermediate pull-down menus?

Figure 6 ACCESS Window

Type a question mark (**?**) on the Command Line (if it is not visible, follow the instructions in Example 1 to get it). **ACCESS** is the way to view all those goodies in short order.

If this window becomes a favorite of yours and you want to make a shortcut to it, you can assign the command to a function key. Type **KEYS** on the Command Line and press **Enter**. A window will appear that lists available function keys and the commands associated with them. Move the cursor to a key that has no command and type **ACCESS**. Close the keys window by pressing the function key labelled **END**, typing **END** on the Command Line, or clicking on a pull-down menu. To test, press the key you defined. The **ACCESS** window will appear.

Example 5: A BASE-ic Program
Some people in your office may use SAS mainly to enter or browse data. To begin they start the SAS display manager, click on **Globals**, then select **Manage** and **Open Table** from the pmenu.   When the **VIEWTABLE** window appears (it looks like a spreadsheet), they select **File** and **Open** to display the list of available SAS data sets (shown in Figure 7). It would be convenient to see the selection list of files as soon as the initial SAS display, without having to deal with all the intermediate menus. It is easy set up this capability using Global commands in a BASE SAS program submitted during your SAS start up.
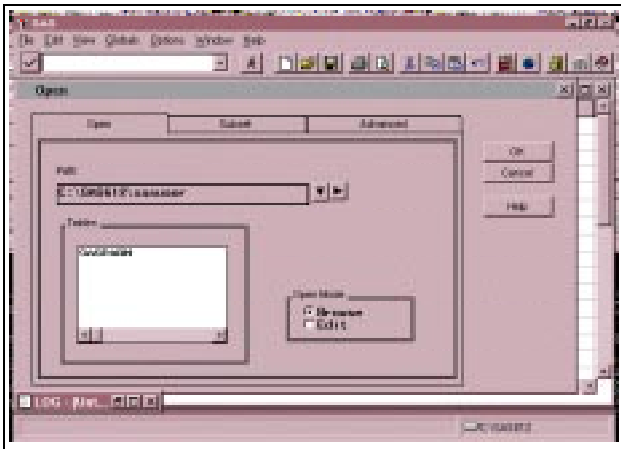
3

Figure 7 Selection List of Data Sets to Open

First, perform the procedure just described until the list of files is displayed. Close the **Viewtable** screens (select **Cancel** on the list window and **File** then **End** on the ring menu) to return to the **Program Editor** window. If the Command Line is not visible, get it (see Example 1). Type **?** (question mark) on the Command Line and press **Enter**. Repeat, until you see the commands **OPEN** and **OPENTABLE**, in sequence.

Starting on the first line of the **Program Editor**, type the following program:

LIBNAME sample '*datapath*';
DM 'OPENTABLE; OPEN;' OPEN;

replacing *datapath* with the name of the directory or folder where you keep your data. If you are running under Unix, remember to type forward slashes (/) instead of backslashes (\\). Save the program with the name ***progpath*\\testauto.sas** by selecting **File** then **Save As** from the ring menu. For *progpath* substitute the name of the directory or folder you use for programs. Test the program by
  • entering **SUBMIT** on the Command line,
  • selecting **Locals** and **Submit** from the pmenu, or
  • clicking on the tool icon of the running person.
If your typing was good, you will be looking at a selection window that includes the data sets in your **sample** LIBNAME and in any other libraries that have been defined in the session.

To make this procedure automatic, you will use the program you just saved as the start up program (**autoexec**) for the SAS session. Leave SAS (click on **File-Exit**) and restart it. If you normally enter SAS from an operating system prompt, type your regular command (probably **SAS** or **sas**) followed on the same line by

-AUTOEXEC *progpath*\\testauto.sas

where *progpath* is the place you stored your program.

If you normally start SAS from an icon, make a copy of that icon. Edit the **Properties** (Windows) or **Settings-File** (OS/2) of the icon. Type the same phrase (**-AUTOEXEC *progpath*\\testauto.sas**) into the **Parameter** field, if there is one. Otherwise append it to the **Target** (Windows 95) or **Program**. Save your changes and click on the new icon.

With one click or one command the SAS Display Manager will open to the screen from which you can pick the data set you want to process.

Summary
There are many times when tasks that are normally point-and-click need to be executed with text commands. You can frequently find the command associated with a pull-down menu by first clicking on the menu and then replaying the resulting command by entering **?** on the Command Line. These commands can then be used in SCL programs for SAS/AF and FSP, in BASE SAS programs, or entered directly onto a screen Command Line.

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