MME Interface Reference

(CRAY T90™ Series)

HDM-008-A

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Record of Revision

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MME INTERFACE REFERENCE

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Description of this Document

This document is a reference to the user interface for the Mainframe Maintenance Environment (MME) application used to troubleshoot CRAY T90 series mainframes. This document describes the interfaces used with MME environments 0, 1, and 2. It also describes all available menu button commands. Figure 9, Figure 10, and Figure 11 illustrate all menu button commands available in environments 0, 1, and 2.

This document is one component of the MME documentation set, which also includes the following documents:

MME User Guide, publication number HDM-102-A.

> This document describes how to use the MME environments for troubleshooting. It includes information about the internal functionality of MME.

MME Diagnostic Tests and Utilities, publication number HDM-103-A.

> This document provides quick-reference information for all diagnostic tests and utilities you can use with MME.

ENVIRONMENT 0

This section describes the interface components and menu button commands for MME environment 0.

Interface Components

The MME environment 0 interface, located in the base window, controls testing in environment 0. Environment 0 uses two distinct graphical user interfaces: one for automatic and manual modes and one for compose mode.

Automatic or Manual Mode

Figure 1 shows the MME environment 0 graphical user interface for automatic or manual mode. The paragraphs following the figure describe the components of the interface.

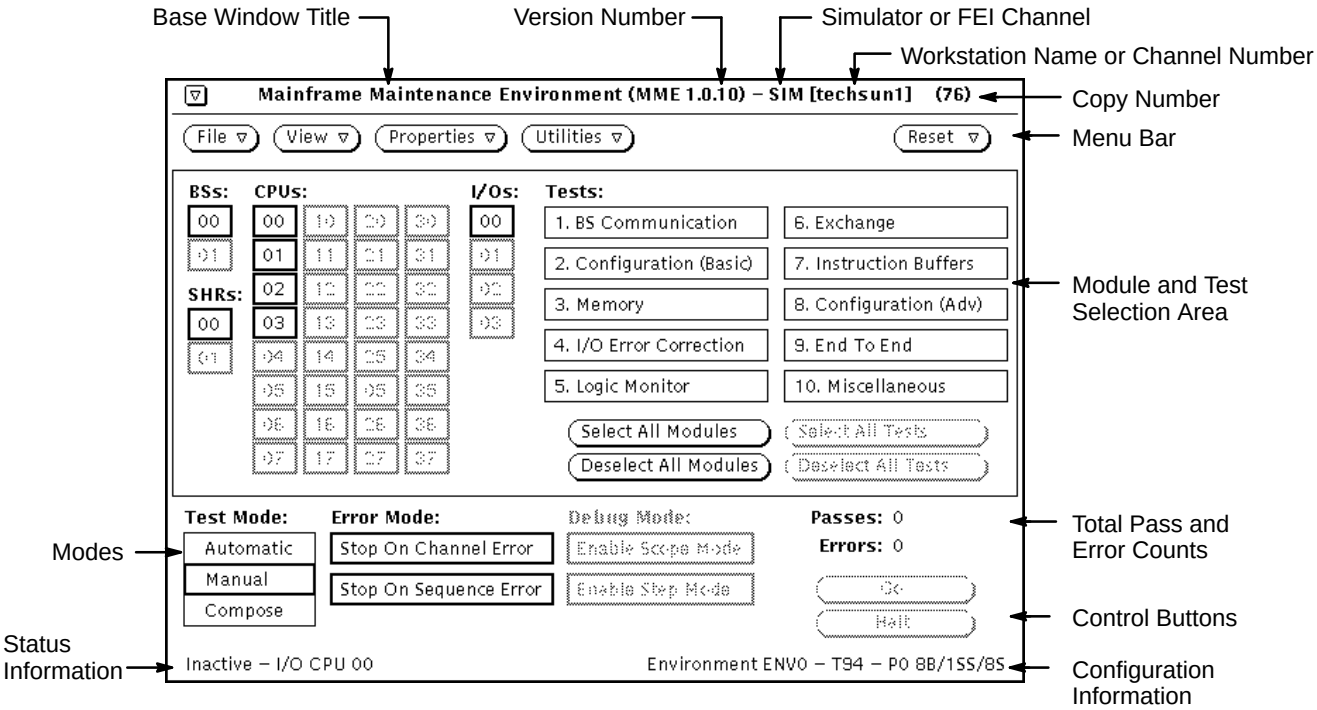


Figure 1. Environment 0 Interface Components (Automatic or Manual Mode)

Base Window Title

The base window title displays the name of the program: Mainframe Maintenance Environment.

Version Number

The version number indicates the version of MME you are using.

Simulator or FEI Channel

The simulator or front-end interface (FEI) channel indicator shows MME is running with the simulator (indicated by SIM) or an FEI channel (indicated by FEI CHN 0 for channel 0, FEI CHN 1 for channel 1, FEI CHN 2 for channel 2, etc.).

Workstation Name or Channel Number

The workstation name or channel number indicator lists the name of the workstation or the channel number on which MME is running.

Copy Number

The copy number indicates the copy of MME you are using. To set the copy number, start MME with the `-copy` option. If you start MME with the default copy number of 0, the MME base window does not display a copy number. For more information about starting MME with the `-copy` option, refer to the *MME User Guide*, publication number HDM-102-A.

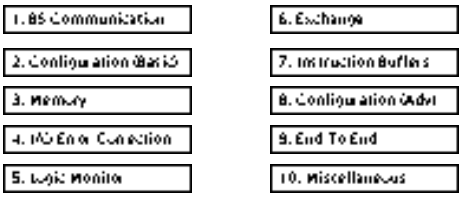
Menu Bar

The menu bar contains five menu buttons: File ▽, View ▽, Properties ▽, Utilities ▽, and Reset ▽. For descriptions of the commands accessible from these menu buttons, refer to “Menu Button Commands” on page 10.

Module and Test Selection Area

In the module and test selection area, you can assign modules to the environment 0 tests. You can assign four types of modules to tests: BSs (boundary scan modules), SHRs (shared modules), CPUs (CPU modules), and I/Os (input/output modules).

Use the following settings to select environment 0 tests:



Click on a setting to select a test. Use the Select All Tests and Deselect All Tests buttons to select or deselect all tests (automatic mode only). Use the Select All Modules and Deselect All Modules buttons to select or deselect all modules.

For more information about the environment 0 tests, refer to the *MME Diagnostic Tests and Utilities* document, publication number HDM-103-A.

Total Pass and Error Counts

The total pass count component (Passes) indicates the number of passes a test has completed. The total error count component (Errors) indicates the total number of errors found during the current test(s) executions. The pass and error counts are in decimal.

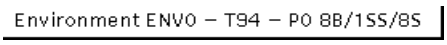
Control Buttons

Use the control buttons to start testing (Go) and stop testing (Halt).

Configuration Information

The configuration information component displays the current MME environment and configuration data (mainframe type; partition where MME is running; and number of sections, subsections, and banks). The System Configuration Environment (SCE) provides this information.

For example, the following configuration information indicates MME is in environment 0 (Environment ENV0); the mainframe type is a CRAY T94 system (T94); MME is running in partition 0 (P0); and the configuration consists of 8 banks (8B), 1 subsection (1SS), and 8 sections (8S).



The configuration information component displays one of the following mainframe types:

Type	Description
Tester	A tester with 1 CPU and 1 memory module
T94	A CRAY T94 mainframe
T916	A CRAY T916 mainframe
T932	A CRAY T932 mainframe

Status Information

The status information component displays the current state of the MME program, using the following messages:

Message	Description
Active	Test(s) are running.
Inactive	No test(s) are running.
I/O CPU ##	The specified CPU is the I/O CPU. (The I/O CPU specifies which CPU path MME uses to access mainframe memory.)
I/O Disabled	No CPUs are set as the I/O CPU.

Modes

The modes area contains the settings for the Test Mode, Error Mode, and Debug Mode:

- Test Mode can be set to [Automatic], [Manual], or [Compose] to indicate testing in automatic, manual, or compose mode.
- Error Mode can be set to [Stop On Channel Error] to stop testing when a channel error occurs and [Stop On Sequence Error] to stop testing when a sequence error (data miscompare) occurs.
- The Debug Mode settings are used in compose mode only.

Compose Mode

Figure 2 shows the MME environment 0 graphical user interface for compose mode. The paragraphs following the figure describe the components of this interface.

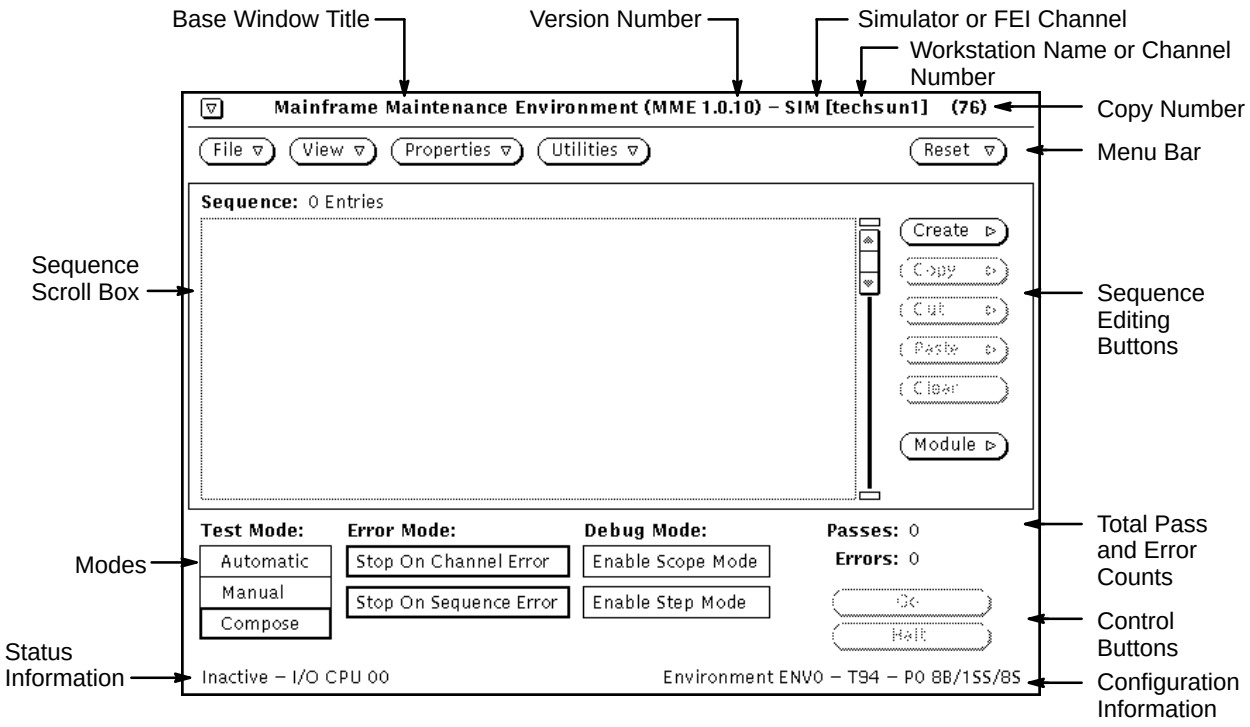


Figure 2. Environment 0 Interface Components (Compose Mode)

Base Window Title

The base window title displays the name of the program: Mainframe Maintenance Environment.

Version Number

The version number indicates the version of MME you are using.

Simulator or FEI Channel

The simulator or FEI channel indicator shows MME is running with the simulator (indicated by SIM) or an FEI channel (indicated by FEI CHN 0 for channel 0, FEI CHN 1 for channel 1, FEI CHN 2 for channel 2, etc.).

Workstation Name or Channel Number

The workstation name or channel number indicator displays the name of the workstation or the channel number where the MME program is running.

Copy Number

The copy number indicates the copy of MME you are using. To set the copy number, start MME with the `-copy` option. If you start MME with the default copy number of 0, the MME base does not display a copy number. For more information about starting MME with the `-copy` option, refer to the *MME User Guide*, publication number HDM-102-A.

Menu Bar

The menu bar contains five menu buttons: File ▽, View ▽, Properties ▽, Utilities ▽, and Reset ▽. For descriptions of the commands accessible from these menu buttons, refer to "Menu Button Commands" on page 10.

Sequence Editing Buttons

Use the sequence editing buttons to manipulate the placement of functions and utilities within a test sequence. These buttons perform the following functions:

Button	Function
Create ▷	Creates a new function or utility in the current sequence. The function or utility is placed in the Sequence scroll box. Choose **Create –> Before** to place the function before the selected function in the scroll box. Choose **Create –> After** to place the function after the selected function in the scroll box. Choose **Create –> Top** to place the function at the top of the scroll box. Choose **Create –> Bottom** to place the function at the bottom of the scroll box.
Copy ▷	Copies the selected function or utility in the Sequence scroll box. Choose **Copy –> Selected** to copy the selected function. The Copy –> Range command is not implemented yet.

Button	Function
Cut ▷	Cuts the selected function or utility from the current sequence in the Sequence scroll box. Choose **Cut –> Selected** to cut the selected function. The Cut –> Range command is not implemented yet.
Paste ▷	Pastes a copied or cut function or utility into the current sequence in the Sequence scroll box. Choose **Paste –> Before** to paste the function before the selected function in the scroll box. Choose **Paste –> After** to paste the function after the selected function in the scroll box. Choose **Paste –> Top** to paste the function at the top of the scroll box. Choose **Paste –> Bottom** to paste the function at the bottom of the scroll box.
Clear	Removes all functions and utilities from the Sequence scroll box.
Module ▷	Sets the module used by the functions and utilities in the current sequence.

Total Pass and Error Counts

The total pass count component (Passes) indicates the number of passes a test has completed. The total error count component (Errors) indicates the total number of errors found during the current test(s) executions. The pass and error counts are in decimal.

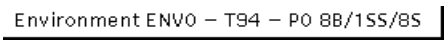
Control Buttons

Use the control buttons to start testing (Go) and stop testing (Halt).

Configuration Information

The configuration information component displays the current MME environment and configuration data (mainframe type; partition where MME is running; and number of sections, subsections, and banks). The System Configuration Environment (SCE) provides this information.

For example, the following configuration information indicates MME is in environment 0 (Environment ENV0); the mainframe type is a CRAY T94 system (T94); MME is running in partition 0 (P0); and the configuration consists of 8 banks (8B), 1 subsection (1SS), and 8 sections (8S):



The configuration information component displays one of the following mainframe types:

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T932	A CRAY T932 mainframe

Status Information

The status information component displays the current state of the MME program by using the following messages:

Message	Description
Active	Test(s) are running.
Inactive	No test(s) are running.
I/O CPU ##	The specified CPU is the I/O CPU. (The I/O CPU specifies which CPU path MME uses to access mainframe memory.)
I/O Disabled	No CPUs are set as the I/O CPU.

Modes

The modes area contains the settings for the Test Mode, Error Mode, and Debug Mode:

- Test Mode can be set to [Automatic], [Manual], or [Compose] to indicate testing in automatic, manual, or compose mode.
- Error Mode can be set to [Stop On Channel Error] to stop testing when a channel error occurs and [Stop On Sequence Error] to stop testing when a sequence error occurs.
- Debug Mode can be set to [Enable Step Mode] to enable scope mode. Debug mode can also be set to [Enable Step Mode] to enable step mode, which causes one function or utility to execute each time you click on (Go).

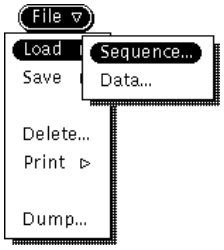
Sequence Scroll Box

The Sequence scroll box shows the function entries for the current sequence. These functions run in the order in which they are displayed in the scroll box; when you click on (Go), function entries at the top of the scroll box run before entries at the bottom.

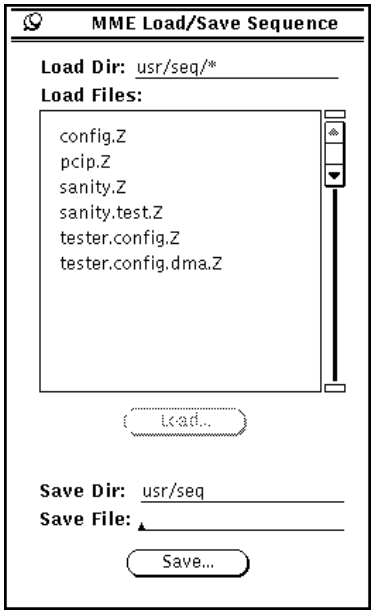
Menu Button Commands

The menu buttons contain commands that manipulate MME environment 0. This subsection describes what each command does and how to use each menu button command. Figure 9 on page 153 shows all available menu button commands for environment 0.

File –> Load –> Sequence



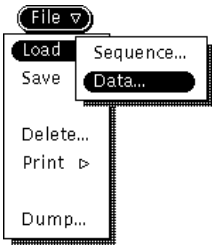
The File –> Load –> Sequence command, as shown at the left, loads previously saved sequences of maintenance channel functions and utilities into the MME program (refer to "File –> Save –> Sequence" for more information about saving sequences). Use this command to load specialized sequences you have created or modified for your specific testing needs. This command displays the MME Load/Save Sequence window:



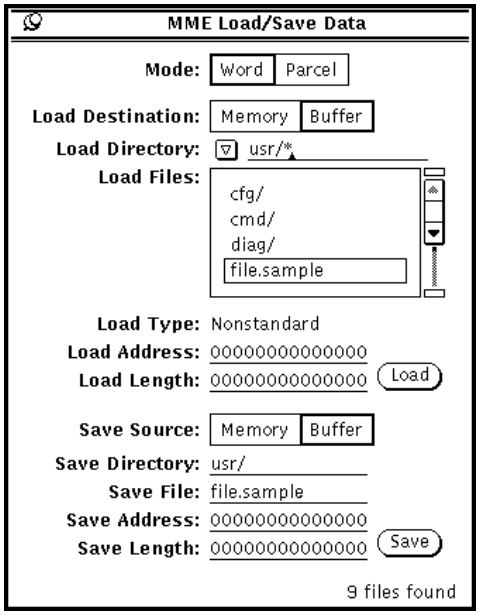
Perform the following procedure to manipulate this window:

1. Change the directory in the Load Dir field, if necessary, and press the Return key.
2. Click on the sequence to load in the Load Files scroll box.
3. Click on Load...; MME loads the specified sequence.

File –> Load –> Data



The File –> Load –> Data command, as shown at the left, loads a data set into the MME buffer or mainframe memory. Use this command to re-create a specific data set for testing without having to manually enter it each time. This command displays the MME Load/Save Data window:



Perform the following procedure to manipulate this window:

1. Select the data Mode. Click on [Word] to use a word load address and length or [Parcel] to use a parcel load address and length. The Load Address and Load Length fields change to the specified format.

2. Specify the Load Destination. Click on [Memory] to load the data into mainframe memory or [Buffer] to load the data into the MME buffer.

3. Change the directory, if necessary, by choosing a new directory from the Load Directory: [▽] or by entering the directory in the Load Directory field.

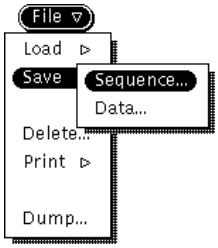
   The Load Directory: [▽] includes selections for the `usr` diagnostic and data directories, all of the `rel` directories, and all of the `alpha` directories.

4. In the Load Files scroll box, click on the data file you want to load. The Load Type and Load Length information is updated, and the (Load) button is activated.

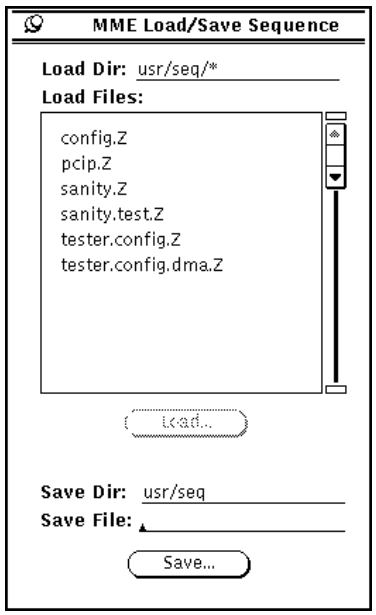
5. In the Load Address field, enter the address at which you want to load data.

6. Click on Load; MME loads the data at the specified address in mainframe memory or the MME buffer.

File –> Save –> Sequence



The File –> Save –> Sequence command, as shown at the left, saves a sequence of maintenance channel functions and utilities you have created or modified. Use this command to create customized sequences (refer to "File –> Load –> Sequence" earlier in this section for more information about loading sequences). This command displays the MME Load/Save Sequence window:



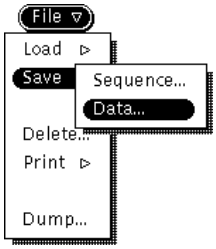
Perform the following procedure to manipulate this window:

1. To change the directory on the maintenance workstation (MWS) where the sequence is saved, specify a different directory in the Save Dir field, and press the Return key.

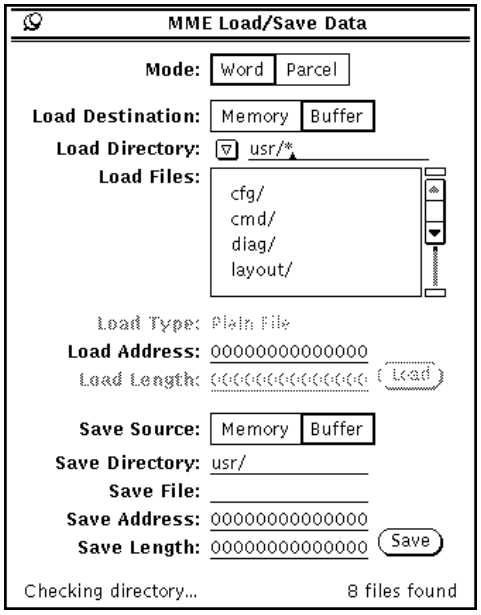
2. In the Save File field, enter the name of the file you want to use, and press the Return key.

3. Click on Save... or press the Return key; MME saves the sequence in the specified file.

File –> Save –> Data



The File –> Save –> Data command, as shown at the left, saves a mainframe memory data set or an MME buffer data set so you can reuse it. Use this command to re-create a specific data set for testing. This command displays the MME Load/Save Data window:



Perform the following procedure to manipulate this window:

1. Click on Mode: Word to use a word save address and length or Mode: Parcel to use a parcel save address and length. The Save Address and Save Length fields change to the specified format.

2. Click on Save Source: Memory to save mainframe memory data, or click on Save Source: Buffer to save MME buffer data.

3. To change the directory where the data is saved on the MWS, specify a different directory in the Save Dir field, and press the Return key.

4. In the Save File field, enter the name of the file you want to use.

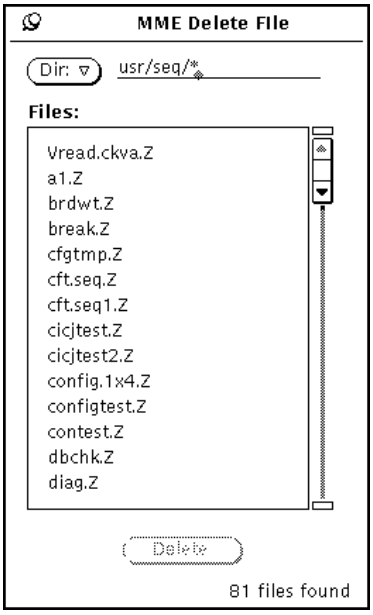
5. In the Save Address field, enter the starting address of the data block you want to save.

6. In the Save Length field, enter the length of the data block you want to save.

7. Click on Save; MME saves the specified data set.

File –> Delete

The File –> Delete command, as shown at the left, deletes files you no longer need. Use this command to delete unwanted files from the MME user directories stored on the MWS. This command displays the MME Delete File window:



Perform the following procedure to manipulate this window:

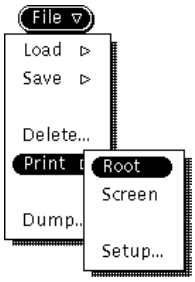
1. Change the directory, if necessary, by:

   - Entering the directory in the Dir: field and pressing the Return key, or
   - Choosing the directory from the Dir: button. The following user directories are available:

Directory	Description
usr/data	User data files
usr/diag	User diagnostic programs
usr/env	User environment files
usr/layout	User layout data
usr/lst	User listings
usr/seq	User sequences

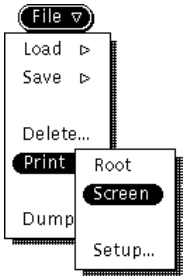
2. Click on the file you want to delete.
3. Click on Delete; MME deletes the file.

File –> Print –> Root



The File –> Print –> Root command, as shown at the left, prints an image of everything contained in the root window, including the MME base window.

File –> Print –> Screen

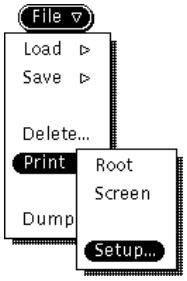


The File –> Print –> Screen command, as shown at the left, prints an image of a window or an icon.

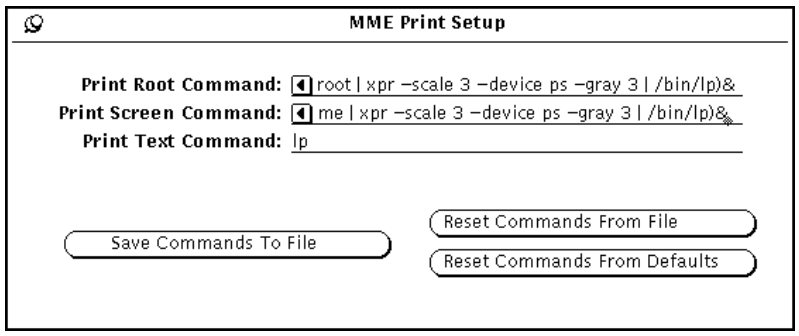
When you choose this command, the cursor becomes a plus symbol (+). Move the cursor to the window or icon you want to print, and click any mouse button.

NOTE: This command does not print an image of the MME base window. To print an image of the MME base window, use the File –> Print –> Root command.

File –> Print –> Setup



The File –> Print –> Setup command, as shown at the left, enables you to edit the commands that control how MME prints data for the File –> Print –> Root and File –> Print –> Screen commands. This command displays the MME Print Setup window:

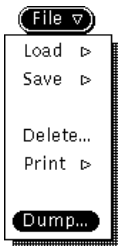


Modify the commands in the Print Root Command and Print Screen Command fields to change how MME prints. For more information about the UNIX `xwd`, `xpr`, and `lp` commands used in the print processes, refer to the UNIX online manual (man) pages (enter **`man xwd`**, **`man xpr`**, or **`man lp`** at a UNIX command prompt).

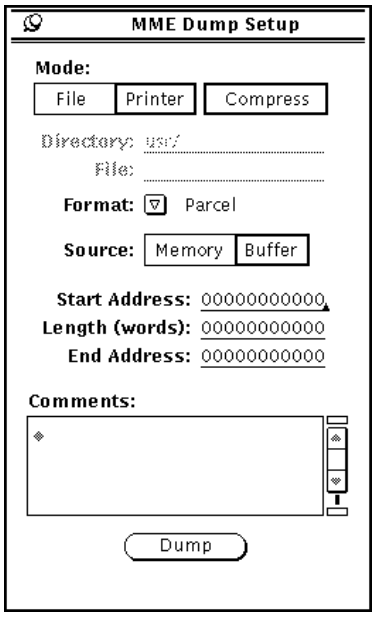
Use the buttons in the MME Print Setup window to perform the following functions:

- To save the current printer setup commands for later use, click on Save Commands To File.
- To load the printer setup commands you saved previously, click on Reset Commands From File.
- To load the default printer setup commands that the MME program provides, click on Reset Commands From Defaults.

File –> Dump



The File –> Dump command, as shown at the left, sends a copy of MME buffer or mainframe memory data to a file or printer. Use this command to create a permanent record of the data so you can analyze it later. This command displays the MME Dump Setup window:



Perform the following procedure to manipulate the MME Dump Setup window:

1. Specify the Mode. Click on File to output the data to a file, or click on Printer to output the data to the printer.

NOTE: Click on [Compress] to compress the output of the File –> Dump command. This reduces the size of the data listing by replacing repeated lines with a statement similar to Last line repeated 077 (63) times.

2. If data is being dumped to a file, specify the directory in the Directory field and the file in the File field.

3. Choose the format in which you want the data displayed from the Format: [▽]. The following formats are available:

Format	Description
Nibble	Nibble data
Byte	Byte data
Parcel	Parcel data
Halfword	Halfword data
Word	Word data
Hexadecimal	Hexadecimal data
Address	Address data
Text	Text data
Exchange (NI)	Exchange data (not implemented)
Instruction (T90)	Instruction data (CRAY T90 series instructions)
Instruction (IEEE)	Instruction data (IEEE instructions)
Instruction (C90)	Instruction data (CRAY C90 series instructions)

4. Specify the Source. Click on [Memory] to dump mainframe memory data or [Buffer] to dump MME buffer data.

5. Specify the data block you want to dump by completing any two of the following actions (the third field is automatically set using data from the other two fields):

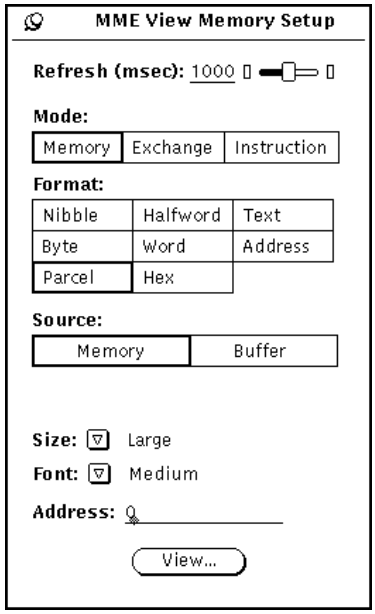
   - Enter the starting address of the data block you want to dump in the Start Address field, and press the Return key.
   - Enter the length (in words) of the data block in the Length (words) field, and press the Return key.
   - Enter the ending address of the data block you want to dump in the End Address field, and press the Return key.

6. Click on the Comments scroll box and type any comments you want to include with the data. For example, you might specify that the data was created on a specific date.

7. Click on (Dump); MME sends the data to the printer or file.

View –> Memory

The View –> Memory command, as shown at the left, displays mainframe memory in a separate window. Use this command to verify the contents of specific mainframe memory locations or to change the data stored in mainframe memory. This command displays the MME View Memory Setup window:



Perform the following procedure to manipulate this window:

1. Set the interval at which memory windows are updated by moving the Refresh (msec) slider or by entering a value in the Refresh (msec) field and pressing the Return key. (Setting this value too low can monopolize the workstation CPU and reduce system performance.)

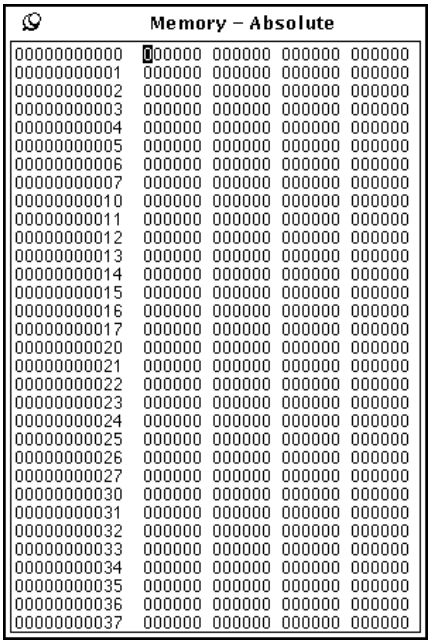
2. Click on a Mode ([Memory], [Exchange], or [Instruction]) to specify the way you want the data displayed.

3. Click on a Format. The following Format settings are available for [Memory] mode: [Nibble], [Halfword], [Text], [Byte], [Word], [Address], [Parcel], and [Hex] (hexadecimal).

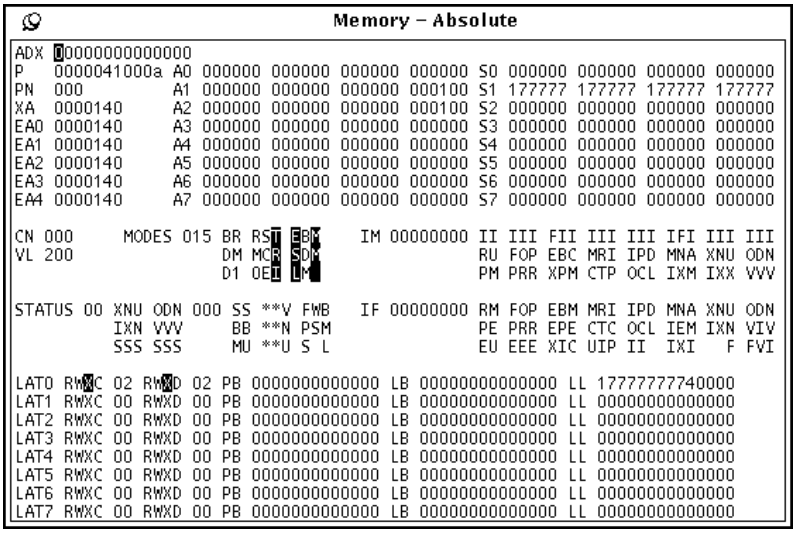
   The following Format settings are available for [Exchange] mode: [Byte], [Word], [Parcel], [Text], [Halfword], and [Address].

   The following Format settings are available for [Instruction] mode: [CSD], [T90], and [IEEE].

Memory mode ([Memory]) displays normal memory:



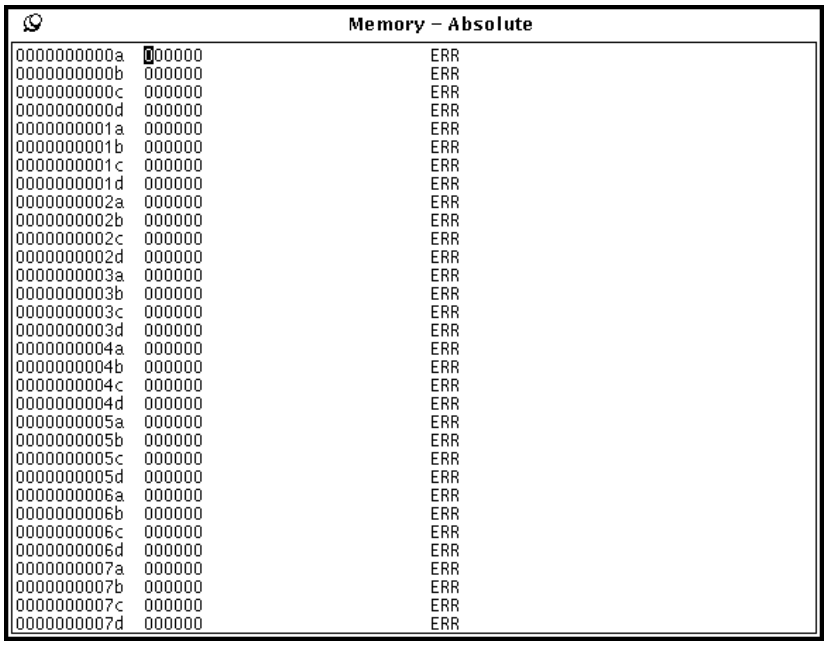
Exchange mode ([Exchange]) displays exchange information:



MME displays the same data for CRI floating-point format exchange packages and IEEE floating-point format exchange packages. The Memory window contains information for both formats. MME highlights only the bits and modes that are used for the CP modules included in the mainframe. This document shows exchange packages for CP modules that use the CRI floating-point format.

For more information about the contents of CRI floating-point format exchange packages, refer to the *CPU Module (CP02)* document, publication number HTM-003-0. For more information about the contents of IEEE floating-point format exchange packages, refer to the *IEEE CPU Module (CP02)* document.

Instruction mode ([Instruction]) decodes memory into instructions:



4. Choose the size of the display window from the Size: [▽]. This affects only the memory and instruction mode windows. The following window sizes are available:

Size	Description
Small	The window displays 10_8 words.
Medium	The window displays 20_8 words.
Large	The window displays 40_8 words.
X–Large	The window displays 100_8 words.

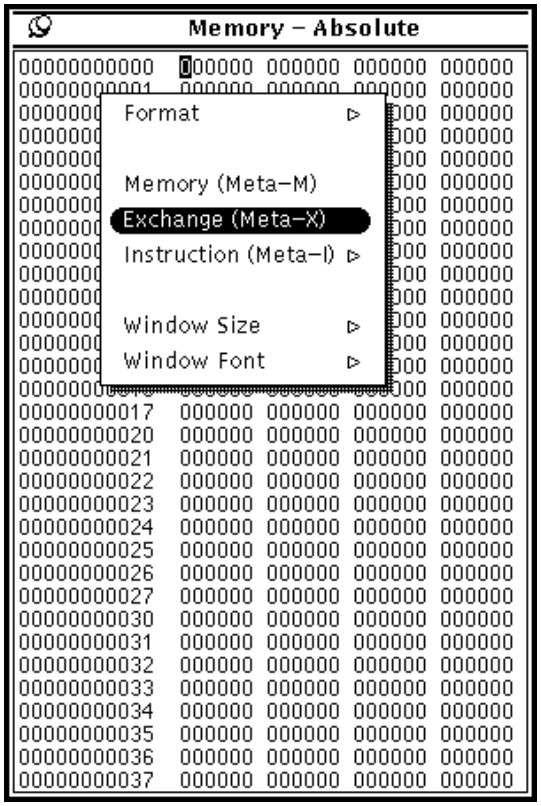
5. Choose the font size you want to display in the window from the Font: ▽. The following font sizes are available:

Size	Description
Small	The font size is small.
Medium	The font size is medium.
Large	The font size is large.
X–Large	The font size is extra large.

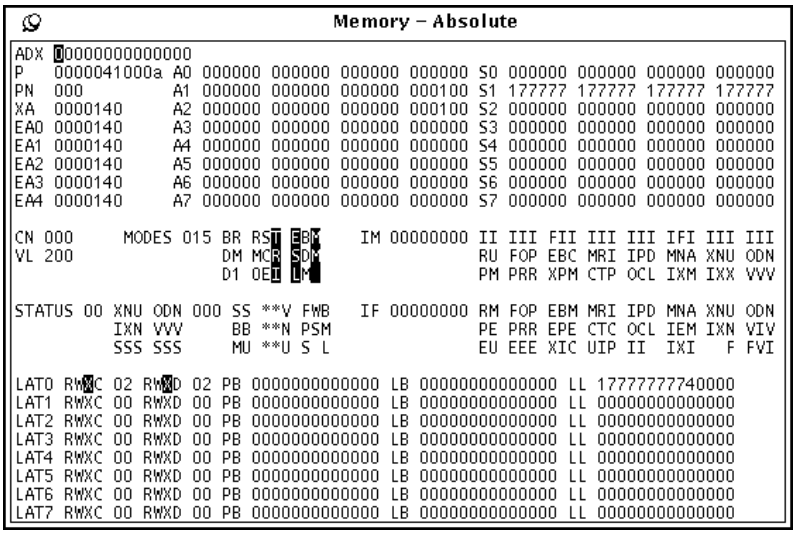
6. Change the starting address, if necessary, by double clicking on the Address field and typing a new value.

7. Click on View... . MME displays a Memory – Absolute window for the specified memory location.

   If you want to change the Format, Memory, Exchange, Instruction, Window Size, or Window Font from the Memory – Absolute window, press the MENU mouse button and choose the menu item:



For example, the following Memory – Absolute window appears if you choose the Exchange (Meta–X) format menu option:



You can also change the window format (Format), data type (Memory or Instruction), window size (Window Size), or window font (Window Font) from this menu.

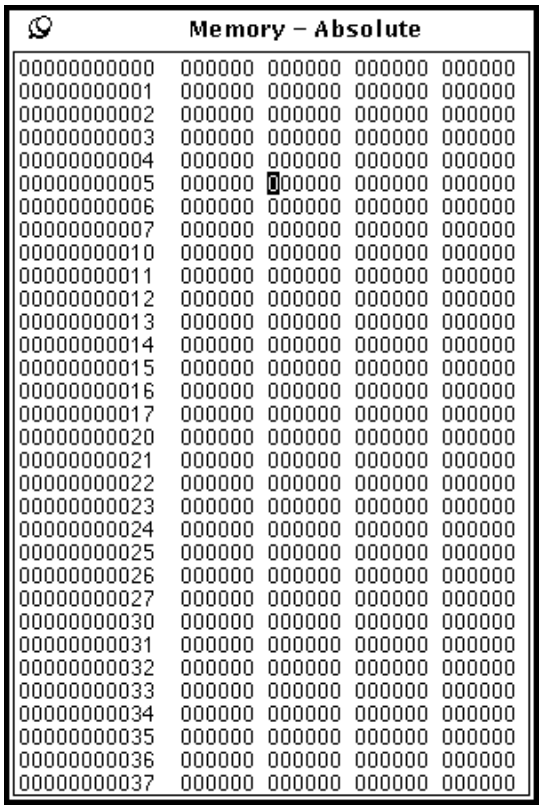
In this example, instead of using the MENU mouse button, you may also use the diamond-shaped meta key (or , depending on the type of keyboard you have) with one of several keyboard shortcuts. The following key combinations are shortcuts to the menu options:

Key Sequence	Function
Meta-a	Switches the display to address format
Meta-n	Switches the display to nibble format
Meta-b	Switches the display to byte format
Meta-p	Switches the display to parcel format
Meta-h	Switches the display to halfword format
Meta-w	Switches the display to word format
Meta-e	Switches the display to hexadecimal format
Meta-t	Switches the display to text format
Meta-i	Switches the display to instruction mode
Meta-x	Switches the display to exchange mode
Meta-m	Switches the display to memory mode

Changing Memory

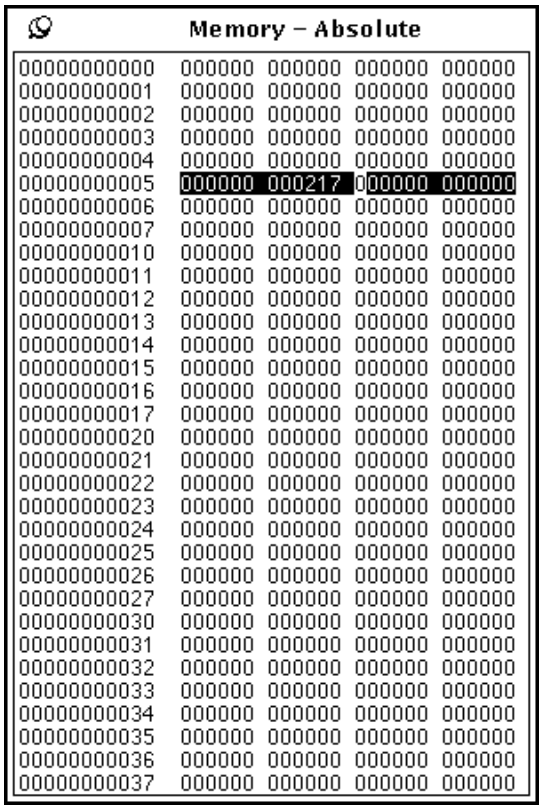
Perform the following procedure from the Memory – Absolute window to change data stored in mainframe memory:

1. Use the arrow keys to move the cursor to the location in memory you want to change, or click on the location. In this example, parcel 00000000005b was selected:

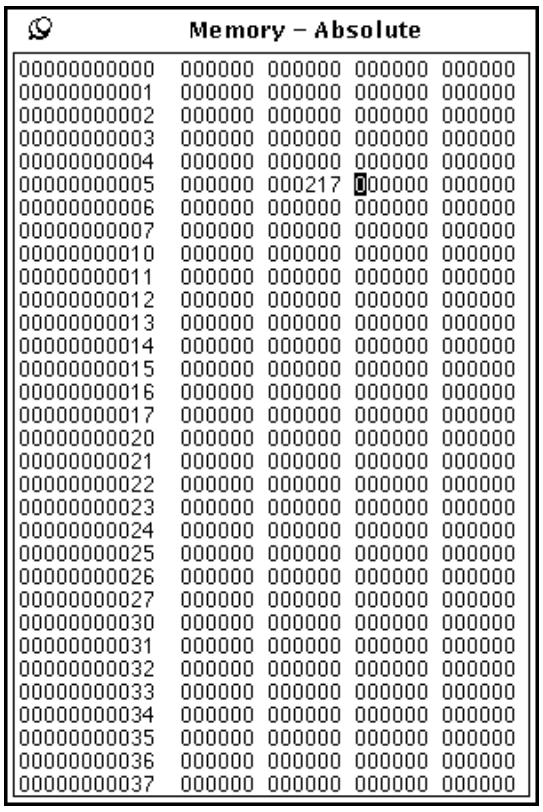


2. Type the new value you want to place in the memory location. The entire word is highlighted, which enables you to change it. Use the arrow keys to move through the highlighted word.

   In the following example, 000217 was typed at memory location 00000000005b:



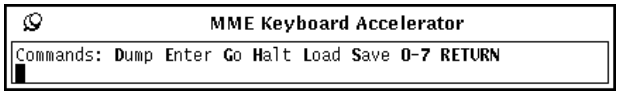
3. Press and release the Return key to update memory. This example shows memory location 00000000005b changed from 000000 to 000217:



4. Repeat Steps 1 through 3 to change additional memory locations.

Using the Keyboard Accelerator

The keyboard accelerator offers another way to change memory and includes several other features. To access the keyboard accelerator, move the cursor inside a memory (or buffer) window and press the spacebar. The MME Keyboard Accelerator window appears:

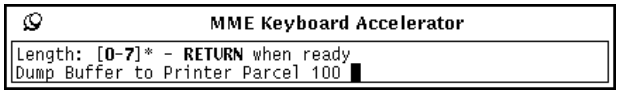


Dump Command

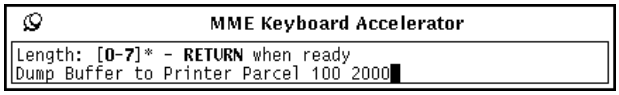
The first command in the MME Keyboard Accelerator window is the Dump command. The Dump command dumps data to a file or the printer. When you type the letter **D** in the MME Keyboard Accelerator window, the window changes to:

NOTE: By default, the Dump command dumps buffer data to the printer. To change this, press the Back Space key several times to delete the default selections. Then, type the menu options you want.

Enter the starting address of the data block you want to dump and press the spacebar; for example, if you wanted to dump the data block starting at 100, you would enter **100**:



Then, enter the length of the data block you want to dump; for example, if you wanted to dump a block of 2000_8 parcels, you would enter **2000**:



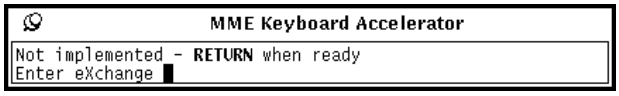
Finally, press the Return key to dump the data. The window displays the main menu again:

Enter Command

The second command in the MME Keyboard Accelerator window is the Enter command. The Enter command puts data into memory. When you type the letter **E** in the MME Keyboard Accelerator window, the window changes to:

This window gives you three command options:

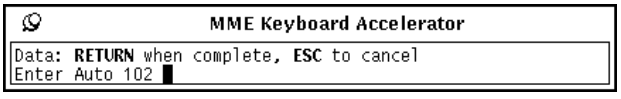
- Type the letter **X** in the Enter menu to enter exchange data; *this option is not implemented yet*:



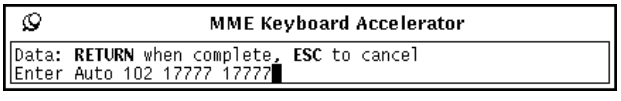
- Type the letter **A** in the Enter menu to start the automatic increment mode. Automatic increment mode enables you to enter data into consecutive memory locations without having to manually enter each memory address.

  For example, if you wanted to enter data in consecutive memory locations starting at address 102, you would perform the following steps:

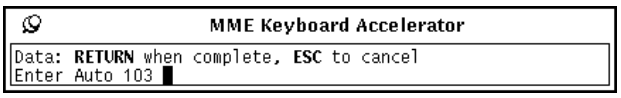
  1. Enter the address at which you want to enter the data and press the Return key. For this example, you would enter **102**:



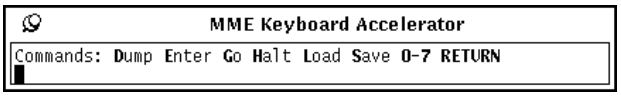
  2. Enter the first item of data and press the Return key. For this example, you would enter **17777 177777**:



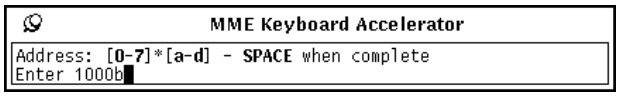
The window advances to the next memory location:



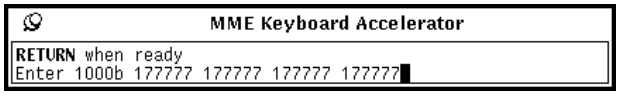
3. Enter the next item of data and press the Return key. Repeat this process to enter all of your data. When you have finished entering data, press the Esc key to halt automatic increment mode. The MME Keyboard Accelerator window returns to the main menu:



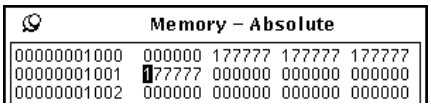
- Type a number-letter combination in the Enter menu to enter a parcel address that indicates the memory address you want to change. For example, if you wanted to change parcel 1000b, you would enter **1000b**:



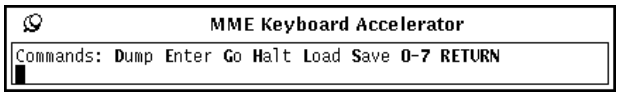
Then, enter the data you want to write to memory; for example, if you wanted to enter 177777 177777 177777 177777, you would enter **177777 177777 177777 177777**:



Press the Return key to write the data to memory:

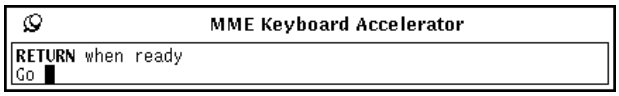


The window displays the main menu again:

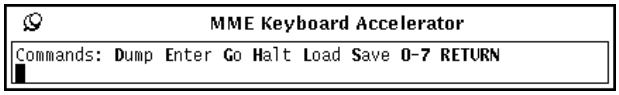


Go Command

The third command in the MME Keyboard Accelerator window is the Go command. The Go command runs the selected test sequences. When you type the letter **G** in the MME Keyboard Accelerator window, the window changes to:

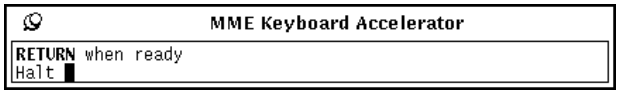


Press the Return key to start the selected test sequences. The window displays the main menu again:

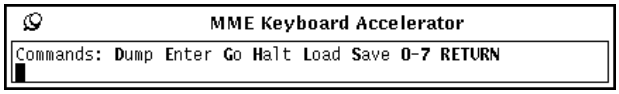


Halt Command

The fourth command in the MME Keyboard Accelerator window is the Halt command. The Halt command halts the currently running test sequences. When you type the letter **H** in the MME Keyboard Accelerator window, the window changes to:

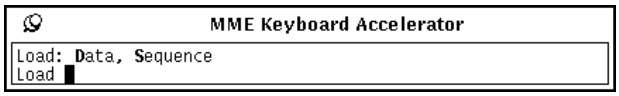


Press the Return key to halt the test sequences. The window displays the main menu again:



Load Command

The fifth command in the MME Keyboard Accelerator window is the Load command. The Load command loads a data set or sequence. When you type the letter **L** in the MME Keyboard Accelerator window, the window changes to:

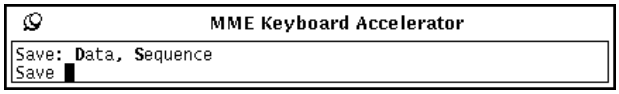


This window gives you two options:

- Type the letter **D** in the Load menu to load a data set; *this command is not implemented yet.*
- Type the letter **S** in the Load menu to load a sequence; *this command is not implemented yet.*

Save Command

The sixth command in the MME Keyboard Accelerator window is the Save command. The Save command saves a data set or sequence. When you type the letter **S** in the MME Keyboard Accelerator window, the window changes to:



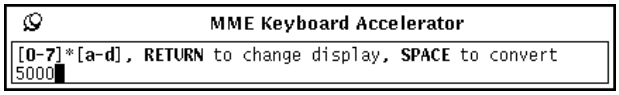
This window gives you two options:

- Type the letter **D** in the Save menu to save the current data set; *this command is not implemented yet.*
- Type the letter **S** in the Save menu to save the current sequence; *this command is not implemented yet.*

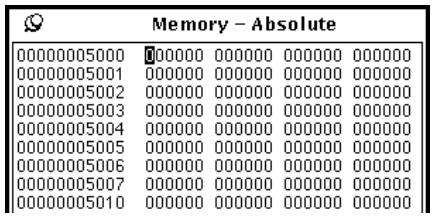
Numeric Commands

Two options are available when you type a number in the MME Keyboard Accelerator window: you can display memory starting at the number, or you can convert the number from octal to parcel format or from parcel format to octal.

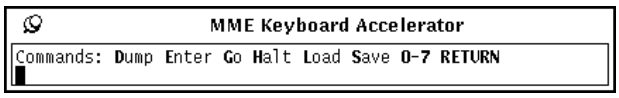
- To display a specific memory location, type the location in the MME Keyboard Accelerator window and press the Return key. For example, to view memory location 5000, enter **5000**:



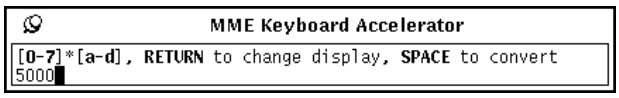
The Memory — Absolute window displays memory at location 5000:



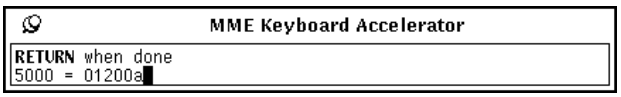
The window displays the main menu again:



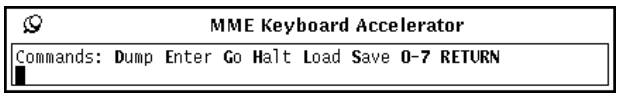
- To convert a number from octal to parcel format or from parcel format to octal, type the number and press the spacebar. For example, to convert octal value 5000 to parcel format, enter **5000** and press the spacebar:



The parcel format equivalent is displayed:



Press the Return key, and the window displays the main menu again:

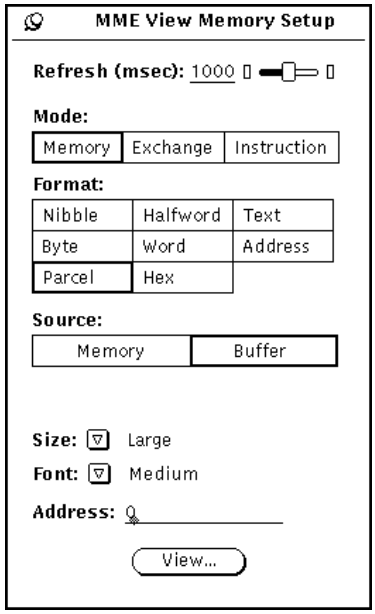


Return

To close the MME Keyboard Accelerator window, press the Return key while the cursor is in the window.

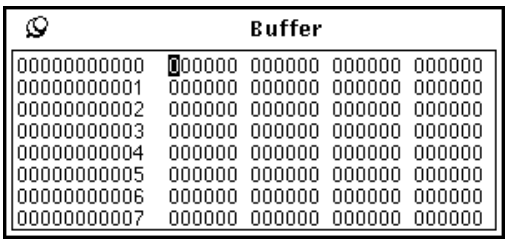
View –> Buffer

The View –> Buffer command, as shown at the left, displays MME buffer data in a separate window. Use this command to verify the contents of specific MME buffer memory locations or to change the data stored in the MME buffer. This command displays the MME View Memory Setup window:



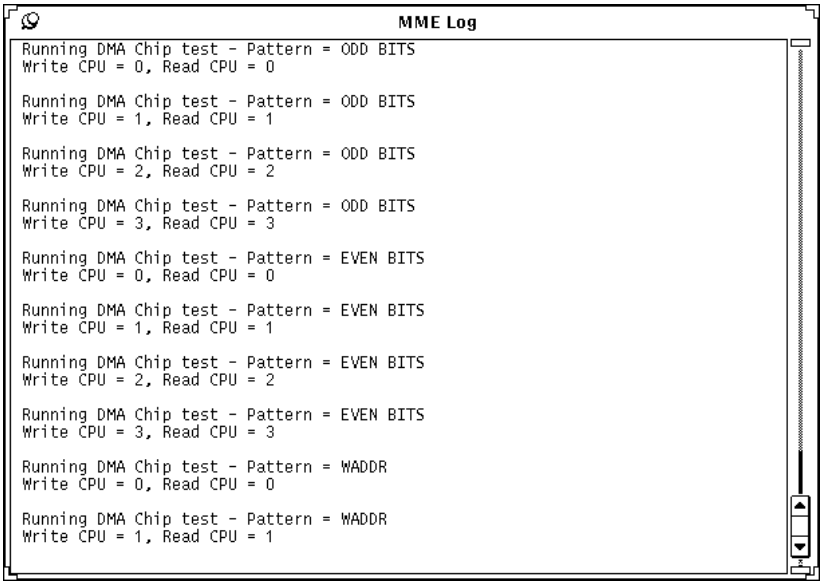
This is the same window that appears when you choose **View –> Memory**, except Buffer is set as the Source, indicating MME will display MME buffer memory in a window. For more information about manipulating the MME View Memory Setup window, changing data stored in memory, and using the keyboard accelerator; refer to “View –> Memory” on page 18.

NOTE: When you are viewing MME buffer data, the window header displays Buffer instead of Memory – Absolute:



View –> Log

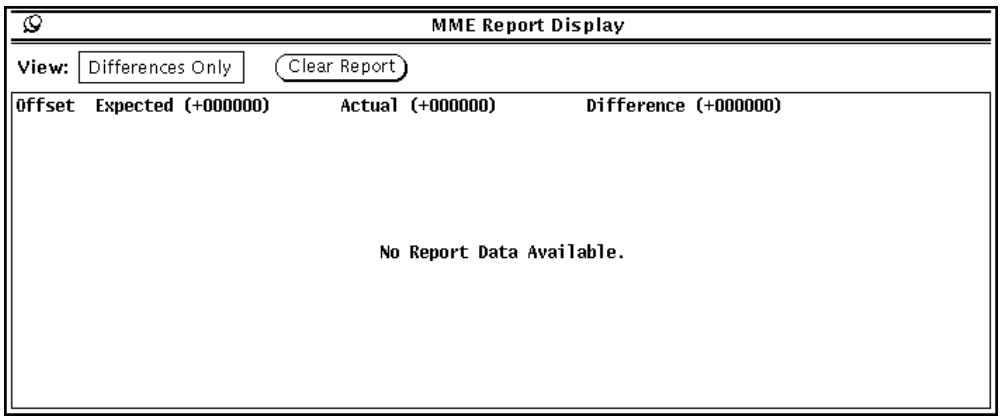
The View –> Log command, as shown at the left, displays the MME Log window:



Use this command to view any errors that occur while a test is running.

View –> Report

The View –> Report command, as shown at the left, displays the error report information in the MME Report Display window. Use this command to view the error report generated by the memory or instruction buffer tests. This command displays the MME Report Display window:

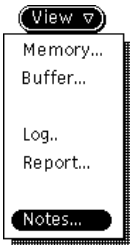


This window displays the Expected, Actual, and Difference values for the contents of memory where differences are detected. These values are offset into the MME buffer, which is indicated by the value in parentheses as shown in the previous MME Report Display.

Use the [Differences Only] setting and (Clear Report) button in this window to:

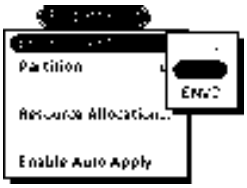
- Display only the addresses where differences occurred ([Differences Only]).
- Clear the MME Report Display window of data ((Clear Report)).

View –> Notes



The View –> Notes command, as shown at the left, displays the MME release notes in a separate window. Use this window to read about any changes to MME for the current offline diagnostic release.

Properties –> Environment –> ENV1



The Properties –> Environment –> ENV1 command, as shown at the left, switches MME to environment 1. Use this command to switch to single-control-point testing. Refer to the "Environments 1 and 2" section later in this document for more information about environment 1.

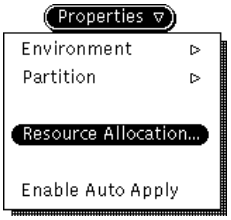
Properties –> Environment –> ENV2

The Properties –> Environment –> ENV2 command, as shown at the left, switches MME to environment 2. Use this command to switch to multiple-control-point testing. Refer to the "Environments 1 and 2" section later in this document for more information about environment 2.

Properties –> Partition

The Properties –> Partition command, as shown at the left, selects the logical partition in which MME will run. Use this command to select the partition you want to troubleshoot. MME scans the current configuration for available partitions and allows you to select only partitions that allow maintenance or concurrent maintenance. MME displays the available partitions in a menu attached to the Properties –> Partition menu command.

Properties –> Resource Allocation

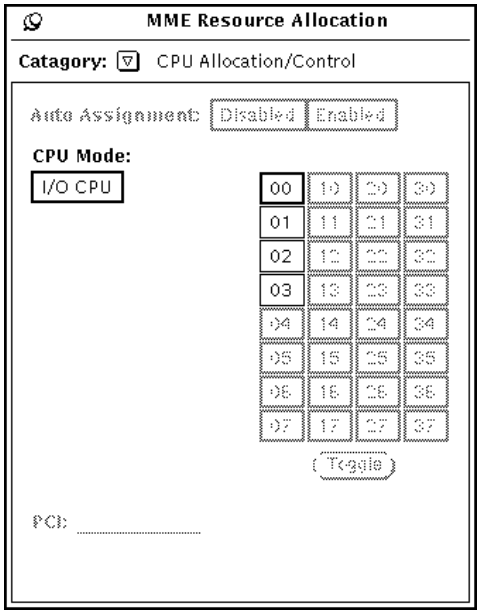


The Properties –> Resource Allocation command, as shown at the left, changes the way MME performs. Use this command to specify which CPU is used to write and read memory, which spare-chip table that MME uses, and which debug level MME uses. This command displays the MME Resource Allocation window; choose the category you want to modify from the Category: ▽. (Only the CPU Allocation/Control, Spare Chips, and Miscellaneous menu options have parameters that apply to environment 0.)

NOTE: The Control Point Properties option also brings up an active parameter, but this parameter is not valid in environment 0. Do not change this parameter (Maximum Pass) in environment 0. Future versions of MME will not include this parameter in environment 0.

Specifying Which CPU Writes and Reads Memory

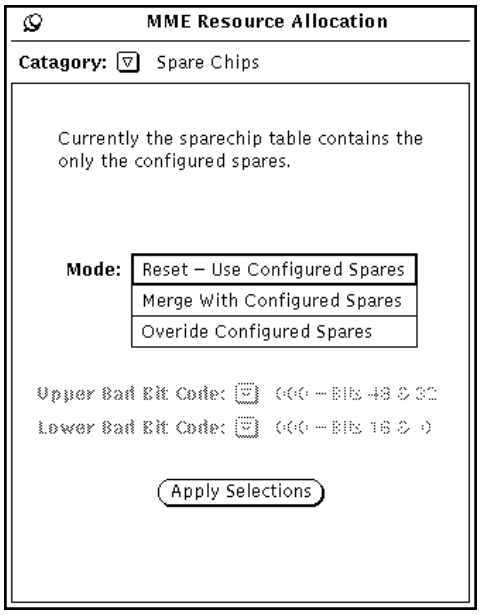
To specify which CPU writes to and reads from mainframe memory, choose **CPU Allocation/Control** from the Category: ▽. The MME Resource Allocation window changes to:



Click on the CPU that you want to write to and read from memory.

Modifying the Spare-chip Table that MME Uses

To modify the spare-chip table that MME uses, choose **Spare Chips** from the Category: ▽. The MME Resource Allocation window changes to:



Use this window to modify the spare-chip table that MME uses. This enables you to test the mainframe with different configurations of spare memory chips.

To use this window, perform the following procedure:

1. Click on a Mode. The Mode settings perform the following functions when you click on (Apply Selections):

Setting	Description
Reset – use Configured Spares	MME writes a spare-chip table to the mainframe that contains only the spare chips configured in SCE.
Merge with Configured Spares	MME writes a spare-chip table to the mainframe that contains only the bad bit codes that you specify with the Upper Bad Bit Code: ▽ and Lower Bad Bit Code: ▽ menus. (This setting overrides the spare-chip selections in SCE.)

Setting	Description
Override Configured Spares	MME writes a spare-chip table to the mainframe that merges the spare-chip table configured in SCE with the bad bit codes that you specify with the Upper Bad Bit Code: ▽ and Lower Bad Bit Code: ▽ menus.

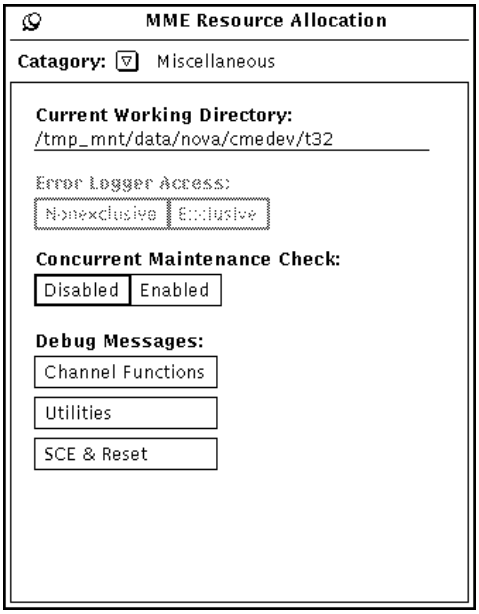
2. From the Upper Bad Bit Code: ▽ and Lower Bad Bit Code: ▽, choose the bad bit codes that you want to use. (These menus are available for the Merge with Configured Spares and Override Configured Spares settings.)

3. Click on Apply Selections; MME writes the spare-chip table to the mainframe.

Ensure that you reset the spare-chip table when you are done using a special spare-chip table configuration. You can reset the spare-chip table by clicking on Mode: Reset - use Configured Spares and then clicking on Apply Selections. You can also reset the spare-chip table by applying the configuration in SCE.

Viewing the Current Working Directory and Changing the Concurrent Maintenance Check and Debug Messages Settings

To view the current working directory and to change the concurrent maintenance check and debug messages settings, choose **Miscellaneous** from the Category: ▽. The MME Resource Allocation window changes to:



Current Working Directory

The Current Working Directory field shows the directory that MME uses to access all relative paths [paths that do not start with a slash (/)] shown in MME windows. MME appends all relative paths to this directory to determine the absolute path that MME uses to access files. For example, if a window displays usr/seq and this field displays /cri/cme/t32, MME uses the `/cri/cme/t32/usr/seq` directory to access files. This field is read-only.

The information shown in this field is useful in the Systems Test and Checkout (STCO) environment in which technicians have access to remotely mounted directories of prereleased software. This information enables a technician to verify the paths used to load and save files so the technician can ensure that the proper software is being used.

Concurrent Maintenance Check

In environments 1 and 2, the Concurrent Maintenance Check setting specifies whether MME should check the concurrent mode (CONC) bit in the test code before loading a test when MME is in concurrent mode. Although this setting appears active in environment 0, it has no function in environment 0. Do not change this setting in environment 0: the Concurrent Maintenance Check setting should always be set to Disabled.

Future versions of MME will not include this setting in environment 0.

Debug Messages

The Debug Messages setting specifies the amount of output that MME returns to the standard output window.

Click on Channel Functions to have MME display the functions that MME sends to the mainframe (for example: the functions that MME uses to read mainframe memory).

Click on Utilities to have MME display status information about any utilities that it runs.

Click on SCE & Reset to have MME display status information about any SCE functions or reset activities that occur.

Properties –> Enable Auto Apply

The Properties –> Enable Auto Apply command, as shown at the left, enables automatic application of function or utility changes in compose mode.

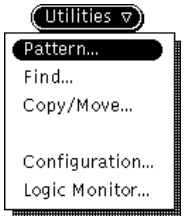
When the automatic apply function is enabled, you do not need to click on Apply in the MME Compose Sequence Entry window to apply any changes you make to a function or utility. Instead, move the cursor to the MME base window or to the menu bar in the MME Compose Sequence Entry window to automatically apply the changes.

Properties –> Disable Auto Apply

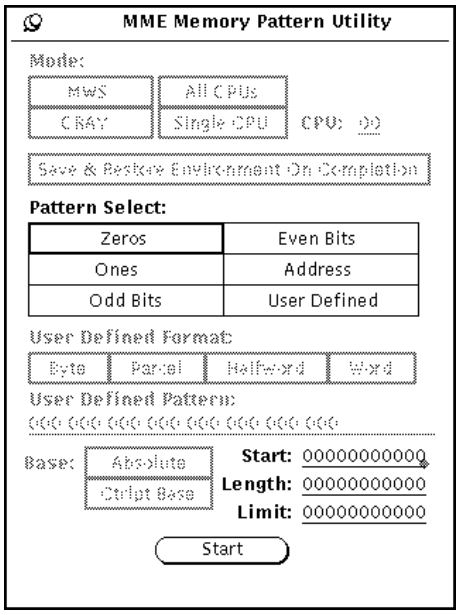
The Properties –> Disable Auto Apply command, as shown at the left, disables automatic application of function or utility changes in compose mode.

When the automatic apply function is disabled, you must click on Apply in the MME Compose Sequence Entry window to apply any changes you make to a function or utility.

Utilities –> Pattern



The Utilities –> Pattern command, as shown at the left, enables you to fill a selected portion of mainframe memory with a data pattern. This command displays the MME Memory Pattern Utility window:



Perform the following procedure to use the pattern utility:

1. Specify the pattern you want to use. The Pattern Select settings specify the following patterns:

Setting	Pattern
Zeros	The utility uses a pattern of all 0's.
Ones	The utility uses a pattern of all 1's.
Odd Bits	The utility uses a pattern that contains parcels of odd bits (125252 octal).
Even Bits	The utility uses a pattern that contains parcels of even bits (052525 octal).

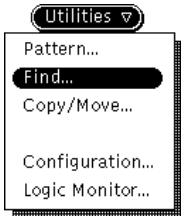
Setting	Pattern
Address	The utility uses a pattern that contains the address of each memory location that is being patterned.
User Defined	The utility uses a user-specified pattern. Specify the format (click on User Defined Format: Byte, Parcel, Halfword, or Word). In the User Defined Pattern field, enter the pattern you want to use.

2. Specify the area in mainframe memory that you want to write with the pattern. In the Start field, enter the first address that you want to write and then press the Return key. In the Length field, enter the length of the data block that you want to write and then press the Return key. In the Limit field, enter the last address that you want to write and then press the Return key.

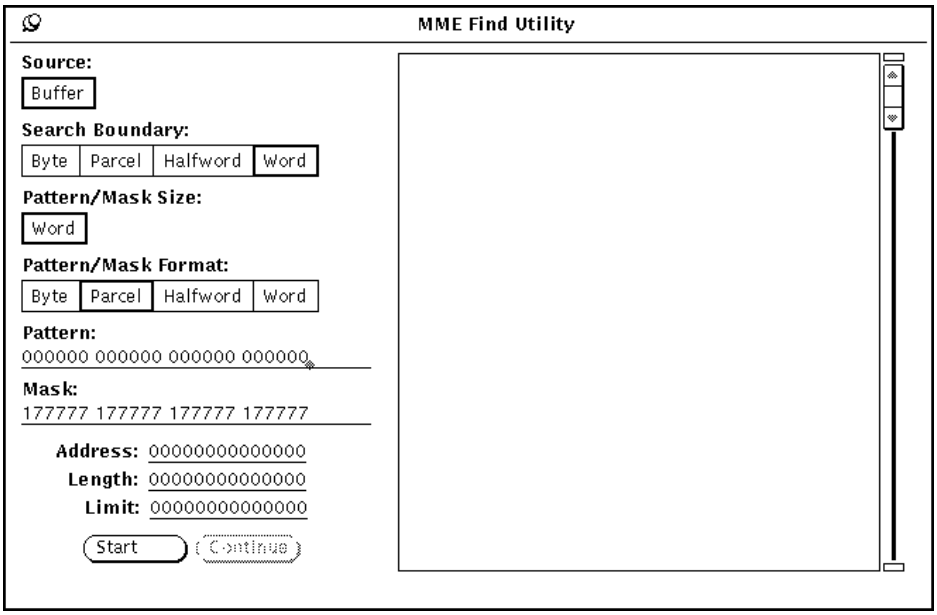
   NOTE: You must press the Return key after you enter data in these fields, or MME will not use the data. Entering data in two of the fields cause MME to automatically update the third field.

3. Click on Start; MME uses maintenance channel functions to write the data pattern in mainframe memory.

Utilities –> Find



The Utilities –> Find command, as shown at the left, searches MME buffer memory for a data pattern. Use this command to locate all occurrences of a data pattern within a block of memory. This command displays the MME Find Utility window:



The left side of the window contains the settings that specify the pattern to search for and the memory block to search. The right side contains a scroll box that displays the memory locations with a matching data pattern. The scroll box displays up to 256 entries; if more than 256 matches are found, the message 256 matches, additional occurrences known to exist is displayed in the lower-left corner of the window. To view the additional occurrences, click on the Continue button.

Perform the following procedure to manipulate this window.

NOTE: Source defaults to Buffer because the Utilities –> Find command in environment 0 searches MME buffer memory.

1. Specify the Search Boundary you want to use. The search boundary indicates the stride used for checking memory.

   Click on Byte to check memory in byte increments, click on Parcel to check memory in parcel increments, click on Halfword to check memory in halfword increments, or click on Word to check memory in word increments.

2. Specify the Pattern/Mask Size. The size indicates the size of the data pattern that is searched for and the mask that is used.

   The settings available depend on the Search Boundary setting. Click on [Byte], [Parcel], [Halfword], or [Word] to select the pattern and mask size.

3. Specify the Pattern/Mask Format. The format indicates the type of data pattern that is searched for and mask that is used.

   The settings available depend on the Pattern/Mask Size setting. Click on [Byte], [Parcel], [Halfword], or [Word] to select the pattern and mask format.

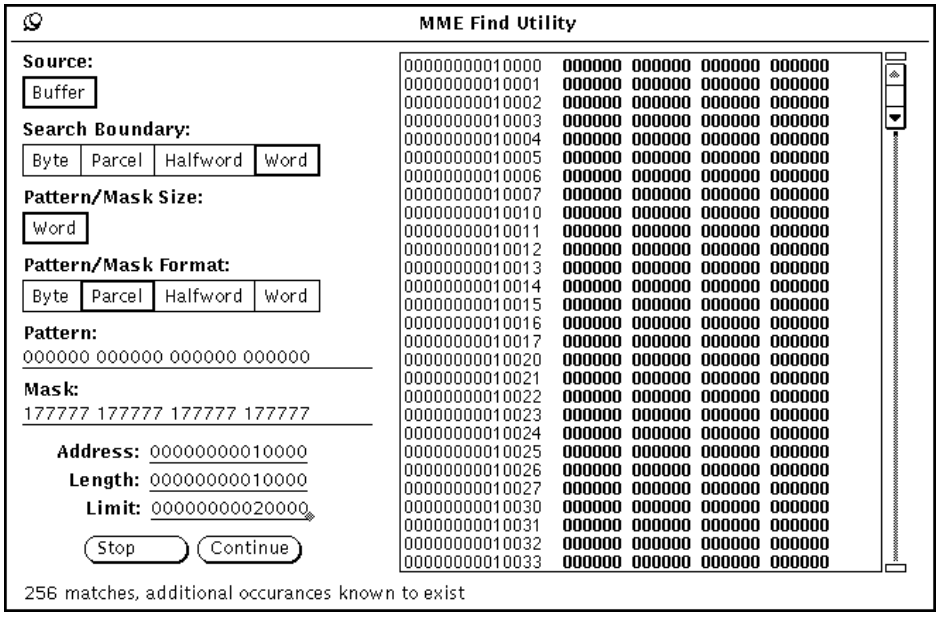
4. Specify the data pattern you want to search for in the Pattern field.

5. Specify the mask you want to use in the Mask field. The mask specifies which bits to compare. If a bit in the mask is set to 0, the bit position is not compared; if a bit in the mask is set to 1, the bit position is compared.

6. Specify the memory block you want to search (performing any two of the following actions automatically updates the third field):

   - Enter the first address of the memory block in the Address field, and press the Return key.
   - Enter the length of the memory block in the Length field, and press the Return key.
   - Enter the last address of the memory block in the Limit field, and press the Return key.

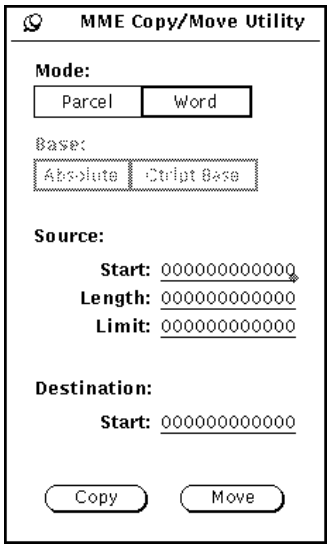
7. Click on (Start) to start the search. The (Start) button changes to (Stop), and MME updates the MME Find Utility window.



Click on Stop to stop searching for the pattern; click on Continue to see the next set of entries if more than 256 occurrences exist.

Utilities –> Copy/Move

The Utilities –> Copy/Move command, as shown at the left, enables you to copy (or move) data in mainframe memory. This command displays the MME Copy/Move Utility window:



Perform the following procedure to manipulate this window:

1. Specify the Mode. Click on [Parcel] to use parcel values for addresses. Click on [Word] to use word values for addresses.

2. Specify the location of the source data. In the Start field, enter the first address of the block of data that you want to move or copy. In the Length field, enter the length of the block of data that you want to move or copy. In the Limit field, enter the last address of the block of data that you want to move or copy.

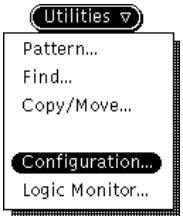
   You must press the Return key after you enter data in these fields, or MME will not use the data. Entering data in two of the fields causes MME to automatically update the third field.

3. In the Start field, specify the destination where MME should write the copied/moved data.

   You must press the Return key after you enter data in this field.

4. Click on [Copy] to copy the data, or click on [Move] to move the data. (When you move data, MME fills the source mainframe memory locations with 0's.)

Utilities –> Configuration



The Utilities –> Configuration command, as shown at the left, starts the System Configuration Environment (SCE). Use this application to configure the mainframe. For more information about SCE, refer to the *SCE User Guide*, publication number HDM-069-A.

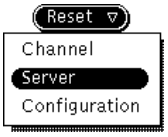
Utilities –> Logic Monitor

The Utilities –> Configuration command, as shown at the left, starts the Logic Monitor Environment (LME). For more information about LME, refer to the *LME User Guide*, publication number HDM-070-0.

Reset –> Channel

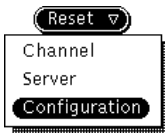
The Reset –> Channel command, as shown at the left, resets the FY driver.

Reset –> Server



The Reset –> Server command, as shown at the left, resets the server. This halts any sequence(s) that MME is executing.

Reset –> Configuration



The Reset –> Configuration command, as shown at the left, causes SCE to reapply the configuration.

NOTE: This command does not work if any partitions have an OS owner. For more information about partition ownership, refer to the *SCE User Guide*, publication number HDM-069-A.

ENVIRONMENTS 1 AND 2

This section describes the interface components and menu button commands for MME environments 1 and 2.

Interface Components

MME environment 1 and 2 interfaces share a common interface. Use this interface to control testing in environment 1 and environment 2. Figure 3 shows the common interface. The paragraphs that follow the figure describe the components of the interface.

NOTE: For newer versions of MME, the interface contains only the number of CPUs that are available for your mainframe chassis type. For CRAY T94 mainframes, the interface contains 4 CPUs. For CRAY T916 mainframes, the interface contains 16 CPUs. For CRAY T932 mainframes, the interface contains 32 CPUs .

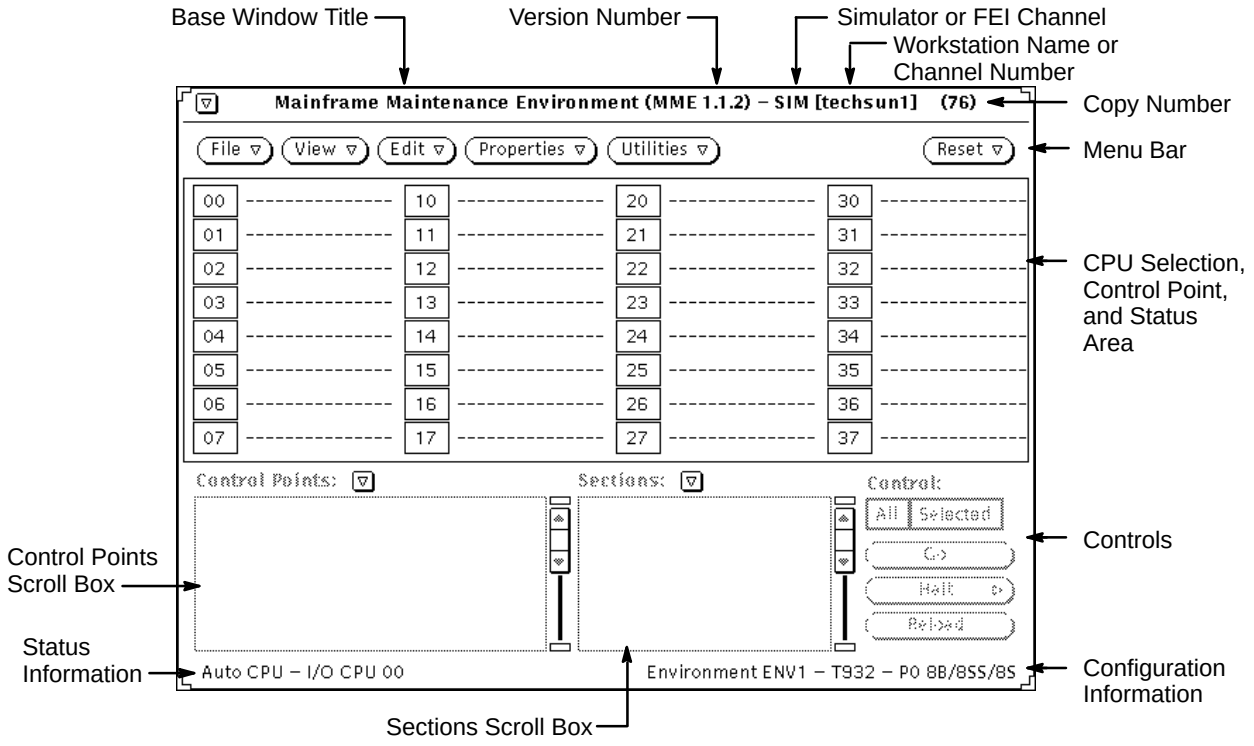


Figure 3. Environments 1 and 2 Interface Components

Base Window Title

The base window title displays the name of the program: Mainframe Maintenance Environment.

Version Number

The version number indicates the version of MME you are using.

Simulator or FEI Channel

The simulator or front-end interface (FEI) channel indicator shows MME is running with the simulator (indicated by SIM) or an FEI channel (indicated by FEI CHN 0 for channel 0, FEI CHN 1 for channel 1, FEI CHN 2 for channel 2, etc.).

Workstation Name or Channel Number

The workstation name or channel number indicator lists the name of the workstation or the channel number on which MME is running.

Copy Number

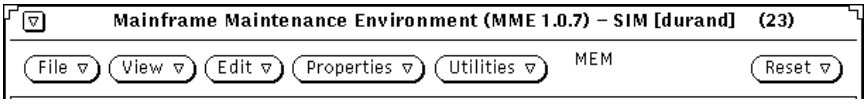
The copy number indicates the copy of MME you are using. To set the copy number, start MME with the `-copy` option. If you start MME with the default copy number of 0, the MME base window does not display a copy number. For more information about starting MME with the `-copy` option, refer to the *MME User Guide*, publication number HDM-102-A.

Menu Bar

The menu bar contains six menu buttons: File ▽, View ▽, Edit ▽, Properties ▽, Utilities ▽, and Reset ▽. For descriptions of the commands accessible from these menu buttons, refer to “Menu Button Commands” on page 60.

MME displays the following indicators in the menu bar when memory, register parity, shared register, LAT, and unknown errors are detected: MEM, RPE, SHR, LAT, and UKN. When you see any of these indicators, use the View –> Error Log menu button command to view the error log; refer to “View –> Error Log” on page 99 for more information about the error log.

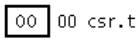
The following snap shows the MEM error indicator in the menu bar:



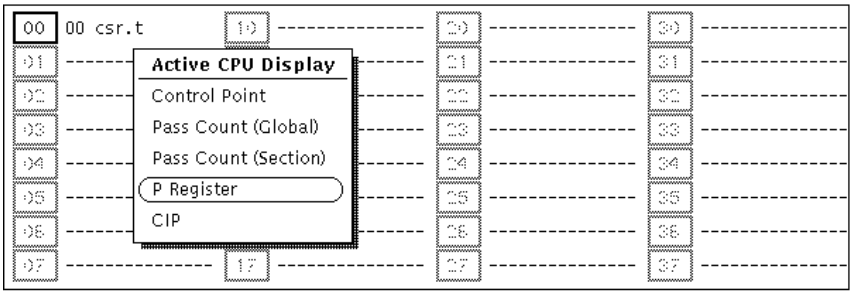
CPU Selection, Control Point, and Status Area

The CPU selection, control point, and status area is where you assign CPU(s) to control points and where MME displays status information for running control points.

To assign CPUs to the current control point, click on any of the CPU settings (00 through the available number of CPUs in the mainframe). The CPU setting is highlighted and the control point name is displayed next to the CPU setting:



MME displays several types of status information for the CPUs; to change the status information displayed, press the MENU mouse button in this area. The following menu appears:



The entries in this menu enable you to choose which status information is displayed.

Entry	Description
Control Point	Displays the control point name
Pass Count (Global)	Displays the pass count for all sections
Pass Count (Section)	Displays the pass count for the current section
P Register	Displays the current P register value
CIP	Displays the current instruction parcel (CIP) register value

The number shown to the left of the control point name is the control point copy number when several CPUs are assigned to a control point. A rectangle around the control point, as shown in Figure 4, indicates the master CPU for a group of CPUs assigned to a control point. The master CPU is the first CPU assigned to the control point.

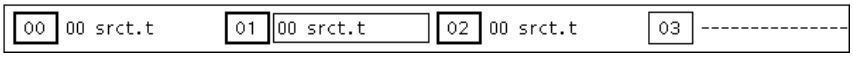


Figure 4. Master CPU Indicator

MME also automatically displays status information for executing control points. This information includes interrupt flags (in environments 1 and 2), which are indicated by IFLAG, as shown in Figure 5, and controller status messages (in environment 2 only), which are indicated by CSTAT, as shown in Figure 6).

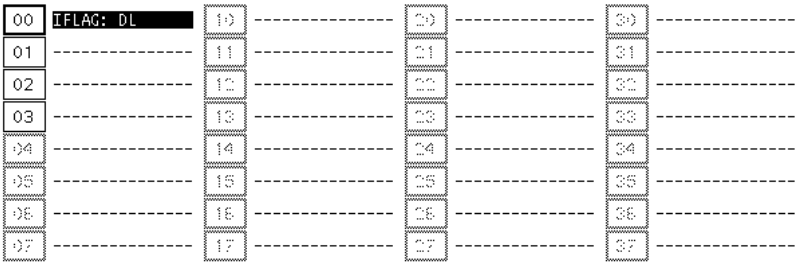


Figure 5. Example Interrupt Flag

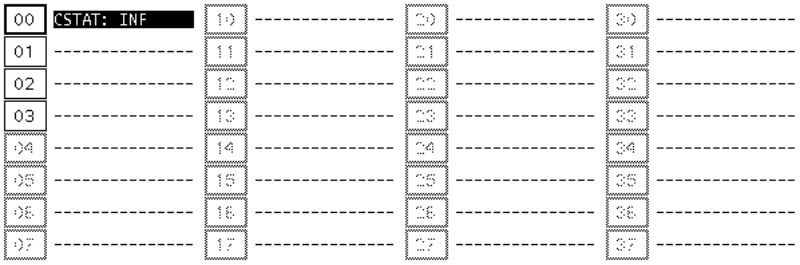


Figure 6. Example Controller Status Message

Table 1 describes the interrupt flags.

Table 1. Interrupt Flags

Interrupt Flag	Description
AMI	Address multiply range error interrupt
BPI	Breakpoint interrupt
DL	Deadlock
EEX	Error exit (000 issued)
FPE	Floating-point error
ICP	Internal CPU interrupt
IOI	Input/output (I/O) interrupt
MCU	MCU interrupt
MEC	Correctable memory error
MEU	Uncorrectable memory error
MII	001*ij* does not equal zero or 033 instruction interrupt
NEX	Normal exit (004 issued)
PCI	Programmable-clock interrupt
PRE	Program range error
RPE	Register parity error
RTI	Real-time interrupt

Table 2 describes the controller status messages.

Table 2. Controller Status Messages

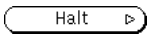
Status Message	Description
CIB	The control point attempted to reserve a cluster that is not in the data space.
CNR	The control point attempted to release a cluster that was not reserved.
CRE	A channel reservation error occurred: at least two CPUs were in the channel reservation code at the same time.
DMP	The control point dumped the CPU's registers and idled the CPU in the controller's idle loop.
HTM	The control point stopped and requested all CPUs to hang.
HTS	The control point stopped at the request of another CPU.
INF	The CPU exchanged to the controller with no interrupt flags.
IUC	An interrupt on an unreserved channel occurred.
LEBi	The logical base from dmpAREA is less than the starting logical base [for an exchange using IEXP (hDIFM)].
LBEl	The logical base from dmpAREA is less than the starting logical base [for a restart CPU load (cLOAD) function].
LBEx	The logical base from dmpAREA is less than the starting logical base [for an exchange using an XP table request (hXEXP)].
LES	The control point stopped on a logical address translation (LAT) table fault.
LLEi	The logical limit from dmpAREA is less than the starting logical limit [for an exchange using IEXP (hDIFM)].
LLEl	The logical limit from dmpAREA is less than the starting logical limit [for a restart CPU load (cLOAD) function].
LLEx	The logical limit from dmpAREA is less than the starting logical limit [for an exchange using an XP table request (hXEXP)].
MEI	The control point stopped on an invalid memory error.
MES	The control point stopped on a memory error (used MRSTOP).
MWS	MME sent a bad request.
OK	A normal operation occurred.
PEI	The control point stopped on an invalid parity error.
PES	The control point stopped on a parity error (used MRSTOP).
REQ	The CPU performed a dump and idle, but the mwsTOcpu request was not a dump request, or there was no idleSTAT and no mwsTOcpu request.
RES	MWS request was cleared before a register dump was completed.
SRE	A cluster reservation error occurred: at least two CPUs were in the cluster reservation code at the same time.
TRP	An invalid exchange occurred.
WTS	The control point stopped because of a dump and wait/resume request.
WTW	The control point is waiting because of a dump and wait/resume request.

Table 2. Controller Status Messages (continued)

Status Message	Description
XNRi	An exchange occurred using a cluster that was not reserved [for an exchange using IEXP (hDIFM)].
XNRl	An exchange occurred using a cluster that was not reserved [for a restart CPU load (cLOAD) function].
XNRx	An exchange occurred using a cluster that was not reserved [for an exchange using an XP table request (hXEXP)].

Controls

The controls are buttons and settings that enable you to start or stop running control points and reload control points.

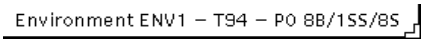
Button/Setting	Description
All	Performs the control button command on all CPUs that have been assigned to control points.
Selected	Performs the control button command on the selected control points.
	Starts the control points.
	Stops the control points. Three options are available: Halt –> No Dump sets Master Clear on the CPU(s). This halt option is not available for environment 2. Halt –> Exchange Dump sets Master Clear on the CPU(s) and uses a maintenance channel feature to perform an exchange dump. This halt option is not available for environment 2. Halt –> Register Dump sets Master Clear on the CPU(s), builds a starting exchange package (SEXP) that points to dump memory, and restarts the CPU(s). The CPU(s) then dump the registers at memory location dmpAREA.

Button/Setting	Description
Halt ▷ (continued)	For detailed information about what happens when you choose one of the halt options, refer to the *MME User Guide*, publication number HDM-102-A.
Reload	Reloads the control points. This removes all user changes for the control points. (User changes load when you click on ⟳ or when a new section starts to execute.)
Resume	Resumes execution of a holding control point. This button appears when a control point hold request executes.

Configuration Information

The configuration information displays the current MME environment (environment 1 or 2) and the current configuration data (mainframe type; partition where MME is running; and number of sections, subsections, and banks). The System Configuration Environment (SCE) provides this information.

For example, the following configuration information indicates that MME is in environment 1 (Environment ENV1); the mainframe type is a CRAY T94 system (T94); MME is running in partition 0 (P0); and the configuration consists of 8 banks (8B), 1 subsection (1SS), and 8 sections (8S):



The configuration information component displays the following mainframe types:

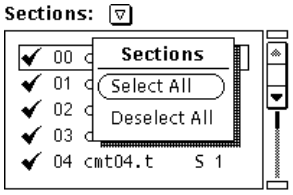
Type	Description
Tester	A tester with 1 CPU and 1 memory module
T94	A CRAY T94 mainframe
T916	A CRAY T916 mainframe
T932	A CRAY T932 mainframe

Sections Scroll Box

The Sections scroll box displays the sections that are available to run for the current control point. This scroll box shows the section number; the file that contains the section; a code that indicates whether the section is a single-CPU (S), multiple-CPU (M), or single-CPU or multiple-CPU (M/S) section; and numbers that indicate whether the section can be run in environment 1 (1), environment 2 (2), or environments 1 and 2 (1/2).

NOTE: Sections that run only in multiple CPUs include a number that indicates the minimum number of CPUs required to use the section. If you assign fewer than the required number of CPUs to the control point section, MME automatically deselects the section. For example, if the Sections scroll box displays M02, this indicates that the section requires at least 2 CPUs.

When you select a control point in the Control Points scroll box, the Sections scroll box displays the test sections. Sections that are selected to run when [ ] is clicked have a check mark (✓) next to them. To select or deselect a section, move the mouse pointer over the section and click the ADJUST mouse button. To select or deselect all sections, move the mouse pointer over the Sections scroll box, and press the MENU mouse button. The following menu appears:



NOTE: The Sections: menu also contains these options.

Choose **Select All** to select all sections of the test; choose **Deselect All** to deselect all sections of the test.

To select or deselect sections for testing while control points are running, use the ADJUST (for single sections) or MENU (for all sections) mouse buttons.

To choose the current section, move the mouse pointer over the section and click the SELECT mouse button; a box surrounds the section to indicate that it is the current section, and the section is loaded into mainframe memory. User changes to the section also load when you

choose a new current section. (User-loaded data does not load unless you previously saved the control point in [Current Section (Memory Image)] mode; refer to "File –> Save –> Control Point" on page 69 for more information.)

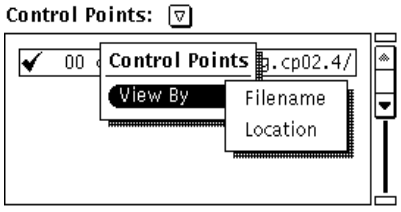
Status Information

The status information displays the current state of the MME program by using the following messages:

Message	Description
Auto CPU	Enables automatic assignment of control points. When a control point is loaded, MME assigns a system-selected CPU to it. For more information about changing this option, refer to the "Properties –> Resource Allocation" description later in this section.
I/O CPU ##	The CPU specified by ## is the I/O CPU. (The I/O CPU specifies which CPU path MME uses to access mainframe memory.)
I/O Disabled	No CPU is set as the I/O CPU.

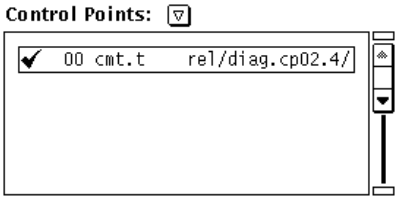
Control Points Scroll Box

The Control Points scroll box shows the current control point loaded in MME. If you press the MENU mouse button in this scroll box, the following menu appears:

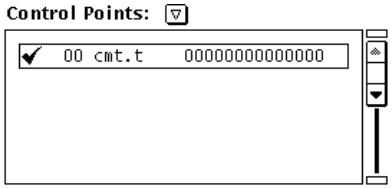


NOTE: The Control Points: menu also contains these options.

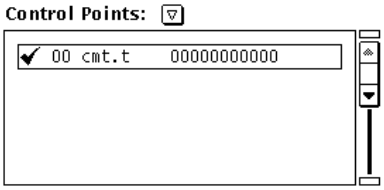
Choose **Select All** to select all control points. Choose **Deselect All** to deselect all control points. Choose **View By –> Filename** to see the control point indicated by its filename:



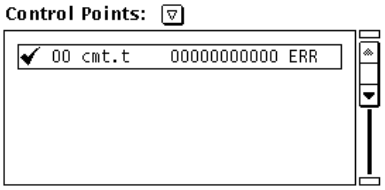
Choose **View By –> Location** to see the control point listed by its location in mainframe memory:



When a control point is executing in a CPU, the Control Points scroll box displays the global pass count for the control point, as shown in the following snap:



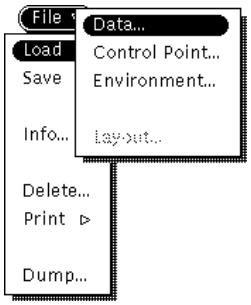
If a control point detects an error, the Control Points scroll box displays ERR next to the global pass count for the control point, as shown in the following snap:



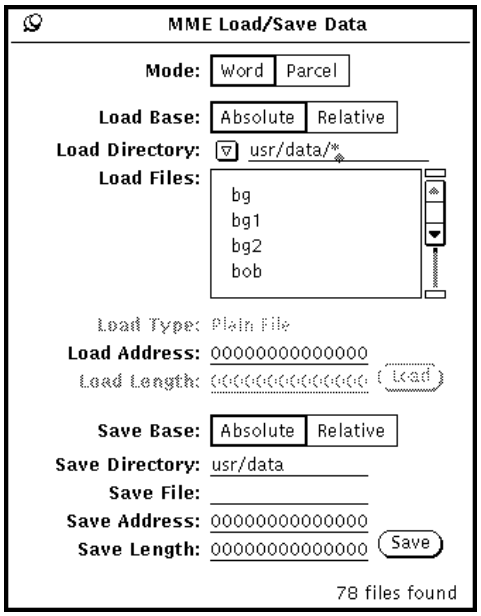
Menu Button Commands

The menu buttons contain commands you use to manipulate MME environments 1 and 2. This subsection describes what each command does and how to use each menu button command. Figure 10 on page 155 shows all available menu button commands for environment 1. Figure 11 on page 157 shows all available menu button commands for environment 2.

File –> Load –> Data



The File –> Load –> Data command, as shown at the left, loads a data set into mainframe memory. Use it to re-create a specific data set for testing without having to manually enter it each time. This command displays the MME Load/Save Data window:



Perform the following procedure to manipulate this window:

1. Select the data Mode. Click on [Word] to use a word load address and length or [Parcel] to use a parcel load address and length. The Load Address and Load Length fields change to the specified format.

2. Specify the Load Base. Click on [Absolute] to load the data at a fixed location in memory or [Relative] to load the data relative to the base location in memory of the current control point section.

3. Change the directory, if necessary, by choosing a directory from the Load Directory: ▽ or by entering the directory in the Load Directory field.

   The Load Directory: ▽ includes selections for the `usr` diagnostic and data directories, all of the `rel` directories, and all of the `alpha` directories.

4. In the Load Files scroll box, click on the data file you want to load. The Load Type entry displays what type of data is contained in the file. The Load Length field displays the length of the chosen data file.

5. In the Load Address field, enter the address at which the data should be loaded. The (Load) button activates.

6. Click on (Load); MME loads the data at the specified address.

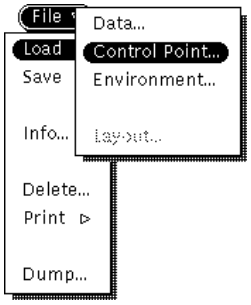
NOTE: A current software bug overwrites any user-loaded data when you click on ( ). To use user-loaded data, perform the following procedure, which saves the data with the control point section:

   1. Load the control point. Make the section you want to use the current section.

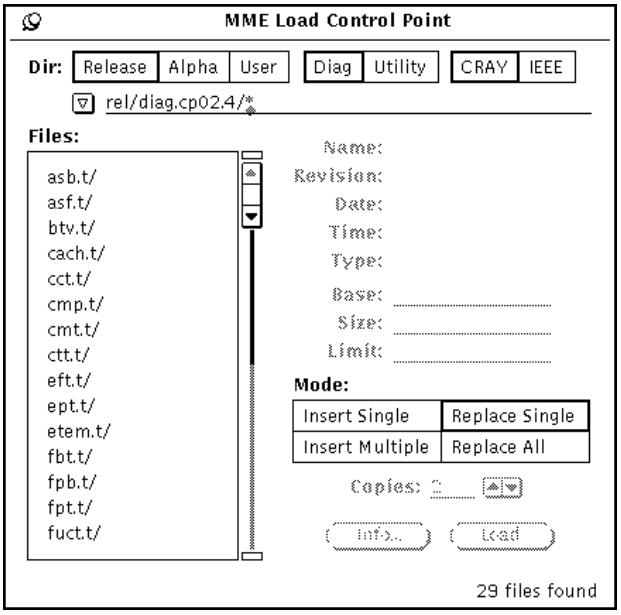
   2. Load the data with the File –> Load –> Data command.

   3. Save an image of the current control point section. (Use the [Current Section (Memory Image)] mode to save the section; refer to "File –> Save –> Control Point" on page 69 for more information.) This stores the data with the control point section.

File –> Load –> Control Point



The File –> Load –> Control Point command, as shown at the left, loads a control point to use for testing. Use it to access control points from the current offline diagnostic release, to access prereleased versions of the control points, and to access user-created or modified control points. This command displays the MME Load Control Point window:



This window displays the control points you can load under MME. The directory path displayed to the right of the Dir: ▽ indicates the current directory. All control points are divided into sections, which are files contained in subdirectories of the current directory. The Files scroll box displays the subdirectories that hold the control point sections. When you load a control point, the Sections scroll box in the MME base window displays the sections.

Perform the following procedure to manipulate this window:

1. Change the directory, if necessary, by performing one of the following actions:

   - Click on the appropriate Dir settings:

Setting	Description
Release	Selects the directory that contains files from the current offline diagnostic release
Alpha	Selects the directory that contains prereleased files
User	Selects the directory that contains files you have saved or modified
Diag	Specifies that you want to load a diagnostic program
Utility	Specifies that you want to load a diagnostic utility
CRAY	Specifies that you want to use diagnostic test programs or utilities written for Cray Research, Inc. (CRI) floating-point CPUs
IEEE	Specifies that you want to use diagnostic test programs or utilities written for IEEE floating-point CPUs

   - Choose a directory from the Dir: ▽ or enter the directory in the Dir field. The following directories are available in Dir: ▽:

     The Dir: ▽ includes selections for the `usr` diagnostic directory, all of the `rel` directories, and all of the `alpha` directories. The RESET CHOICE DEFAULTS selection resets the field to the directory you selected with the Release, Alpha, User, Diag, Utility, CRAY, and IEEE settings.

NOTE: A .t extension indicates a control point assembled in Triton mode. A .c extension indicates a control point assembled in C90 mode. A .e extension indicates a control point assembled for IEEE CPUs.

2. Click on the control point you want to load. The following description information is updated:

Field	Description
Name	Name of the control point
Revision	Revision level of the control point
Date	Date the control point was assembled
Time	Time the control point was assembled
Type	Diagnostic, Utility, or Loop indicator
Base	Address where the control point is loaded
Size	Octal size of the control point code that is loaded into memory
Limit	Last available address for the control point

3. Change any or all of the Base, Size, and Limit values, if necessary. When you change any two of these values, this window updates the third automatically.

   - Base indicates the address in memory where the control point is loaded. Normally, this should be zero.
   - Size indicates the size of the control point. Normally, this should be the default value. (Press the Return key after you change this value.)
   - Limit indicates the maximum address for the control point. Normally, this should be the default value. (Press the Return key after you change this value.)

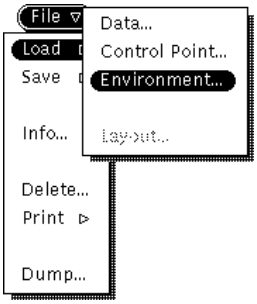
4. Change the Mode setting to specify how MME loads the control point. Click on one of the following settings:

Setting	Description
Insert Single	Loads a new control point. If a control point is already loaded in environment 1, an error message appears that indicates no memory is available because usually only one control point can be loaded at a time in environment 1. If a control point is already loaded in environment 2, the new control point is also loaded if enough memory is available.
Insert Multiple	Loads multiple copies of the control point you specify. This option is for environment 2 only. In the Copies field, specify the number of copies to load.
Replace Single	Replaces a loaded control point with the control point you specify; use this option to replace a control point that is already loaded.
Replace All	Replaces all loaded control points with the control point you specify This option is for environment 2 only.

5. Click on Load; MME loads the specified control point.

NOTE: The Info... button displays the information file for the control point in the MME Control Point Information window. Refer to the "File –> Info" description on page 72 for more information about this window.

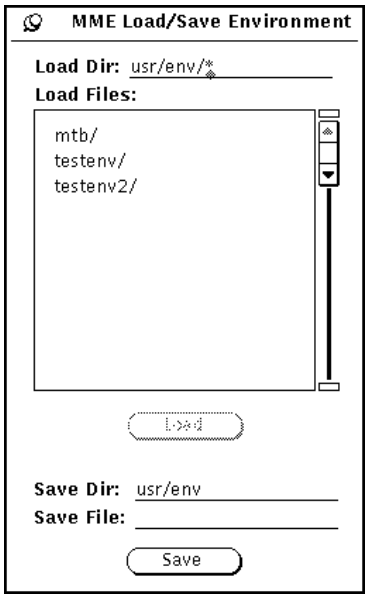
File –> Load –> Environment



The File –> Load –> Environment command, as shown at the left, enables you to load environment data that you previously saved with the File –> Save –> Environment command. Use this command to load the following information:

- The environment that you were using (environment 1 or 2)
- The control points that were loaded
- The changes that you made to those control points
- The CPU assignments for the control points
- The saved resource and memory allocation settings

This command displays the MME Load/Save Environment window:



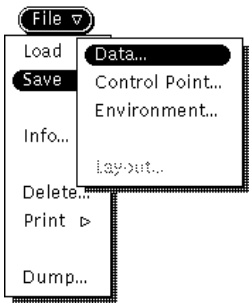
Perform the following procedure to manipulate this window:

1. In the Load Dir field, enter the directory in which the environment data was saved.
2. In the Files scroll box, click on the file you want to load.
3. Click on Load; MME loads the environment data in the specified file.

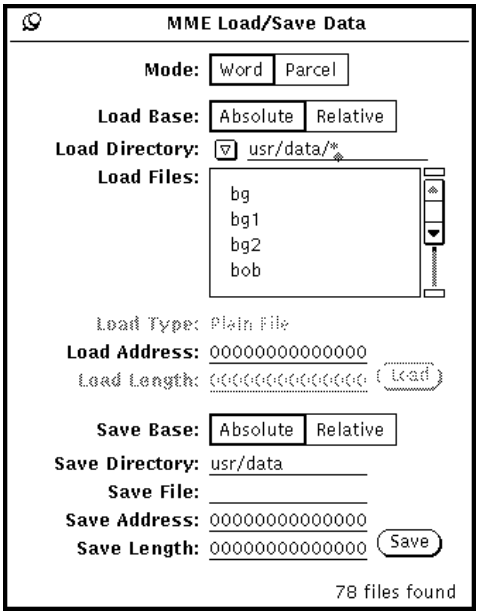
File –> Load –> Layout

This feature has not been implemented yet.

File –> Save –> Data



The File –> Save –> Data command, as shown at the left, saves a data set so you can reuse it. Use it to re-create a specific data set for testing. This command displays the MME Load/Save Data window:



Perform the following procedure to manipulate this window:

1. Select the data Mode. Click on [Word] to use a word save address and length or [Parcel] to use a parcel save address and length. The Save Address and Save Length fields change to the specified format.

2. Specify the Save Base. Click on [Absolute] to save the data from an absolute memory location (based on a starting address of 0), or click on [Relative] to save the data relative to the base address of the current control point section.

3. Specify a different directory in the Save Directory field, if necessary.

4. Specify the name of the file in the Save File field.

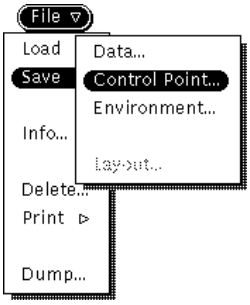
   Pressing the Return key in the Save File field saves the data file (the same action as when you click on the (Save) button). Before you press the Return key in this field, update the Length field with the correct value, or MME will save a zero-length file.

5. Specify the starting address of the data block you want to save in the Save Address field. (Press the Return key after you change this value.)

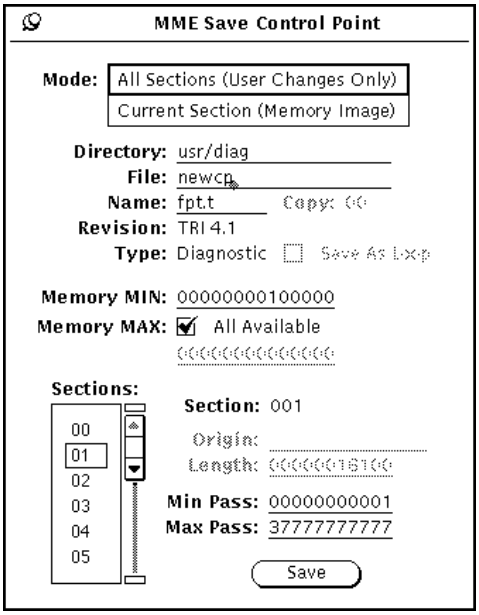
6. Specify the length of the data block you want to save in the Save Length field. (Press the Return key after you change this value.)

7. Click on (Save); MME saves the specified data set.

File –> Save –> Control Point



The File –> Save –> Control Point command, as shown at the left, saves a control point you have modified. Use it to create customized control points for troubleshooting. This command displays the MME Save Control Point window:



Perform the following procedure to manipulate this window:

1. Specify the Mode. Click on [All Sections (User Changes Only)] to save the changes you have made; this creates a new information file that contains the user changes for the control point (minimum and maximum memory) and all sections (minimum and maximum pass counts) and makes hard links to the original files for the sections.

   Click on [Current Section (Memory Image)] to save a memory image of the current control point section; this creates an information file that contains the minimum and maximum memory and minimum and maximum pass counts for the section. You may adjust the length of the memory image to save data outside the normal range for the section; this is useful for capturing diagnostic-created data (for example, a diagnostic-generated instruction block).

2. In the Directory field, enter the name of the directory in which you want to save the control point.

3. In the File field, type the name of the file in which you want to save the control point; the Name field shows the current name of the control point, the Revision shows the revision of the offline diagnostic, and the Type field indicates the type of file.

NOTE: To save a diagnostic as a loop so MME will not configure the diagnostic when loading it, click on the Save As Loop check box.

4. In the Memory MIN field, specify the minimum amount of memory the control point can be assigned. If the specified amount of memory is not available, the control point will not load when you use the File –> Load –> Control Point command.

5. In the Memory MAX field, specify the maximum amount of memory the control point requires, or click in the check box next to All Available to specify that the control point should use all available memory.

6. If you are saving a loop, specify, in the Origin field, the starting address of the loop in mainframe memory.

7. If you clicked on [Current Section Memory Image], specify the length of the memory image you want to save in the Length field.

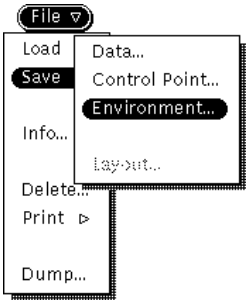
8. If you clicked on [All Sections User Changes Only], click on the section, in the Sections scroll box, for which you want to change the minimum and maximum pass counts. Repeat Steps 8 through 10 for each section you want to modify.

9. In the Min Pass field, specify the minimum number of passes the selected section must complete before MME can load a different control point section.

10. In the Max Pass field, specify the maximum number of passes the section should complete before MME disables testing of the section.

11. Click on (Save); MME saves the modified control point information.

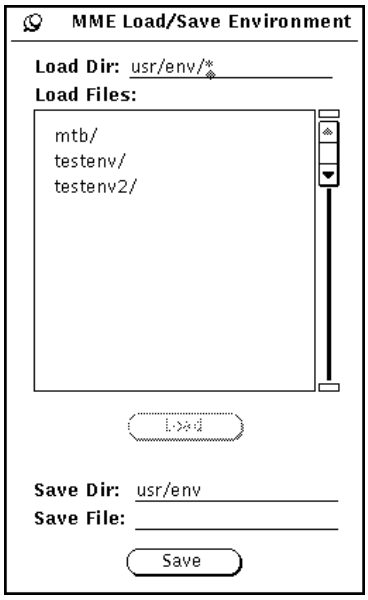
File –> Save –> Environment



The File –> Save –> Environment command saves the current environment data so you can restore MME to its current state. Use this command to save the following information:

- The environment that you are using (environment 1 or 2)
- The control points that are loaded
- The changes that you have made to these control points
- The CPU assignments for the control points
- The current resource and memory allocation settings

This command displays the MME Load/Save Environment window:



Perform the following procedure to manipulate this window:

1. In the Save Dir field, enter the directory in which you want to save the environment data. Usually, you should enter **usr/env** in this field.
2. In the Save File field, enter the filename under which you want to save the environment data.
3. Click on Save; MME saves the environment data in the specified file.

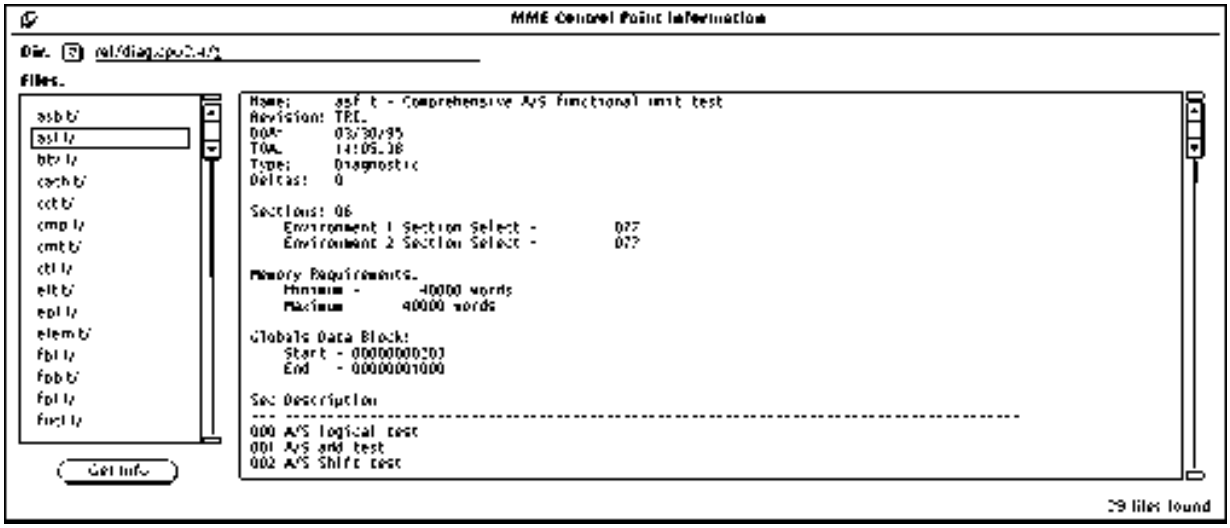
File –> Save –> Layout

This feature has not been implemented yet.

File –> Info

The File –> Info command, as shown at the left, displays information about control points. Use this command to view information that includes the section names, descriptions, paths, and resource requirements.

This command displays the MME Control Point Information window:



NOTE: The Info... button in the MME Load Control Point window also displays the MME Control Point Information window.

Perform the following procedure to manipulate this window:

1. Change the directory from which MME should get the control point information, if necessary, by:

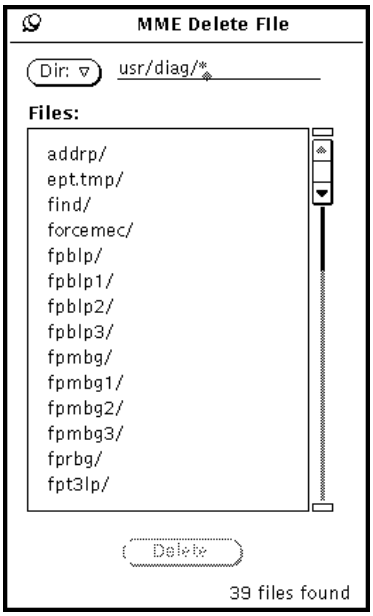
   - Entering the directory in the Dir field and pressing the Return key, or
   - Choosing the directory from the Dir: ▽.

2. In the Files scroll box, click on the control point for which you want information.

3. Click on Get Info. The window displays all available information from the control point.

File –> Delete

The File –> Delete command, as shown at the left, deletes file(s) you no longer need. Use this command to delete unwanted files from the MME user directories stored on the maintenance workstation (MWS). This command displays the MME Delete File window:



Perform the following procedure to manipulate this window:

1. Change the directory, if necessary, by:

   - Entering the directory in the Dir: field and pressing the Return key, or

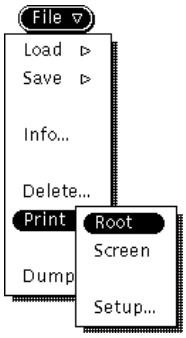
   - Choosing the directory from the Dir: button. The following user directories are available.

Directory	Description
usr/data	User data files
usr/diag	User diagnostic programs
usr/env	User environment files
usr/layout	User layout data
usr/lst	User listings
usr/seq	User sequences

2. Click on the file you want to delete.

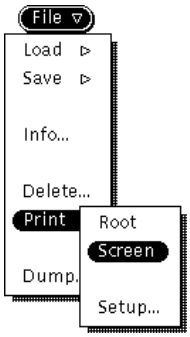
3. Click on Delete. MME deletes the file.

File –> Print –> Root



The File –> Print –> Root command, as shown at the left, prints an image of everything contained in the root window, including the MME base window.

File –> Print –> Screen

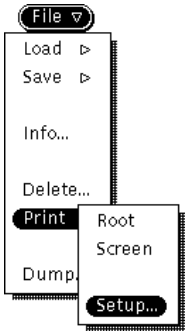


The File –> Print –> Screen command, as shown at the left, prints an image of a window or an icon.

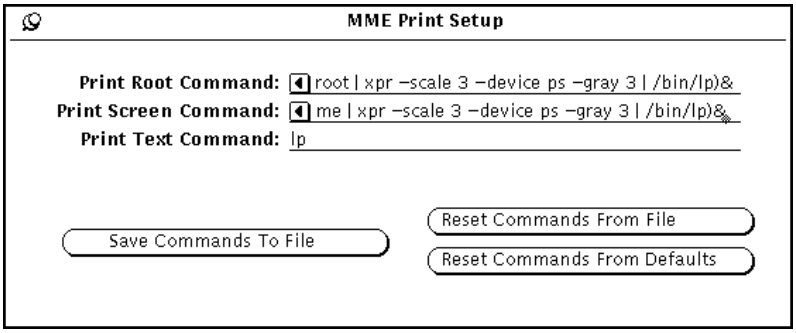
When you choose this command, the cursor becomes a plus symbol (+). Move the cursor to the window or icon that you want to print, and click any mouse button.

NOTE: This command does not print an image of the MME base window. To print an image of the MME base window, use the File –> Print –> Root command.

File –> Print –> Setup



The File –> Print –> Setup command, as shown at the left, enables you to edit the commands that control how MME prints data for the File –> Print –> Root and File –> Print –> Screen commands. This command displays the MME Print Setup window:

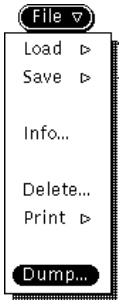


Modify the commands in the Print Root Command and Print Screen Command fields to change how MME prints. For more information about the UNIX `xwd`, `xpr`, and `lp` commands used in the print processes, refer to the UNIX online manual (man) pages (enter **`man xwd`**, **`man xpr`**, or **`man lp`** at a UNIX command prompt).

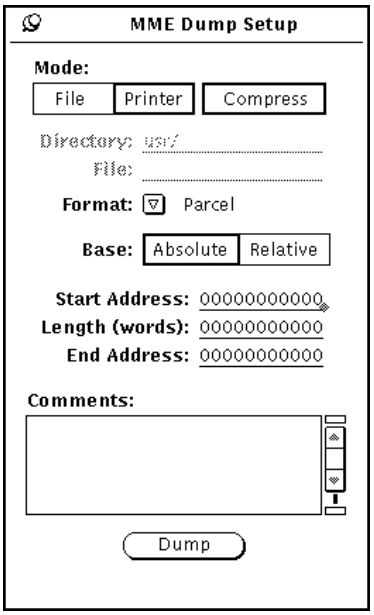
Use the buttons in the MME Print Setup window to perform the following functions:

- To save the current printer setup commands for later use, click on Save Commands To File.
- To load the printer setup commands that you saved previously, click on Reset Commands From File.
- To load the default printer setup commands that the MME program provides, click on Reset Commands From Defaults.

File –> Dump



The File –> Dump command, as shown at the left, sends a copy of mainframe data to a file or the printer. Use this command to create a permanent record of the data so you can analyze it later. This command displays the MME Dump Setup window:



Perform the following procedure to manipulate this window:

1. Specify the Mode. Click on File to output the data to a file, or click on Printer to output the data to the printer.

   Click on Compress to compress the output of the File –> Dump command. This reduces the size of the data listing by replacing repeated lines with a statement similar to Last line repeated 077 (63) times.

2. If data is being dumped to a file, specify the directory in the Directory field and the file in the File field.

3. Choose the display format of the data from the Format: ▽. The following formats are available:

Format	Description
Nibble	Nibble data
Byte	Byte data
Parcel	Parcel data
Halfword	Halfword data
Word	Word data
Hexadecimal	Hexadecimal data
Address	Address data
Text	Text data
Exchange (NI)	Exchange data (not implemented)
Instruction (T90)	Instruction data (CRAY T90 series instructions)
Instruction (IEEE)	Instruction data (IEEE instructions)
Instruction (C90)	Instruction data (CRAY C90 series instructions)

4. Specify the Base. Click on [Absolute] to dump data from an absolute memory location (based on a starting address of 0) or [Relative] to dump data relative to the base address of the current control point section.

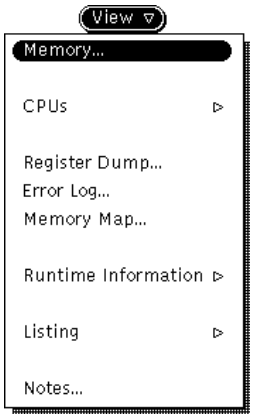
5. Specify the data block you want to dump by completing any two of the following actions (the third field is automatically set using data from the other two fields):

   - In the Start Address field, enter the starting address of the data block to dump and press the Return key.
   - In the Length (words) field, enter the length (in words) of the data block and press the Return key.
   - In the End Address field, enter the ending address of the data block you want to dump and press the Return key.

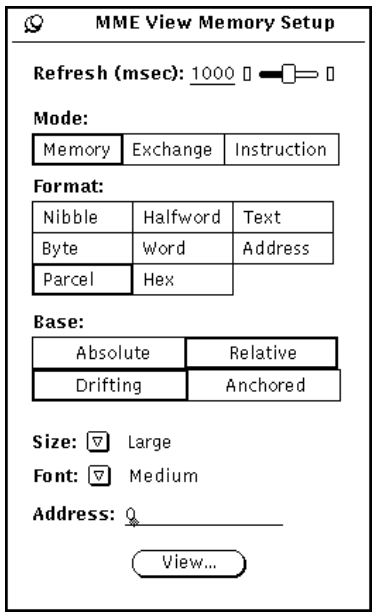
6. Click in the Comments scroll box and type any comments you want to include with the data. For example, you might specify that the data is from a specific test or that you created it on a specific date.

7. Click on (Dump); MME sends the specified data to the printer or file.

View –> Memory



The View –> Memory command, as shown at the left, displays mainframe memory in a separate window. Use this command to verify the contents of specific memory locations or to change the data stored in memory. This command displays the MME View Memory Setup window:



Perform the following procedure to manipulate this window:

1. To set the interval at which memory windows are updated, move the Refresh (msec) slider or enter a new value in the Refresh (msec) field. (Setting this value too low can monopolize the workstation CPU and reduce system performance.)

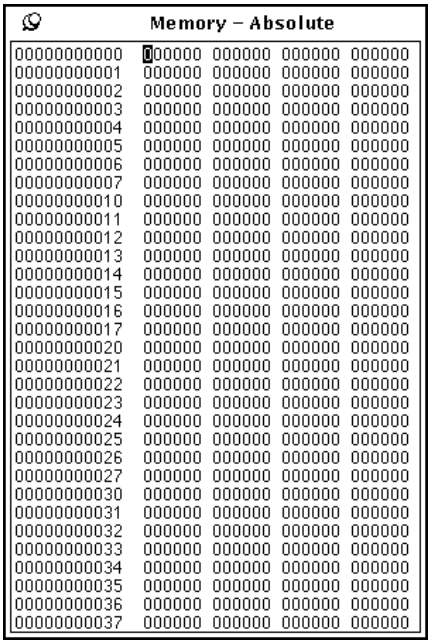
2. Click on a Mode (Memory, Exchange, or Instruction) to specify the way you want the data displayed.

3. Click on a Format. The following Format settings are available for Memory mode: Nibble, Halfword, Text, Byte, Word, Address, Parcel, and Hex (hexadecimal).

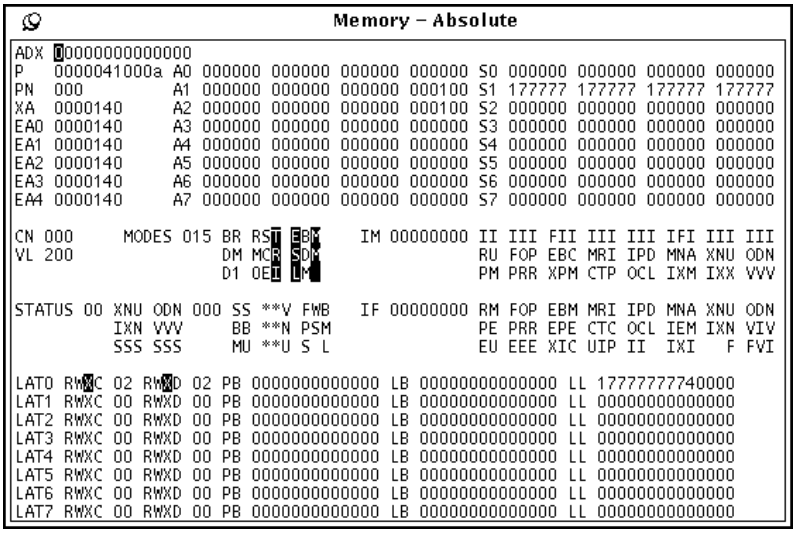
   The following Format settings are available for Exchange mode: Byte, Word, Parcel, Text, Halfword, and Address.

   The following Format settings are available for Instruction mode: CSU, T90, and IEEE.

Memory mode ([Memory]) displays normal memory:



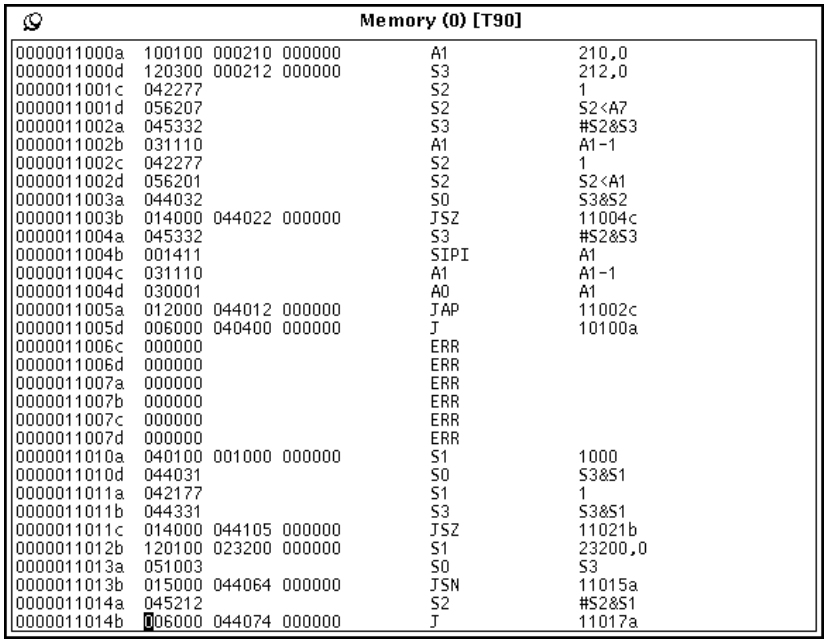
Exchange mode ([Exchange]) displays exchange information:



MME displays the same data for CRI floating-point format exchange packages and IEEE floating-point format exchange packages. The Memory window contains information for both formats. MME highlights only the bits and modes that are used for the CP modules included in the mainframe. This document shows exchange packages for CP modules that use the CRI floating-point format.

For more information about the contents of CRI floating-point format exchange packages, refer to the *CPU Module (CP02)* document, publication number HTM-003-0. For more information about the contents of IEEE floating-point format exchange packages, refer to the *IEEE CPU Module (CP02)* document.

Instruction mode (Instruction) decodes memory into instructions:



4. Specify a Base. Click on Absolute to display absolute memory addresses, based on a starting address of 0. This is the setting you will normally use in environment 1 because only one control point is loaded.

   Click on Relative to display memory addresses that are relative to the base address of the current control point. The window displays different areas of memory, depending on the base address of the current control point. This setting is useful for looking at the contents of multiple control points in environment 2.

Click on [Drifting] to display memory locations for the current control point as you change control points. The window "drifts" to the base address for the current control point as you change control points.

Click on [Anchored] to always display memory for the control point that was current when the memory window was first displayed. The window becomes "anchored" to the base address for one control point and always displays memory for that control point.

5. Choose the size of the display window from the Size: [▽]. This affects only the memory and instruction mode windows.

   The following window sizes are available:

Size	Description
Small	The window displays 10_8 words.
Medium	The window displays 20_8 words.
Large	The window displays 40_8 words.
X–Large	The window displays 100_8 words.

6. Choose the font size you want to display in the window from the Font: [▽].

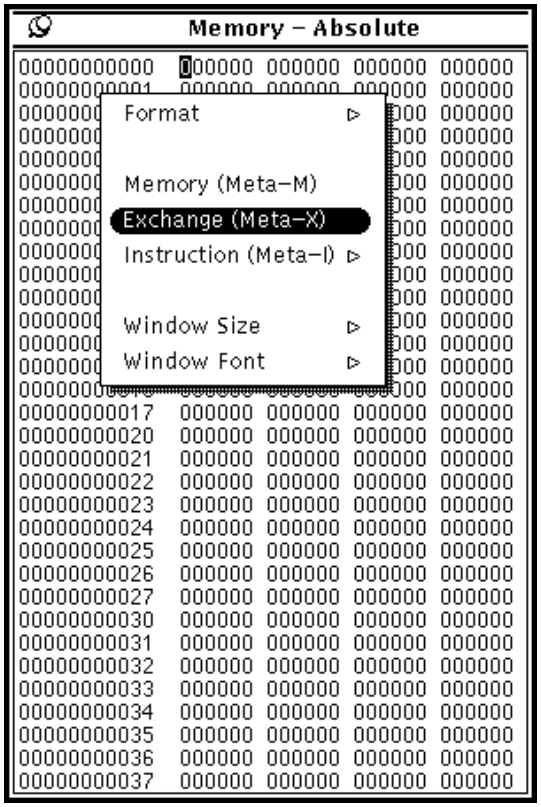
   The following font sizes are available:

Size	Description
Small	The font size is small.
Medium	The font size is medium.
Large	The font size is large.
X–Large	The font size is extra large.

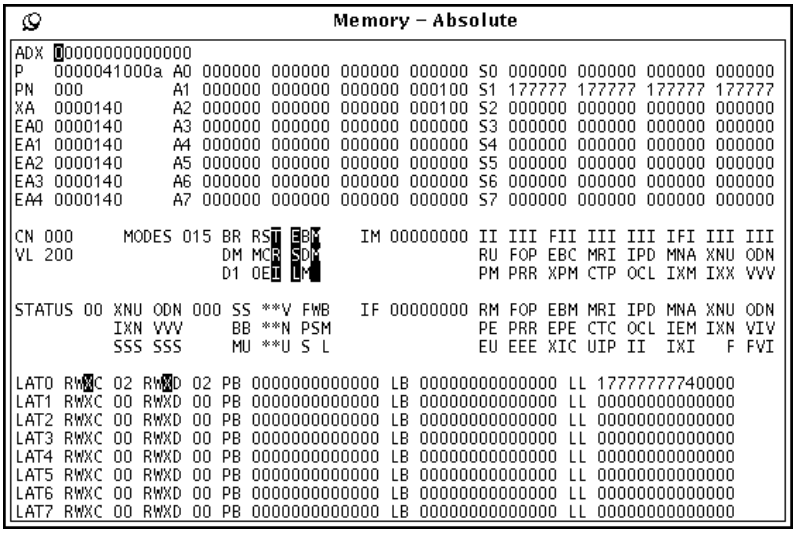
7. Change the starting address, if necessary, by double clicking on the Address field and typing a new value.

8. Click on [View...]. MME displays a window for the specified memory location.

   If you want to change the Format, Memory, Exchange, Instruction, Window Size, or Window Font from the Memory – Absolute window, press the MENU mouse button and choose the menu item.



For example, the following window appears if you choose the Exchange (Meta–X) format menu option:



You can also change the window format (Format), data type (Memory or Instruction), window size (Window Size), or window font (Window Font) from this menu.

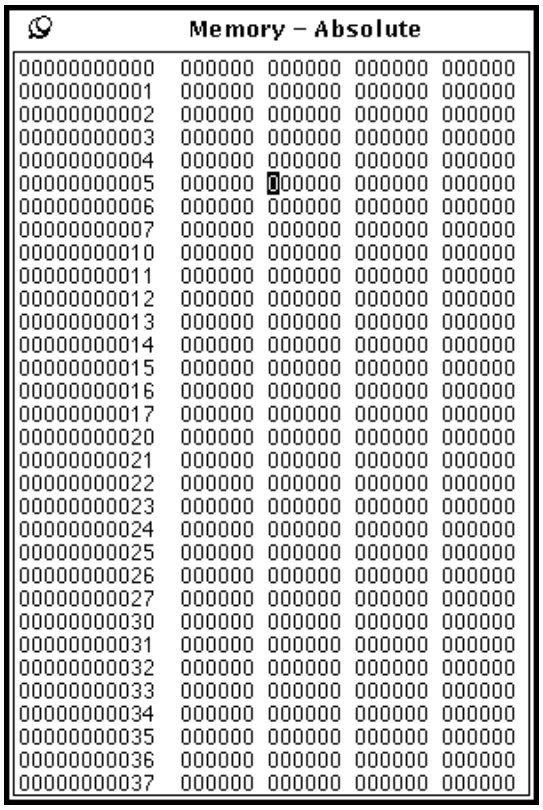
Instead of using the MENU mouse button, you may also use the diamond-shaped meta key (or , depending on the type of keyboard you have) with one of several keyboard shortcuts. The following key combinations are shortcuts to the menu options:

Key Sequence	Function
Meta-a	Switches the display to address format
Meta-n	Switches the display to nibble format
Meta-b	Switches the display to byte format
Meta-p	Switches the display to parcel format
Meta-h	Switches the display to halfword format
Meta-w	Switches the display to word format
Meta-e	Switches the display to hexadecimal format
Meta-t	Switches the display to text format
Meta-i	Switches the display to instruction mode
Meta-x	Switches the display to exchange mode
Meta-m	Switches the display to memory mode

Changing Memory

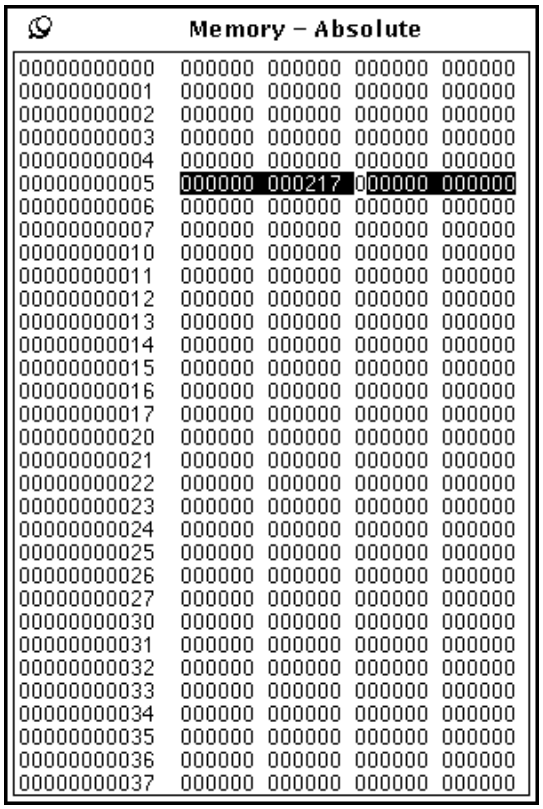
Perform the following procedure from a memory window to change data stored in mainframe memory:

1. Use the arrow keys to move the cursor to the location in memory you want to change, or click on the location. In this example, parcel 00000000005b was selected:

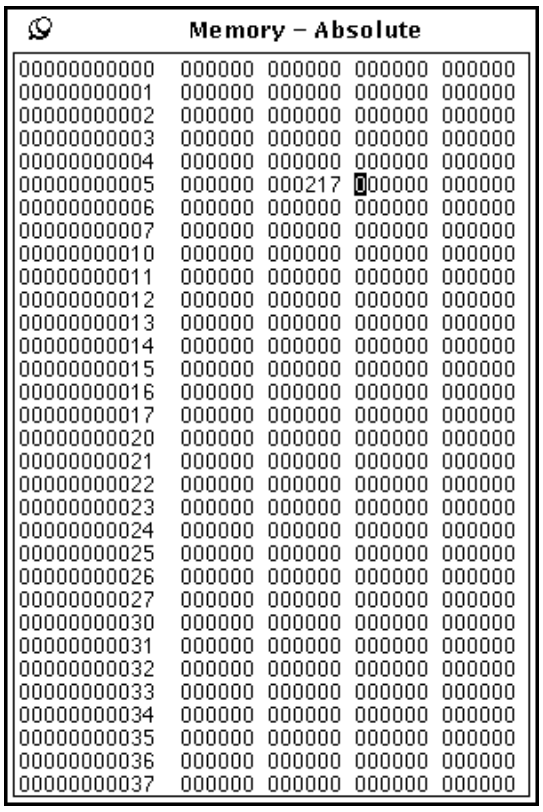


2. Type the new value you want to place in the memory location. The entire word is highlighted, which enables you to change it. You can move through the highlighted word with the arrow keys.

   In the following example, 000217 was typed at memory location 00000000005b:



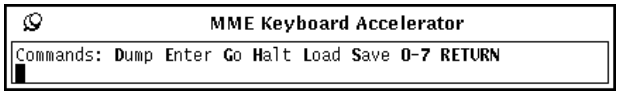
3. Press and release the Return key, which updates memory. In this example, memory location 00000000005b changed from 000000 to 000217, as shown:



4. Repeat Steps 1 through 3 to change additional memory locations.

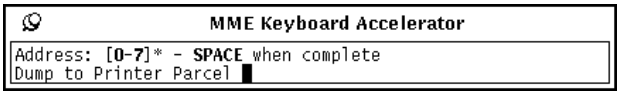
Using the Keyboard Accelerator

The keyboard accelerator offers another way to change memory and includes several other features. To access the keyboard accelerator, move the cursor inside a memory window and press the spacebar. The MME Keyboard Accelerator window appears:



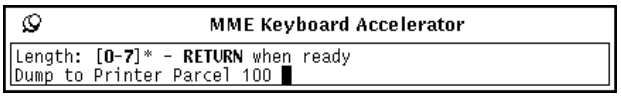
Dump Command

The first command in the MME Keyboard Accelerator window is the Dump command. The Dump command dumps data to a file or printer. When you type the letter **D** in the MME Keyboard Accelerator window, the window changes to:



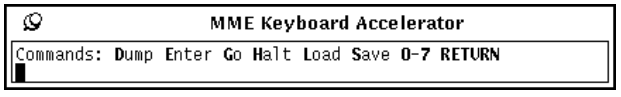
NOTE: By default, the Dump command dumps parcel data to the printer. To change this, press the backspace key several times to delete the default selections. Then, type the menu options you want.

Enter the starting address of the data block you want to dump and press the spacebar; for example, if you wanted to dump the data block starting at 100, you would enter **100**:



Then, enter the length of the data block you want to dump; for example, if you wanted to dump a block of 2000_8 parcels, you would enter **2000**:

Finally, press the Return key to dump the data. The window displays the main menu again:

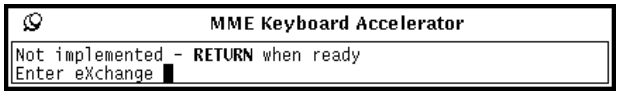


Enter Command

The second command in the MME Keyboard Accelerator window is the Enter command. The Enter command puts data into memory. When you type the letter **E** in the MME Keyboard Accelerator window, the window changes to:

This window gives you three command options:

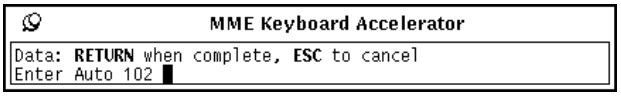
- Type the letter **X** in the Enter menu to enter exchange data; *this option is not implemented yet*:



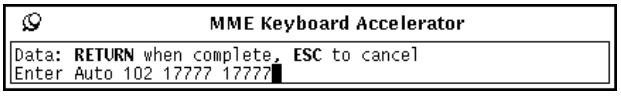
- Type the letter **A** in the Enter menu to start the automatic increment mode. Automatic increment mode enables you to enter data into consecutive memory locations without having to manually enter each memory address.

  For example, if you wanted to enter data in consecutive memory locations starting at address 102, you would perform the following steps:

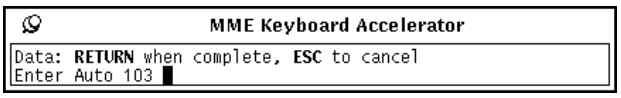
  1. Enter the address at which you want to enter the data and press the Return key. For this example, you would enter **102**:



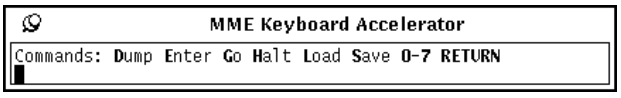
  2. Enter the first item of data and press the Return key. For this example, you would enter **17777 177777**:



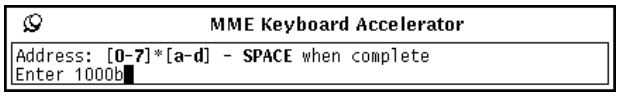
The window advances to the next memory location:



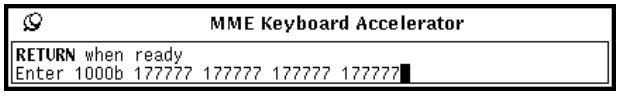
3. Enter the next item of data and press the Return key. Repeat this process to enter all of your data. When you have finished entering data, press the Esc key to halt automatic increment mode. The MME Keyboard Accelerator window returns to the main menu:



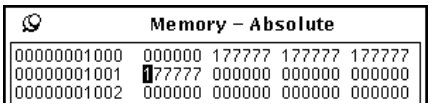
- Type a number-letter combination in the Enter menu to enter a parcel address that indicates the memory address you want to change. For example, if you wanted to change parcel 1000b, you would enter **1000b**:



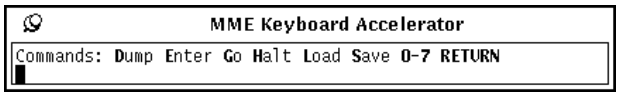
Then, enter the data you want to write to memory; for example, if you wanted to enter 177777 177777 177777 177777, you would enter **177777 177777 177777 177777**:



Press the Return key to write the data to memory:

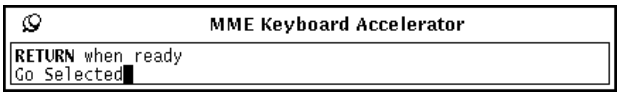


The window displays the main menu again:



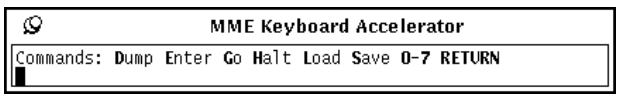
Go Command

The third command in the MME Keyboard Accelerator window is the Go command. The Go command runs the assigned control point(s). When you type the letter **G** in the MME Keyboard Accelerator window, the window changes to:



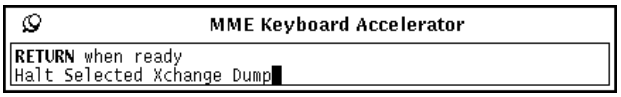
NOTE: By default, the Go command runs the selected control point(s). To run all control points, press the backspace key to move backward through the menu selections. Then, type the menu options you want.

Press the Return key to start the control point(s). The window displays the main menu again:



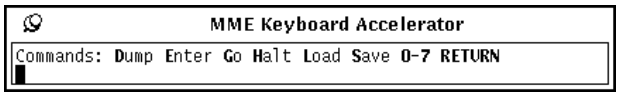
Halt Command

The fourth command in the MME Keyboard Accelerator window is the Halt command. The Halt command halts the currently running control point(s). When you type the letter **H** in the MME Keyboard Accelerator window, the window changes to:



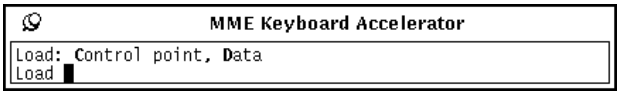
NOTE: By default, the Halt command halts the selected control point(s) and performs an exchange dump. To halt all control points, perform a register dump, or halt with no dump; press the Back Space key to move backward through the menu selections. Then, type the menu options you want.

Press the Return key to halt the control point(s). The window displays the main menu again:



Load Command

The fifth command in the MME Keyboard Accelerator window is the Load command. The Load command loads a control point or data set. When you type the letter **L** in the MME Keyboard Accelerator window, the window changes to:

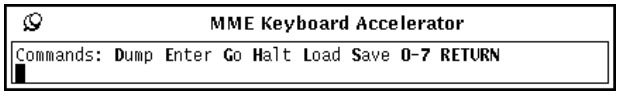


This window gives you two options: loading a control point and loading a data set.

- Type the letter **C** in the Load menu to load a control point.

Then, enter the name of the control point from the current offline diagnostic release that you want to load. For example, if you want to load `asb.t`, enter **asb.t**:

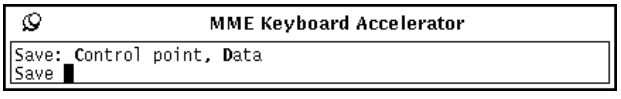
Finally, press the Return key to load the control point. The window displays the main menu again:



- Type the letter **D** in the Load menu to load a data set; *this command is not implemented yet.*

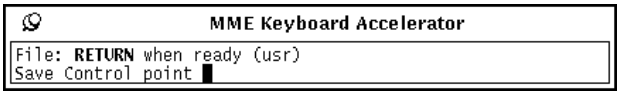
Save Command

The sixth command in the MME Keyboard Accelerator window is the Save command. The Save command saves a control point or data set. When you type the letter **S** in the MME Keyboard Accelerator window, the window changes to:

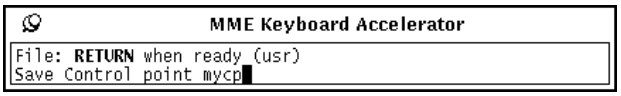


This window gives you two options: saving a control point and saving a data set.

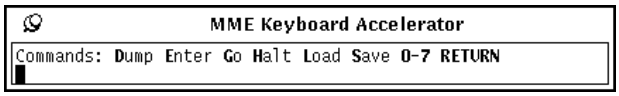
- Type the letter **C** in the Save menu to save a control point.



Then, enter a filename to save the control point. For example, to save the control point in the file named `mycp`, enter **mycp**:



Finally, press the Return key to save the control point. The window displays the main menu again:

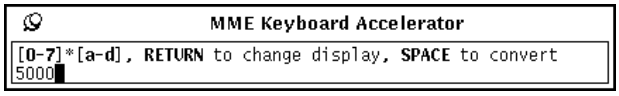


- Type the letter **D** in the Save menu to save a data set; *this command is not implemented yet.*

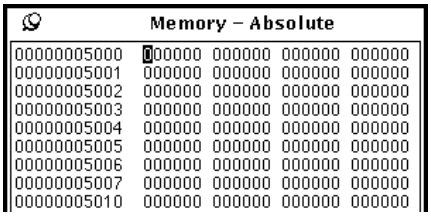
Numeric Commands

Two options are available when you type a number in the MME Keyboard Accelerator window: you can display memory starting at the number, or you can convert the number from octal to parcel format or from parcel format to octal.

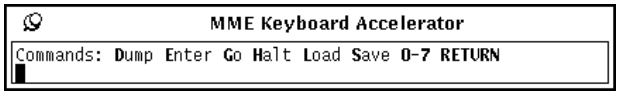
- To display a specific memory location, type the location in the MME Keyboard Accelerator window and press the Return key. For example, to view memory location 5000, enter **5000**:



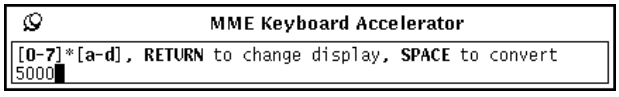
The window displays memory at location 5000:



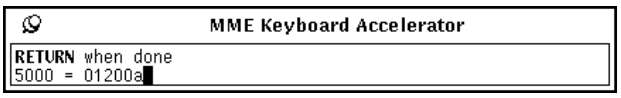
The window displays the main menu again:



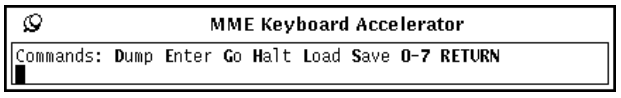
- To convert a number from octal to parcel format or from parcel format to octal, type the number and press the spacebar. For example, to convert octal value 5000 to parcel format, enter **5000** and press the spacebar:



The window then displays the parcel format equivalent.



Press the Return key, and the window displays the main menu again:



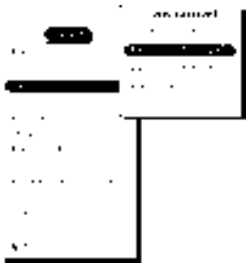
Return

To close the MME Keyboard Accelerator window, press the Return key while the cursor is in the window.

View –> CPUs –> Control Point

The View –> CPUs –> Control Point command, as shown at the left, causes the status information in the CPU selection, control point, and status area to display the control point name. Refer to “CPU Selection, Control Point, and Status Area” on page 51 for more information about the status information.

View –> CPUs –> Pass Count (Global)



The View –> CPUs –> Pass Count (Global) command, as shown at the left, causes the status information in the CPU selection, control point, and status area to display the total pass count for all sections. Refer to “CPU Selection, Control Point, and Status Area” on page 51 for more information about the status information.

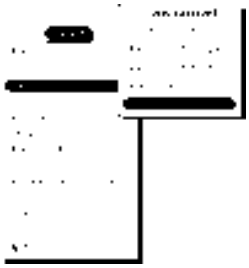
View –> CPUs –> Pass Count (Section)

The View –> CPUs –> Pass Count (Section) command, as shown at the left, causes the status information in the CPU selection, control point, and status area to display the pass count for the current section. Refer to “CPU Selection, Control Point, and Status Area” on page 51 for more information about the status information.

View –> CPUs –> P Register

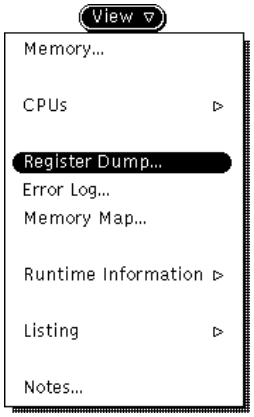
The View –> CPUs –> P Register command, as shown at the left, causes the status information in the CPU selection, control point, and status area to display the P register. Refer to “CPU Selection, Control Point, and Status Area” on page 51 for more information about the status information.

View –> CPUs –> CIP

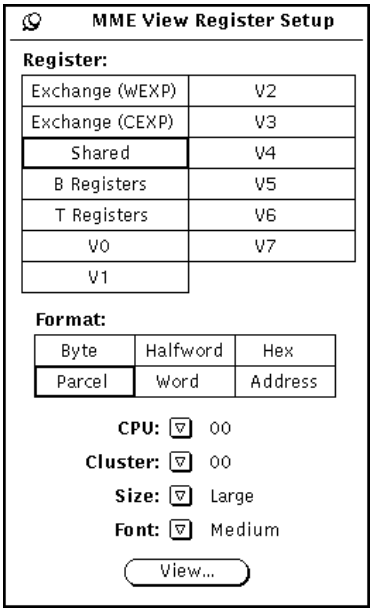


The View –> CPUs –> CIP command, as shown at the left, causes the status information in the CPU selection, control point, and status area to display the current instruction parcel (CIP). Refer to “CPU Selection, Control Point, and Status Area” on page 51 for more information about the status information.

View –> Register Dump



The View –> Register Dump command, as shown at the left, enables you to view the contents of the registers that were dumped with the Register Dump option of the Halt button. This command displays the MME View Register Setup window:



Perform the following procedure to manipulate this window:

1. Specify the register for which you want to view the register dump data. Click on Register: Exchange (WEXP), Exchange (CEXP), Shared, B Registers, T Registers, V0, V1, V2, V3, V4, V5, V6, or V7.

2. Specify the format in which you want to view the dump data. Click on Format: Byte, Halfword, Hex, Parcel, Word, or Address.

3. If you clicked on a CPU Register setting in Step 1, choose a value from the CPU: to specify the CPU for which MME should display register dump data.

4. If you clicked on the Shared setting in Step 1, choose a value from the Cluster: to specify the cluster of shared registers for which MME should display register dump data.

5. Choose the size of the display window from the Size: ▽.

   The following window sizes are available:

Size	Description
Small	The window displays 10_8 words.
Medium	The window displays 20_8 words.
Large	The window displays 40_8 words.
X–Large	The window displays 100_8 words.

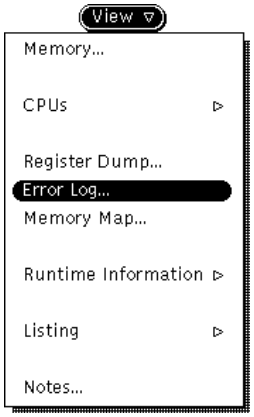
6. Choose the font size you want to display in the window from the Font: ▽.

   The following font sizes are available:

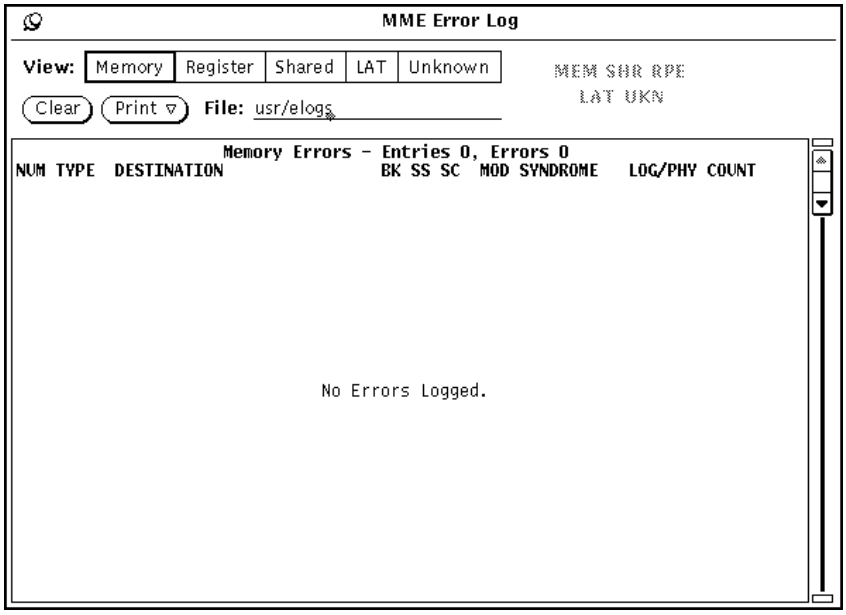
Size	Description
Small	The font size is small.
Medium	The font size is medium.
Large	The font size is large.
X–Large	The font size is extra large.

7. Click on View... . MME displays a window that contains the specified register data.

View –> Error Log



The View –> Error Log command, as shown at the left, displays memory, register parity, shared register, logical address translation (LAT) table, and unknown errors logged in the status registers. Use this command to track the occurrence of these errors. This command displays the MME Error Log window:



An error indicator (MEM, SHR, RPE, LAT, or UKN) appears in bold type in this window when the corresponding type of error is logged. When you see an error indicator in bold type, click on the appropriate View setting.

The Clear button clears all logged errors from the display. The Print button sends a copy of the error log to the printer (choose **Print –> To Printer**) or to the file specified in the File field (choose **Print –> To File**).

Memory Error Information

Click on View: Memory to view the memory error information. The MME Error Log window displays the following memory error information:

Label	Description
NUM	Entry number in the table
TYPE	Type of error that occurred (correctable or uncorrectable)

Label	Description
DESTINATION	Destination of the memory read error (cache read, V register read, S register read, A register read, T register read, B register read, fetch read, I/O read, exchange read, I/O write, processor write, reconfigure, or memory error)
SECT	Section where the error occurred
BANK	Bank where the error occurred
MODULE	Module where the error occurred
SYNDROME	Syndrome
LOG/PHY	Logical/physical CPU number
COUNT	Number of errors for this entry

Register Parity Error Information

Click on View: Register to view the register parity error information. The MME Error Log window displays the following register parity error information:

Label	Description
NUM	Entry number in the table
TYPE	Type of error that occurred
CHIP	Chip number where the error occurred
LOG/PHY	Logical/physical CPU number
COUNT	Number of errors for this entry

Shared Register Error Information

Click on View: Shared to view the shared register error information. The MME Memory/Register Parity Error Log window displays the following shared register error information:

Label	Description
NUM	Entry number in the table
TYPE	Type of error that occurred
CLUSTER	Cluster where the error occurred

Label	Description
LOG/PHY	Logical/physical CPU number
COUNT	Number of errors for this entry

LAT Error Information

Click on View: [LAT] to view the LAT error information. The MME Error Log window displays the following LAT error information:

Label	Description
NUM	Entry number in the table
TYPE	Type of error that occurred
LOG/PHY	Logical/physical CPU number
COUNT	Number of errors for this entry

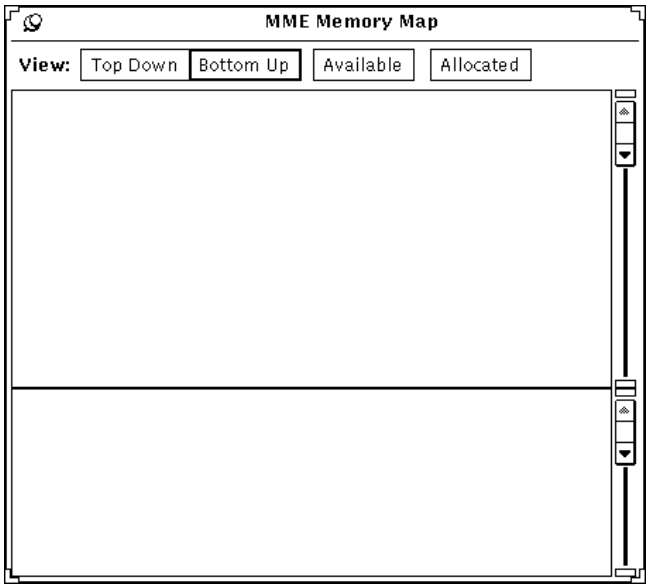
Unknown Error Information

Click on View: [Unknown] to view the unknown error information. (Unknown errors are errors that do not have the necessary bits set to identify the errors.) The MME Error Log window displays the following error information:

Label	Description
NUM	Entry number in the table
DATA	4 parcels of error data
COUNT	Number of errors for this entry

View –> Memory Map

The View –> Memory Map command, as shown at the left, displays a map of the contents of mainframe and SSD memory. This command displays the MME Memory Map window:



The top scroll box in this window displays the contents of mainframe memory. The bottom scroll box in this window displays the contents of SSD memory.

You can manipulate the memory map by performing the following actions:

- Click on Top Down to view memory from the highest memory location to the lowest memory location.
- Click on Bottom Up to view memory from the lowest memory location to the highest memory location.
- Click on Available to view memory that is not currently used.
- Click on Allocated to view memory that is currently used.

Figure 7 shows an example memory map that is configured to display both allocated and available memory from the lowest available memory location to the highest available memory location.

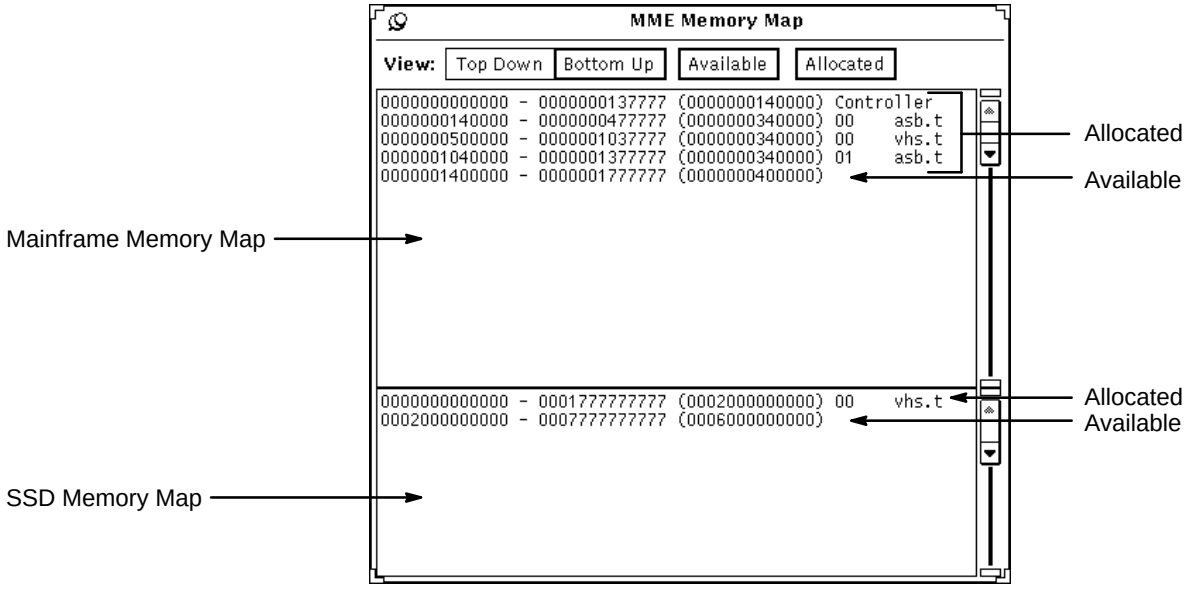
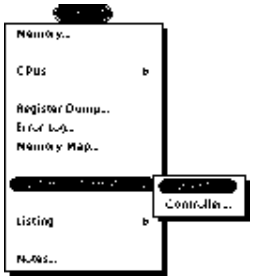
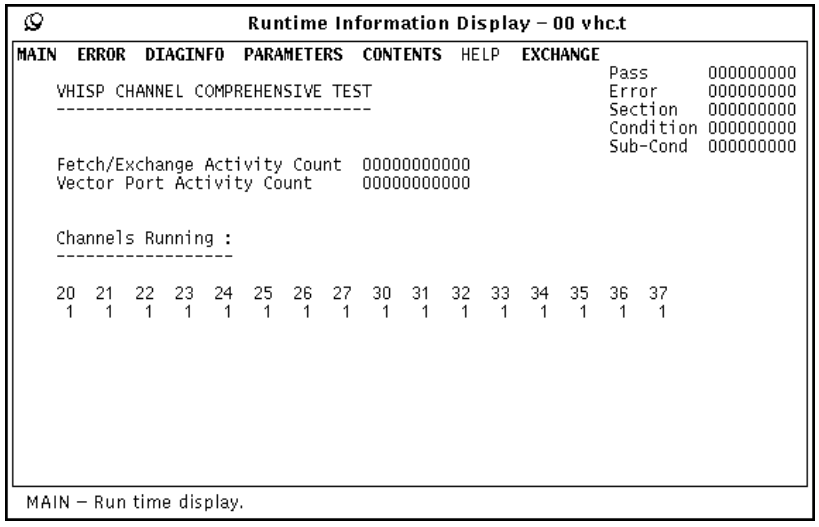


Figure 7. Memory Map Example

View –> Runtime Information –> Current



The View –> Runtime Information –> Current command, as shown at the left, displays the runtime information display for the current control point:



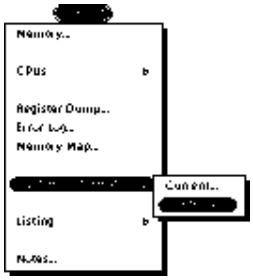
Use this window to get updated information from the control point as the control point executes. Table 3 describes the runtime information categories you can view for control points.

On color displays, this window uses the following colors: black indicates that the text is mainframe memory data, blue indicates that the text is window text, and green indicates that you can click on the text to switch to a different display. On monochrome displays, bold text indicates that you can click on the text to switch to a different display.

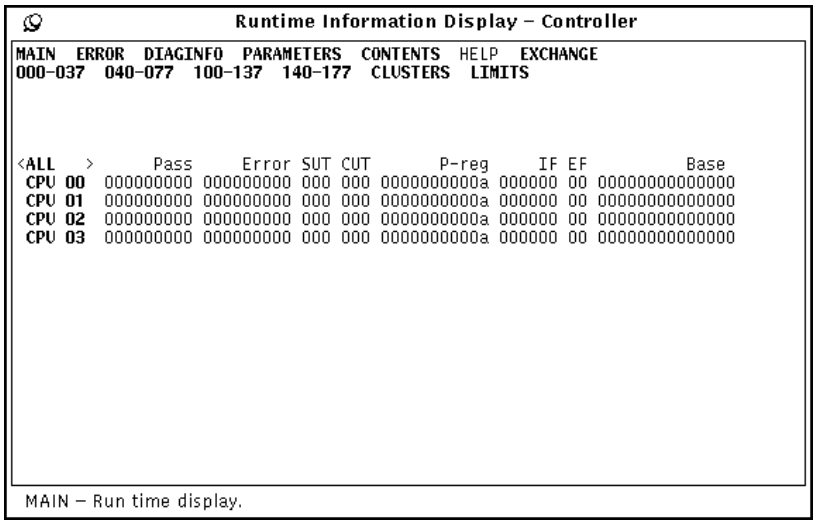
Table 3. Control Point Runtime Information Categories

Category	Description
MAIN	This display shows general information about the control point. This display typically includes the pass count, error count, current section, current condition, current subcondition, and control-point-specific information.
ERROR	This display shows any control-point-specific error information.
DIAGINFO	This display shows information from the standard locations, including the difference of the actual and expected values, the actual value, the expected value, the error count, the pass count, the error return address, the failing data address, the failing element mask, the section being tested, the condition being tested, the subcondition being tested, the condition loop count, and the subcondition loop count.
PARAMETERS	This display shows any control-point-specific parameters.
CONTENTS	This display shows the location of several standard locations, the code block, the data area, and the block storage segment.
HELP	This display shows any available help information.
EXCHANGE	This display shows information from the deadstart exchange package, starting exchange package, interrupt exchange package, working exchange packages, current exchange packages, and trap exchange packages.

View –> Runtime Information –> Controller (Environment 2 Only)



The View –> Runtime Information –> Controller command, as shown at the left, displays the runtime information display for the controller:



Use this window to get updated information from the controller while the control points execute in environment 2. Table 4 describes the runtime information categories you can view for the controller.

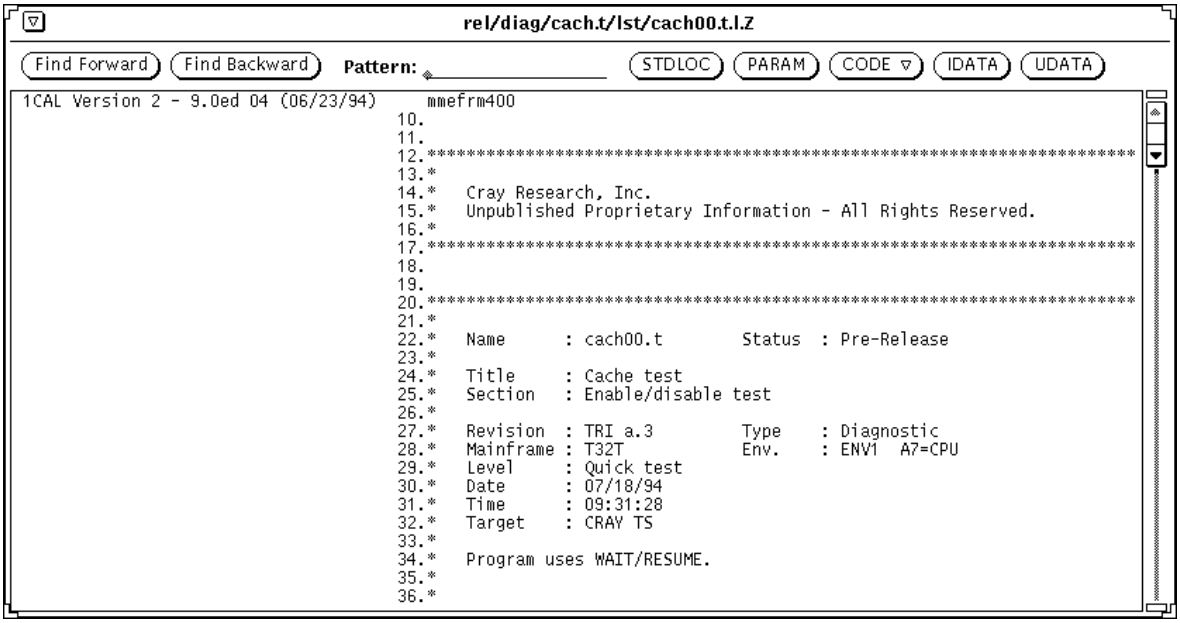
On color displays this window uses the following colors: black indicates that the text is mainframe memory data, blue indicates that the text is window text, and green indicates that you can click on the text to switch to a different display. On monochrome displays, bold text indicates that you can click on the text to switch to a different display.

Table 4. Controller Runtime Information Categories

Category	Description
MAIN	This display shows general CPU information. This display contains the information used to update the MME base window (pass count, error count, section being tested, condition being tested, P register value, interrupt flags, and base address).
ERROR	This display shows the hartBEAT and idleSTAT parameters and interrupt flags for all CPUs. For more information about these parameters, refer to the online listing of the controller or to the *MME User Guide*, publication number HDM-102-A.
DIAGINFO	This display shows the pass count, error count, P register value, interrupt flags, mmeCIFM parameter, and dcCIFM parameter for the online listing of the controller or to the *MME User Guide*, publication number HDM-102-A.
000 – 037	This display shows the reservation table for channels 000 – 037.
040 – 077	This display shows the reservation table for channels 040 – 077.
100 – 137	This display shows the reservation table for channels 100 – 137.
140 – 147	This display shows the reservation table for channels 140 – 147.
CLUSTERS	This display shows the cluster reservation table.
LIMITS	This display shows the control point base and limit values for each CPU that is running control point code.
PARAMETERS	This display shows the MWS-to-CPU and CPU-to-MWS request and response parameters.
CONTENTS	This display shows the location of several standard locations, the code block, and the block storage segment.
EXCHANGE	This display shows information from the controller's deadstart exchange package, starting exchange package, interrupt exchange package, working exchange packages, trap exchange packages, and buffer exchange packages. This display also shows the trap exchange address (XA) and trapSTAT parameter. For more information about these parameters, refer to the online listing of the controller or to the *MME User Guide*, publication number HDM-102-A.

View –> Listing –> Current

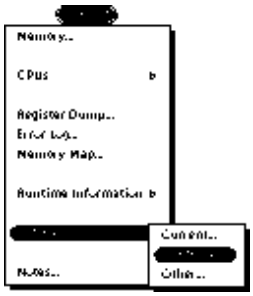
The View –> Listing –> Current command, as shown at the left, displays the listing for the current section in the Sections scroll box. Use this command to learn more about the current section; the listing describes what is stored in memory and what the section is testing. This command displays the listing in a separate window that resembles the following window.



You can manipulate the listing as follows:

- To search forward from the current location in the window for a data pattern, enter the pattern in the Pattern field and click on (Find Forward).
- To search backward from the current location in the window for a data pattern, enter the pattern in the Pattern field and click on (Find Backward).
- To split the window to view multiple areas of the listing, press the MENU mouse button over the scroll bar and choose **Split View**. Choose **Join Views** to restore the window to the original view.
- To make the window a full-size display, double click in the window header. This enables you to see more of the listing at one time. Double click in the window header to return the window to normal size.
- To view the standard locations, parameters, initialized data (IDATA), or uninitialized data (UDATA); click on the corresponding button ((STDLOC), (PARAM), (IDATA), or (UDATA)).
- To view the standard code, choose **CODE –> STDCODE**; to view the main code, choose **CODE–> MAIN**; or to view the subroutines, choose **CODE –> CODESUB**.

View –> Listing –> Controller

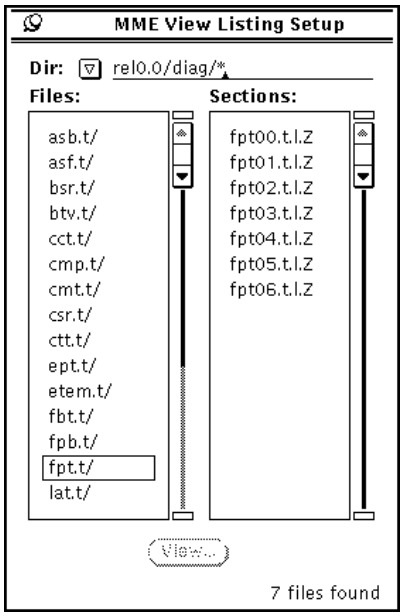


The View –> Listing –> Controller command, as shown at the left, displays the listing for the diagnostic controller. Use this command to learn more about the diagnostic controller. This command displays the listing in a separate window.

Refer again to the previous subsection, "View Listing –> Current," for an example of the listing window and a description of how to manipulate the listing.

View –> Listing –> Other

The View –> Listing –> Other command, as shown at the left, displays the listing for the control point section you specify. Use this command to get detailed information about a control point section. This command displays the MME View Listing Setup window:



Each section is an individual file, so you must specify the control point and then pick one section. To do this, perform the following steps.

1. In the Dir field, specify the directory in which to search for the listing file; enter the directory in the Dir field or choose it from the Dir: ▽.

   The Dir: ▽ includes selections for the `usr` diagnostic directory, all of the `rel` directories, and all of the `alpha` directories. The RESET CHOICE DEFAULTS selection resets the field to the directory you selected with the Release, Alpha, User, Diag, Utility, CRAY, and IEEE settings.

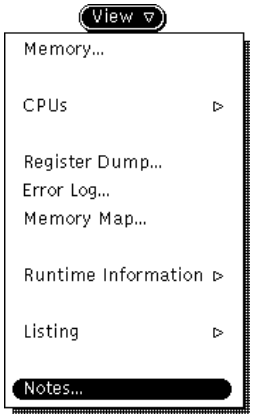
2. Click on the control point in the Files scroll box. The Sections scroll box displays the section listings available.

3. Click on the section in the Sections scroll box for which you want to see the listing.

4. Click on View... . MME displays the listing.

Refer again to the "View Listing –> Current" subsection on page 107 for an example of the listing window and a description of how to manipulate the listing.

View –> Notes



The View –> Notes command, as shown at the left, displays the MME release notes in a separate window. Use this window to read about any changes to MME for the current offline diagnostic release.

Edit –> Delete Control Point –> Selected

The Edit –> Delete Control Point –> Selected command, as shown at the left, deletes the current control point selected in the Control Points scroll box. Use this command to delete a control point you are no longer using.

Edit –> Delete Control Point –> All

The Edit –> Delete Control Point –> All command, as shown at the left, deletes all loaded control points. Use this command when you are done using all control points.

Edit –> Assign CPU(s)

This feature has not been implemented yet.

Edit –> Deassign CPU(s)

This feature has not been implemented yet.

Properties –> Environment –> ENV2 (Environment 1 Only)

The Properties –> Environment –> ENV2 command, as shown at the left, switches MME to environment 2. Use this command to switch to multiple-control-point testing. This command is available in environment 1 only.

Properties –> Environment –> ENV1 (Environment 2 Only)

The Properties –> Environment –> ENV1 command, as shown at the left, switches MME to environment 1. Use this command to switch to single-control-point testing. This command is available in environment 2 only.

Properties –> Environment –> ENV0

The Properties –> Environment –> ENV0 command, as shown at the left, switches MME to environment 0. Use this command to switch to MWS-based testing. Refer to the “Environment 0” section earlier in this document for more information about environment 0.

Properties –> Partition

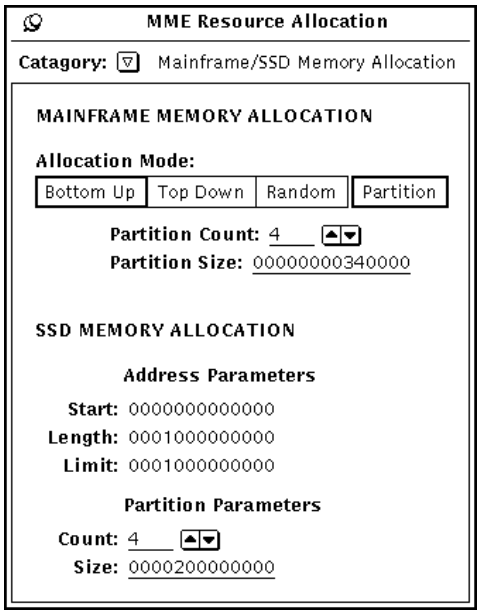
The Properties –> Partition command, as shown at the left, selects the logical partition in which MME will run. Use this command to select the partition you want to troubleshoot. MME scans the current configuration for available partitions and allows you to select only partitions that allow maintenance or concurrent maintenance. MME displays the available partitions in a menu attached to the Properties –> Partition menu command.

Properties –> Resource Allocation

The Properties –> Resource Allocation command, as shown at the left, changes the way MME performs. Use this command to change the memory allocation, the CPU automatic assignment option and CPU modes; the CPU-to-memory delays; or the section swap interval. This command displays the MME Resource Allocation window; choose the category that you want to modify from the Category: ▽.

Changing Mainframe Memory Allocation and SSD Memory Allocation

To change the mainframe memory allocation (in environment 2) or SSD memory allocation (in environment 1 or 2), choose **Mainframe/SSD Memory Allocation** from the Category: ▽. The MME Resource Allocation window changes to:



Mainframe Memory Allocation

Mainframe memory allocation defines how control point sections are loaded into mainframe memory (refer to Figure 8), whether mainframe memory is partitioned, the number of memory partitions, and the size of memory partitions. Mainframe memory allocation changes affect only the control points that are loaded after the changes are made.

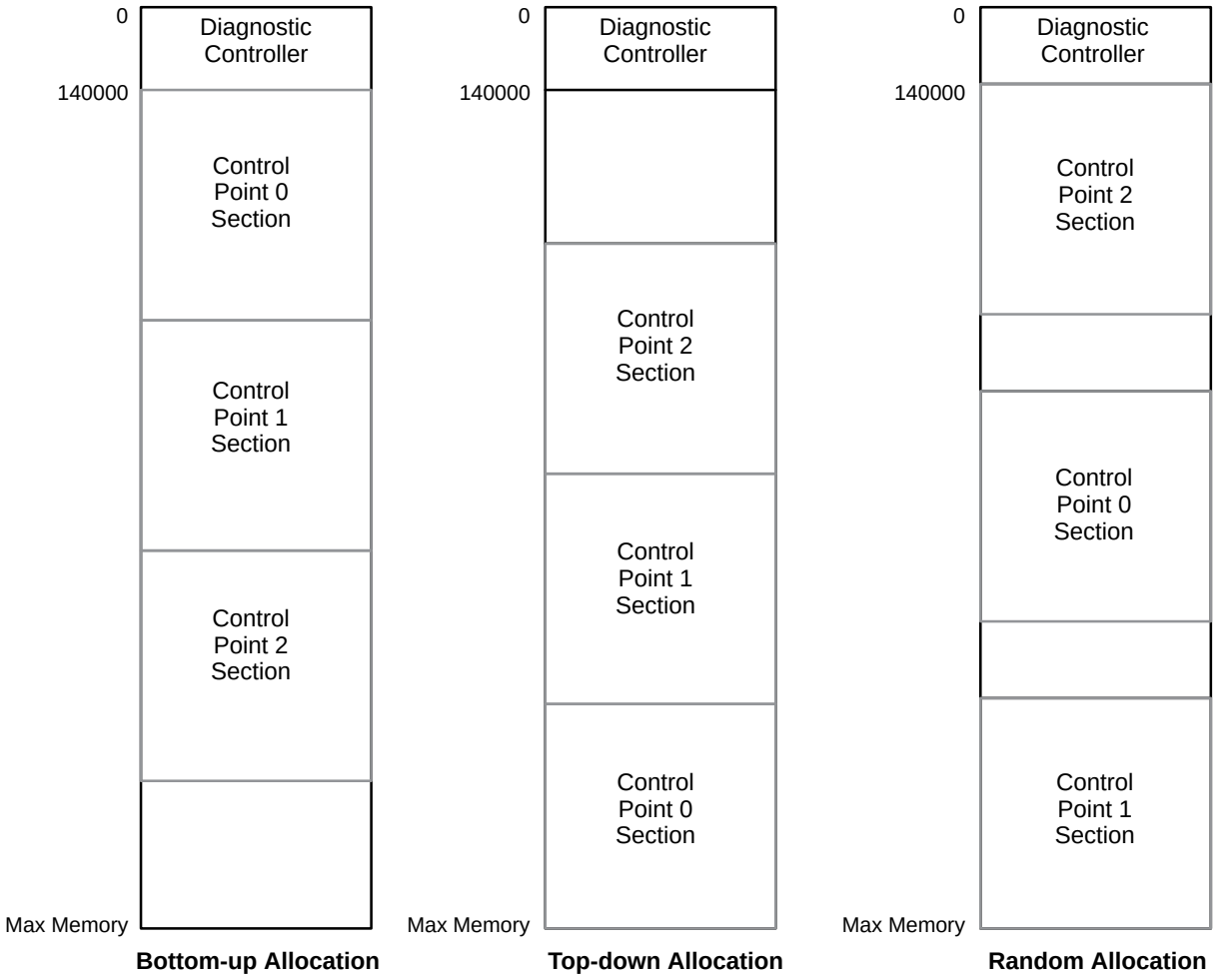


Figure 8. Mainframe Memory Allocation in Environment 2

You can specify the allocation mode by clicking on Bottom Up, Top Down, or Random. You can also configure memory into partitions that cause all control points to use the same amount of memory; to do this, click on Partition. When you partition memory, the number of control points you may load is limited to the number of partitions available.

Partitions are defined by count and size. The easiest way to define partitions is to enter the desired number of partitions in the Partition Count field. MME automatically calculates the size of the partitions. You may also define partitions by entering the desired partition size in the Partition Size field. MME automatically calculates the number of partitions. The default partition count is the number of CPUs MME uses.

MME uses the following formulas to calculate the partition size and partition count; the diagnostic_controller_size is 140000_8 words.

- Partition_size = (mainframe_memory_size minus diagnostic_controller_size) divided by partition_count
- Partition_count = (mainframe_memory_size minus diagnostic_controller_size) divided by partition_size

NOTE: If you use these formulas to determine a partition count or size, ensure that you use all octal values.

SSD Memory Allocation

SSD memory allocation defines where in SSD memory control points can be loaded and how SSD memory should be partitioned. The SSD MEMORY ALLOCATION portion of this window contains the SSD memory allocation parameters. SSD memory allocation changes affect only the control points that you load after the changes are made.

The Address Parameters specify the block of SSD memory in which MME can load control points. The Start value specifies the beginning of the block in SSD memory. The Length value specifies the length of the block. The Limit value specifies the last available memory address for the block. The size of the SSD you have configured in SCE determines the Start, Length, and Limit values; you cannot modify these values in the MME Resource Allocation window.

The Partition Parameters, which are available in environment 2 only, configure SSD memory into partitions that cause all control points to use the same amount of SSD memory. When you partition SSD memory, the number of control points you may load in SSD memory is limited to the number of partitions available.

SSD memory partitions are defined by count and size. The easiest way to define partitions is to enter the desired number of partitions in the Count field. MME automatically calculates the size of the partitions. You may

also define partitions by entering the desired partition size in the Size field. MME automatically calculates the number of partitions. The default partition count equals the number of CPUs that MME is using.

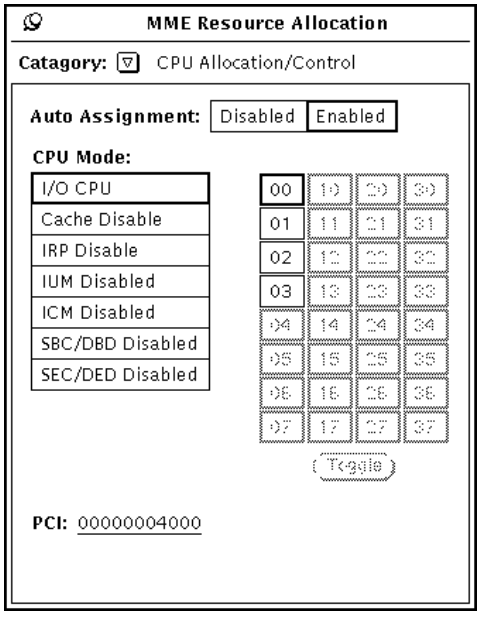
MME uses the following formulas to calculate the partition size and partition count:

- Partition_size = SSD_memory_size divided by partition_count
- Partition_count = SSD_memory_size divided by partition_size

NOTE: If you use these formulas to determine a partition count or size, ensure that you use all octal values.

Changing the Auto Assignment, CPU Allocation, or CPU Control Options

To change the CPU assignment option and CPU modes, choose **CPU Allocation/Control** from the Category: ▽. The MME Resource Allocation window changes to:



Perform the following procedure to manipulate this window:

1. Specify the Auto Assignment option. Click on Disabled or Enabled to specify whether MME automatically assigns the first available CPU to a control point when the control point is loaded.

2. Click on the CPU Mode allocation option you want to change:

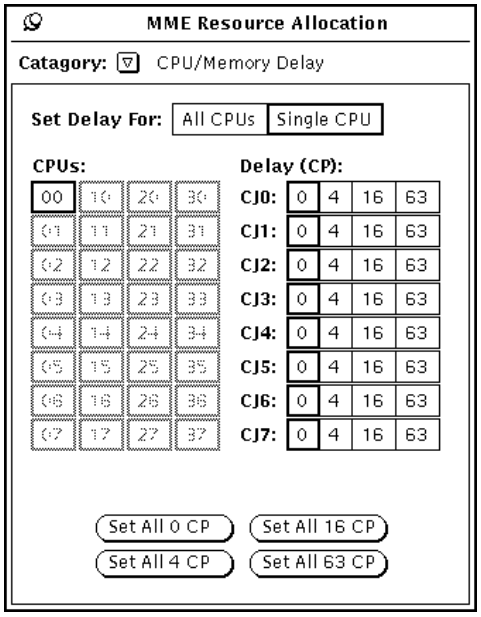
Mode	Description
I/O CPU	Specifies a CPU to read and write memory
Cache Disable	Disables scalar cache
IRP Disable	Disables interrupt on register parity error (IRP) for a CPU by clearing the IRP flag in the starting exchange package for the CPU if the flag is set
IUM Disabled	Disables interrupt on uncorrectable memory error (IUM) for a CPU by clearing the IUM flag in the starting exchange package for the CPU if the flag is set
ICM Disabled	Disables interrupt on correctable memory error (ICM) for a CPU by clearing the ICM flag in the starting exchange package for the CPU if the flag is set
SBCDBD Disabled	Disables single-byte correction/ double-byte detection (SBCDBD)
SECDED Disabled	Disables single-error correction/ double-error detection (SECDED)

3. Click on the CPU(s) that you want to set for the selected mode. Only one CPU can be selected as the I/O CPU. The other modes can be set for one or more CPU(s) at a time. Use the Toggle button to toggle the CPU selections, except in I/O CPU mode.

4. In environment 2 only, in the PCI field, enter the number you want to store in the PCITIME standard location. This value specifies how often the CPU checks the controller communication port to determine if MME has a function for the CPU to perform.

Changing the CPU-to-Memory Delay

To change the CPU-to-memory delays, choose **CPU/Memory Delay** from the Category: ▽. The MME Resource Allocation window changes to:



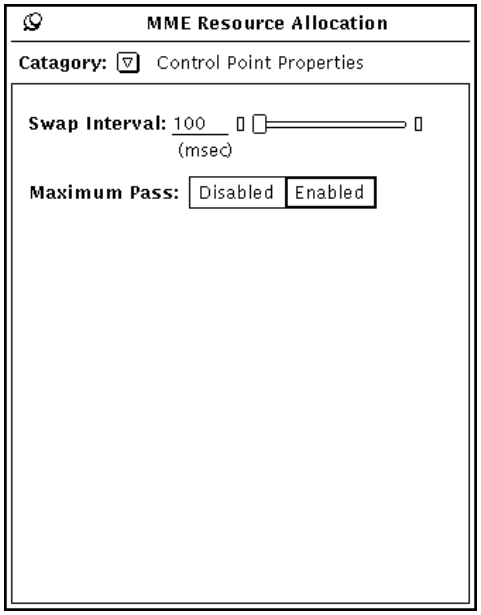
Perform the following procedure to manipulate this window:

1. Specify the CPUs for which you want to set the delay (click on All CPUs to set the delay for all CPUs or click on Single CPU and a CPU number to set the delay for one CPU).

2. Specify the delay in clock periods (CPs) for each of the ports (CJ0 through CJ7; CJ refers to the option type), or click on Set All 0 CP, Set All 4 CP, Set All 16 CP, or Set All 63 CP to set the delay for all ports to the same value.

Changing the Section Swap Interval and Enabling or Disabling the Maximum Pass Option

To change the section swap interval and enable or disable the maximum pass option, choose **Control Point Properties** from the Category: ▽. The MME Resource Allocation window changes to:



Section Swap Interval

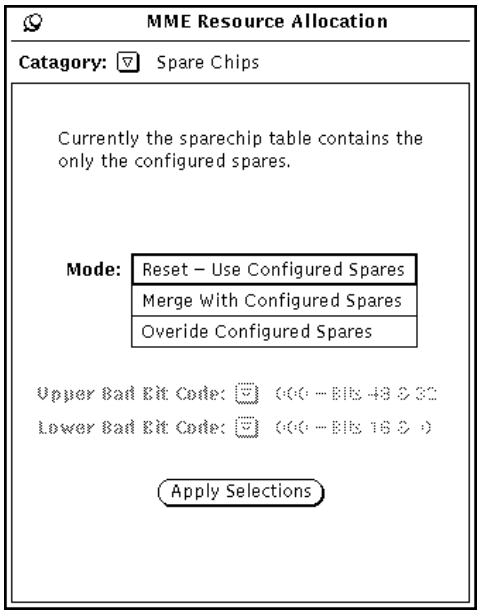
The section swap interval value specifies how often MME checks the pass and error counts for each section to determine whether the section should be swapped. To change this interval, enter a new value in the field or move the slider to select a value.

Maximum Pass Option

The maximum pass option specifies whether MME should stop executing a control point section when the pass count for the section reaches the maximum pass value. Click on the appropriate setting to enable or disable the option.

Modifying the Spare-chip Table that MME Uses

To modify the spare-chip table that MME uses, choose **Spare Chips** from the Category: ▽. The MME Resource Allocation window changes to:



Use this window to modify the spare-chip table that MME uses. This enables you to test the mainframe with different configurations of spare memory chips.

To use this window, perform the following procedure:

1. Click on a Mode. The Mode settings perform the following functions when you click on Apply Selections:

Setting	Description
Reset – use Configured Spares	MME writes a spare-chip table to the mainframe that contains only the spare chips configured in SCE.
Merge with Configured Spares	MME writes a spare-chip table to the mainframe that contains only the bad bit codes that you specify with the Upper Bad Bit Code: ▽ and Lower Bad Bit Code: ▽ menus. (This setting overrides the spare-chip selections in SCE.)

Setting	Description
Override Configured Spares	MME writes a spare-chip table to the mainframe that merges the spare-chip table configured in SCE with the bad bit codes that you specify with the Upper Bad Bit Code: ▽ and Lower Bad Bit Code: ▽ menus.

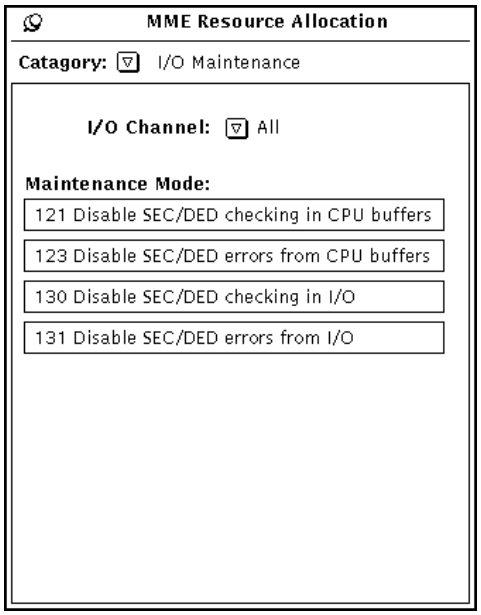
2. From the Upper Bad Bit Code: ▽ and Lower Bad Bit Code: ▽, choose the bad bit codes that you want to use. (These menus are available for the Merge with Configured Spares and Override Configured Spares settings.)

3. Click on Apply Selections; MME writes the spare-chip table to the mainframe.

Ensure that you reset the spare-chip table when you are done using a special spare-chip table configuration. You can reset the spare-chip table by clicking on Mode: Reset - use Configured Spares and then clicking on Apply Selections. You can also reset the spare-chip table by applying the configuration in SCE.

Changing the I/O Maintenance Settings (Environment 1 Only)

To change the I/O maintenance settings in environment 1, choose **I/O Maintenance** from the Category: ▽. The MME Resource Allocation window changes to:



The I/O maintenance settings enable you to set maintenance modes for specific channels.

Table 5 shows the I/O maintenance mode settings available for each type of channel in the mainframe. When you click on a setting, MME sends the corresponding loop controller function to the IO module that includes the channels selected from the I/O Channel: ▽.

Table 5. I/O Maintenance Modes

Code	Description
All Channels	
121	Disable SECDED in CPU: This command specifies that data being read from the CPU's I/O buffers (coming from common memory) should not be checked for SECDED errors.
123	Disable SECDED errors from CPU: This command specifies that SECDED errors detected in the I/O buffers (of the CPUs) should not be reported on the error logger channel.

Table 5. I/O Maintenance Modes (continued)

Code	Description
All Channels (continued)	
130	Disable SECDED in I/O: This command specifies that data being returned to common memory should not be checked for SECDED errors.
131	Disable SECDED errors from I/O: This command specifies that SECDED errors detected for common memory read data should not be reported on the error logger channel.
SLOSP Channels	
121	Disable SECDED in CPU: This command specifies that data being read from the CPU's I/O buffers (coming from common memory) should not be checked for SECDED errors.
123	Disable SECDED errors from CPU: This command specifies that SECDED errors detected in the I/O buffers (of the CPUs) should not be reported on the error logger channel.
130	Disable SECDED in I/O: This command specifies that data being returned to common memory should not be checked for SECDED errors.
131	Disable SECDED errors from I/O: This command specifies that SECDED errors detected for common memory read data should not be reported on the error logger channel.
LOSP Channels	
116	Force parity bits: This command forces the LOSP output channel parity bits to 1's.
121	Disable SECDED in CPU: This command specifies that data being read from the CPU's I/O buffers (coming from common memory) should not be checked for SECDED errors.
123	Disable SECDED errors from CPU: This command specifies that SECDED errors detected in the I/O buffers (of the CPUs) should not be reported on the error logger channel.
130	Disable SECDED in I/O: This command specifies that data being returned to common memory should not be checked for SECDED errors.

Table 5. I/O Maintenance Modes (continued)

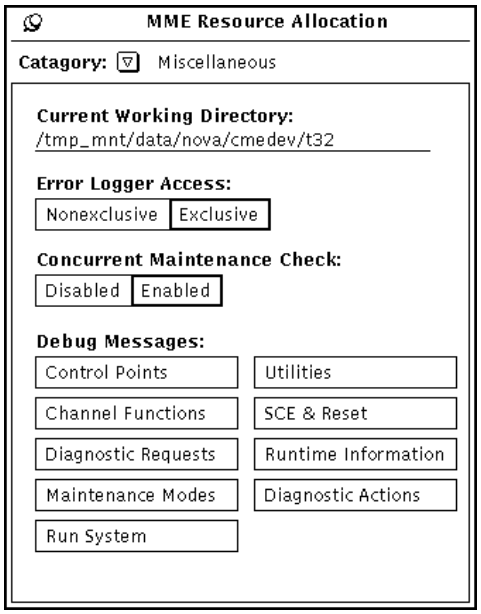
Code	Description
LOSP Channels (continued)	
131	Disable SECDED errors from I/O: This command specifies that data being returned to common memory should not be checked for SECDED errors.
HISP Channels	
120	Disable SECDED generation: This command specifies that the hardware should not generate checkbytes for data that is being written into common memory. This command has no effect on SECDED syndrome checking for data coming from the I/O channels.
121	Disable SECDED in CPU: This command specifies that data being read from the CPU's I/O buffers (coming from common memory) should not be checked for SECDED errors.
122	Disable SECDED error from generation: This command specifies that the hardware should not report any SECDED errors that it senses for I/O data coming from an I/O channel. [The errors could have occurred in the I/O channel or in the input data buffers (DR chips).]
123	Disable SECDED errors from CPU: This command specifies that SECDED errors detected in the I/O buffers (of the CPUs) should not be reported on the error logger channel.
127	Disable channel errors [WRITE]: This command specifies that the hardware should not sense or report channel errors that occur in the write path of the IO module.
130	Disable SECDED in I/O: This command specifies that data being returned to common memory should not be checked for SECDED errors.
131	Disable SECDED errors from I/O: This command specifies that data being returned to common memory should not be checked for SECDED errors.
137	Disable channel errors [READ]: This command specifies that the hardware should not sense or report channel errors that occur in the read path of the IO module.

Table 5. I/O Maintenance Modes (continued)

Code	Description
VHISP Channels	
120	Disable SECDED generation: This command specifies that the hardware should not generate checkbytes for data that is being written into common memory. This command has no effect on SECDED syndrome checking for data coming from the I/O channels.
121	Disable SECDED in CPU: This command specifies that data being read from the CPU's I/O buffers (coming from common memory) should not be checked for SECDED errors.
122	Disable SECDED error from generation: This command specifies that the hardware should not report any SECDED errors that it senses for I/O data coming from an I/O channel. [The errors could have occurred in the I/O channel or in the input data buffers (DR chips).]
123	Disable SECDED errors from CPU: This command specifies that SECDED errors detected in the I/O buffers (of the CPUs) should not be reported on the error logger channel.
130	Disable SECDED in I/O: This command specifies that data being returned to common memory should not be checked for SECDED errors.
131	Disable SECDED errors from I/O: This command specifies that data being returned to common memory should not be checked for SECDED errors.

Viewing the Current Working Directory Settings and Changing the Error Logger Access, Concurrent Maintenance Check, and Debug Messages Settings

To view the current working directory settings and to change the error logger access, concurrent maintenance check, and debug messages settings, choose **Miscellaneous** from the Category: ▽. The MME Resource Allocation window changes to:



Current Working Directory

The Current Working Directory field shows the directory that MME uses to access all relative paths [paths that do not start with a slash (/)] shown in MME windows. MME appends all relative paths to this directory to determine the absolute path that MME uses to access files. For example, if a window displays rel/diag.cp02.4/* and this field displays /cri/cme/t32, MME uses the `/cri/cme/t32/rel/diag.cp.02.4/*` directory to access files. This field is read-only.

The information shown in this field is useful in the Systems Test and Checkout (STCO) environment in which technicians have access to remotely mounted directories of prereleased software. This information enables a technician to verify the paths used to load and save files so the technician can ensure that the proper software is being used.

Error Logger Access

The Error Logger Access setting specifies whether MME has exclusive access to the error logger channel or whether MME allows other software to access the error logger channel. By default, MME has exclusive access to the error logger channel: when a control point requests MME to log errors from the error logger channel, MME restricts access to the error channel so the error logging software does not also log these known errors. The Error Logger Access settings enable you to specify whether MME has exclusive access to the error channel.

Click on Error Logger Access: Exclusive to restrict access to the error logger channel so MME has exclusive access to the channel. Click on Error Logger Access: Nonexclusive to enable other software to access the error logger channel.

Concurrent Maintenance Check

The Concurrent Maintenance Check setting specifies whether MME checks the concurrent mode (CONC) bit in the control point code before loading a control point section when MME is in concurrent mode. (MME is in concurrent mode when MME is running in a physical partition that has more than one logical partition or when MME is running in a logical partition that has CPUs in 256-Kword mode.)

If you click on Concurrent Maintenance Check: Enabled, MME checks the CONC bit and does not load control point sections that have the CONC bit set to 1 if MME is in concurrent mode.

CAUTION

Do not disable the concurrent maintenance check feature under normal operating conditions. If you do, MME can load control points in concurrent mode that could crash the operating system.

If you click on Concurrent Maintenance Check: Disabled, MME loads the control point sections without checking the CONC bit.

Debug Messages

The Debug Messages settings specify the amount of output that MME returns to the standard output window. Table 6 describes these settings.

Table 6. Environments 1 and 2 Debug Messages Settings

Setting	Description
Control Points	MME displays information about control points (for example, when they are loaded and where in memory they are loaded).
Channel Functions	MME displays information about any channel functions that MME performs.
Diagnostic Requests	MME displays information about any diagnostic requests that occur.
Maintenance Modes	MME displays information about any maintenance modes that are set or changed.
Run System	MME displays information about any run system operations that occur.
Utilities	MME displays information about any actions that the utilities perform.
SCE & Reset	MME displays information about any SCE functions or reset activities that occur.
Runtime Information	MME displays information about any runtime information-related operations that occur.
Diagnostic Actions	MME displays information about actions that the diagnostics perform.

Properties –> Run System (Environment 2 Only)

The Properties –> Run System command, as shown at the left, enables you to enable and disable the run system and set the run system parameters.

The run system is an environment 2 operation mode that swaps CPUs among any eligible control points. This creates an operating system type of environment in which the control points simulate jobs. For a control point to be eligible, the control point must satisfy the following conditions:

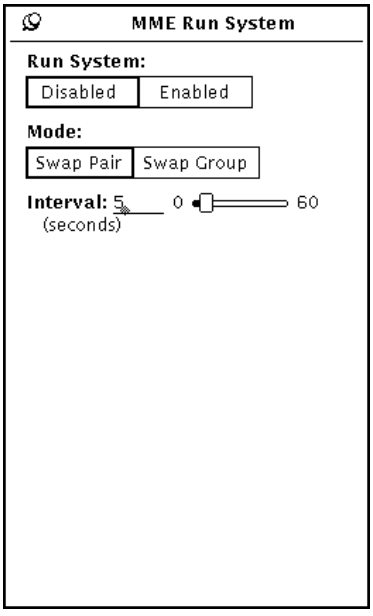
- The control point must rotate under the run system. This property is defined by the programmer and communicated to MME through the section information.

  The following control point sections rotate under the run system:

```
chn.t       lsc.t       rit02.t     srt03.e     srt07.e
chn.e       lsc.e       srt00.t     srt04.t     srt10.t
diag.t      patt00.t    srt00.e     srt04.e     srt10.e
diag.e      patt00.e    srt01.t     srt05.t     vhc.t
etem.t      patt01.t    srt01.e     srt05.e     vhc.e
etem.e      patt01.e    srt02.t     srt06.t
find.t      rit00.t     srt02.e     srt06.e
find.e      rit01.t     srt03.t     srt07.t
```

- The control point must have only one CPU assigned to it.

This command displays the MME Run System window:



Perform the following procedure to manipulate this window:

1. Click on Run System: Enabled or Disabled to enable or disable the run system.

   You can enable the run system at any time. MME checks the currently loaded control points for eligible control points. If MME finds two or more eligible control points that have not detected errors, MME begins to swap the CPUs.

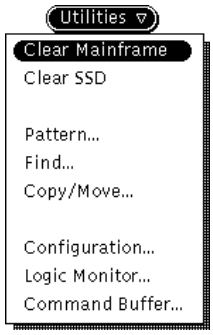
   If MME cannot find at least two eligible control points without errors, MME idles the run system. The run system remains enabled and waits until at least two eligible control points without errors are available.

   If a loaded control point does not rotate under the run system or is assigned more than one CPU, MME does not affect it.

2. Specify the mode you want to use. Click on Mode: Swap Pair to swap CPUs for a pair of control points at each swap interval. Click on Mode: Swap Group to swap CPUs for all control points at each swap interval.

3. Specify the interval (in seconds) that you want MME to delay before it swaps the CPUs. Enter the value in the Interval field or move the slider. An interval of 0 causes MME to swap CPUs as fast as possible.

Utilities –> Clear Mainframe

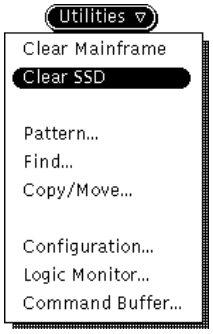


The Utilities –> Clear Mainframe command, as shown at the left, runs a utility in all CPUs to clear interrupts, registers, memory, and shared resources.

This command performs the following actions:

1. This command saves the current environment.
2. This command loads and executes the `clr.t` (or `clr.e`) section of the `clr.t` (or `clr.e`) utility in all CPUs.
3. This command loads the saved environment.

Utilities –> Clear SSD



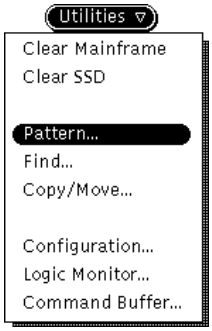
NOTE: Before you can use this command, you must use SCE to add an SSD solid-state storage device (SSD) to your system configuration.

The Utilities –> Clear SSD command, as shown at the left, runs a utility to clear the very high-speed (VHISP) channels for the logical partition in which MME is running. This utility also clears any SSDs that are connected to the channels.

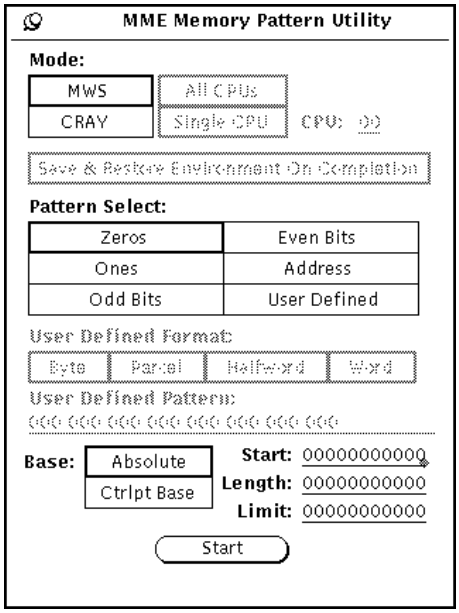
This command performs the following actions:

1. This command saves the current environment.
2. This command loads and executes the `clrssd.t` (or `clrssd.e`) section of the `clr.t` (or `clr.e`) utility in all CPUs.
3. This command loads the saved environment.

Utilities –> Pattern



The Utilities –> Pattern command, as shown at the left, enables you to fill a selected portion of mainframe memory with a data pattern. This command displays the MME Memory Pattern Utility window:



The pattern utility runs in two modes: the utility uses maintenance channel functions from the MWS to write the data pattern in mainframe memory, or the utility executes program code in one or more mainframe CPUs to write the data pattern into mainframe memory. The following subsections describe how to manipulate the MME Memory Pattern Utility window to use each of these modes.

Using the MWS to Pattern Mainframe Memory

Perform the following procedure to manipulate this window to have the MWS pattern mainframe memory:

1. Click on MWS to use maintenance channel functions from the MWS to write the pattern to mainframe memory.

CAUTION

In environment 2, if you use the MWS to write the data pattern and if the memory you select to write with the pattern includes part of the diagnostic controller area (0 to 140000 octal), the maintenance channel functions will write the pattern over the diagnostic controller. If this occurs, you must use the Reset –> Server command to reload the diagnostic controller before you can run any control points.

2. Specify the pattern you want to use. The Pattern Select settings specify the following patterns:

Setting	Pattern
Zeros	The utility uses a pattern of all 0's.
Ones	The utility uses a pattern of all 1's.
Odd Bits	The utility uses a pattern that contains parcels of odd bits (125252 octal).
Even Bits	The utility uses a pattern that contains parcels of even bits (052525 octal).
Address	The utility uses a pattern that contains the address of each memory location that is being patterned.
User Defined	The utility uses a user-specified pattern. Specify the format (click on User Defined Format: Byte, Parcel, Halfword, or Word). In the User Defined Pattern field, enter the pattern you want to use.

NOTE: The addresses you enter in Step 3 are either absolute (if you click on Absolute) or relative to the base address of the current control point (if you click on Script Base).

3. Specify the area in memory that you want to write with the pattern. In the Start field, enter the first address that you want to write and then press the Return key. In the Length field, enter the length of the data block that you want to write and then press the Return key. In the Limit field, enter the last address that you want to write and then press the Return key.

   NOTE: You must press the Return key after you enter data in these fields, or MME will not use the data. Entering data in two of the fields causes MME to automatically update the third field.

4. Click on Start; MME writes the data pattern in mainframe memory.

Using One or More Mainframe CPUs to Pattern Mainframe Memory

The pattern utility can also execute control point code in one or more mainframe CPUs to pattern mainframe memory. With this option, MME loads the `patt.t` or `patt.e` utility into mainframe memory and executes the program code for the appropriate section in one or more CPUs.

The program code for `patt.t` or `patt.e` resides in the lower 040000_8 words of mainframe memory, so MME must use MWS-based patterning to write any portion of this memory after `patt.t` or `patt.e` has patterned the remaining memory. This has the following effects on the pattern utility:

- If the entire memory area that you want to pattern is located in the lower 040000_8 words, the pattern utility uses maintenance channel functions from the MWS to write the pattern to mainframe memory.

- If the starting address is less than 040000_8 and the memory area that you want to pattern exceeds memory address 040000_8, the `patt.t` or `patt.e` code writes the pattern to mainframe memory above address 040000_8. The pattern utility then uses maintenance channel functions from the MWS to write the pattern to mainframe memory below address 040000_8.

- If the block of memory that you want to write with the data pattern is less than 040000_8 words in length, the pattern utility uses maintenance channel functions from the MWS to write the pattern to mainframe memory.

Perform the following procedure to manipulate the MME Memory Pattern Utility window to use one or more mainframe CPUs to pattern mainframe memory:

1. Click on [CPUs] to have one or all CPUs write the pattern. Then, perform one of the following actions.

   NOTE: If you want MME to save your current environment data and reload it after the `patt.t` (or `patt.e`) utility finishes executing in the CPU(s), click on the [Save & Restore Environment On Completion] setting.

   - Click on [All CPUs] to have all CPUs write the data pattern to memory.

     If MME is in environment 1, MME performs the following actions when you click on (Start) (in Step 4 on page 136):

     a. MME loads the `patt.t` (or `patt.e`) utility.

     b. MME assigns all CPUs to the control point.

     c. MME executes the `patt01.t` (or `patt01.e`) section in all CPUs to write the data pattern to mainframe memory.

     If MME is in environment 2, MME performs the following actions when you click on (Start) (in Step 4 on page 136):

     a. MME switches to environment 1.

     b. MME loads the `patt.t` (or `patt.e`) utility.

     c. MME assigns all CPUs to the control point.

     d. MME executes the `patt01.t` (or `patt01.e`) section in all CPUs to write the data pattern to mainframe memory.

     e. When the `patt01.t` section has completed execution in all CPUs, MME switches back to environment 2 and reloads the diagnostic controller so you can execute control points again.

   - Click on [Single CPU] to have one CPU write the data pattern to memory. (Specify the CPU in the CPU field.).

If MME is in environment 1, MME performs the following actions when you click on Start (in Step 4 on page 136):

a. MME loads the `patt.t` (or `patt.e`) utility.

b. MME assigns the specified CPU to the control point.

c. MME executes the `patt01.t` (or `patt01.e`) section in the selected CPU to write the data pattern to mainframe memory.

If MME is in environment 2, MME performs the following actions when you click on Start (in Step 4 on page 136):

a. MME switches to environment 1.

b. MME loads the `patt.t` (or `patt.e`) utility.

c. MME assigns the specified CPU to the control point.

d. MME executes the `patt01.t` (or `patt01.e`) section in the selected CPU to write the data pattern to mainframe memory.

e. When the `patt01.t` section has completed execution, MME switches back to environment 2 and reloads the diagnostic controller so you can execute control points again.

2. Specify the pattern you want to use. The Pattern Select settings specify the following patterns:

Setting	Pattern
Zeros	The utility uses a pattern of all 0’s.
Ones	The utility uses a pattern of all 1’s.
Odd Bits	The utility uses a pattern that contains parcels of odd bits (125252 octal).
Even Bits	The utility uses a pattern that contains parcels of even bits (052525 octal).
Address	The utility uses a pattern that contains the address of each memory location that is being patterned.

Setting	Pattern
User Defined	The utility uses a user–specified pattern. Specify the format (click on User Defined Format: Byte, Parcel, Halfword, or Word). In the User Defined Pattern field, enter the pattern you want to use.

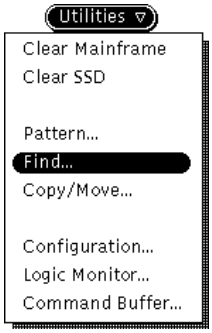
NOTE: The addresses you enter in Step 3 are either absolute (if you click on Absolute) or relative to the base address of the current control point (if you click on Cirtpt Base).

3. Specify the area in memory that you want to write with the pattern. In the Start field, enter the first address that you want to write and then press the Return key. In the Length field, enter the length of the data block that you want to write and then press the Return key. In the Limit field, enter the last address that you want to write and then press the Return key.

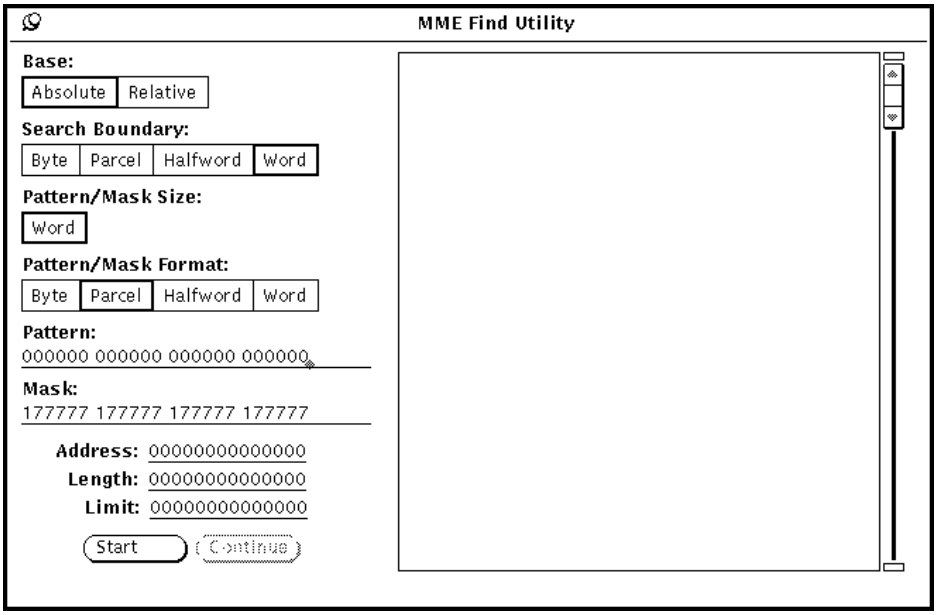
   NOTE: You must press the Return key after you enter data in these fields, or MME will not use the data. Entering data in two of the fields causes MME to automatically update the third field.

4. Click on Start; MME writes the data pattern in mainframe memory.

Utilities –> Find



The Utilities –> Find command, as shown at the left, searches mainframe memory for a data pattern. Use this command to locate all occurrences of a data pattern within a block of memory. This command displays the MME Find Utility window.



The left side of the window contains the settings that specify the pattern to search for and the memory block to search. The right side contains a scroll box that displays memory locations with the matching data pattern. The scroll box displays up to 256 entries; if more than 256 matches are found, the message 256 matches, additional occurrences known to exist is displayed in the lower-left corner of the window. To view the additional occurrences, click on the Continue button.

Perform the following procedure to manipulate this window:

1. Specify the Base to use. For environment 1, Base should usually be set to Absolute because only one control point is loaded.

   Click on Absolute to use memory addresses based at 0. Click on Relative to use memory addresses relative to the base address of the current control point section.

2. Specify the Search Boundary to use. The search boundary indicates the stride used for checking memory.

   Click on [Byte] to check memory in byte increments, click on [Parcel] to check memory in parcel increments, click on [Halfword] to check memory in halfword increments, or click on [Word] to check memory in word increments.

3. Specify the Pattern/Mask Size. The size indicates the size of the data pattern for which this utility searches and the mask it uses.

   The settings available depend on the Search Boundary setting. Click on [Byte], [Parcel], [Halfword], or [Word] to select the pattern and mask size.

4. Specify the Pattern/Mask Format. The format indicates the type of data pattern for which this utility searches and the mask it uses.

   The settings available depend on the Pattern/Mask Size setting. Click on [Byte], [Parcel], [Halfword], or [Word] to select the pattern and mask format.

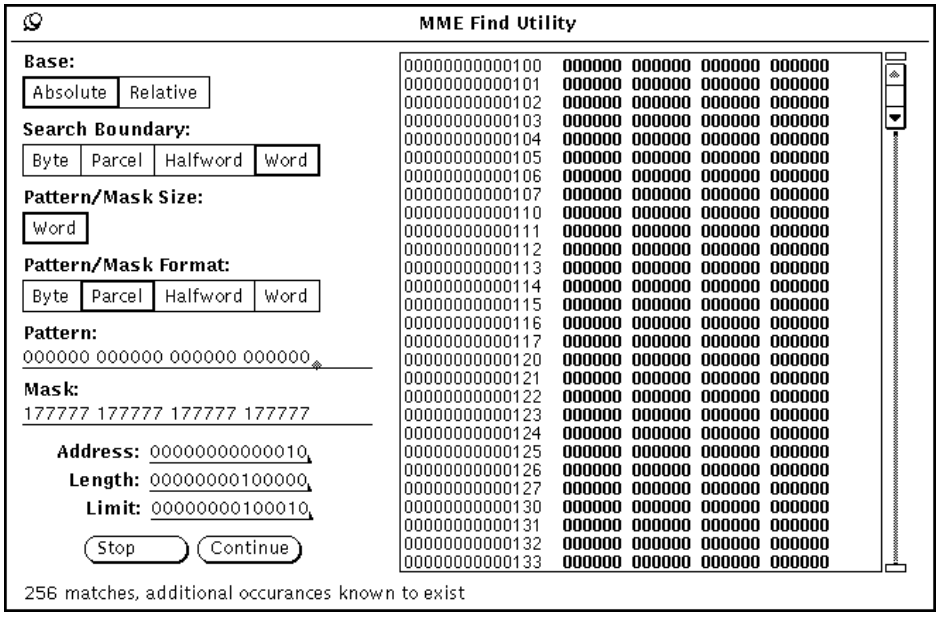
5. Specify the data pattern you want to search for in the Pattern field.

6. Specify the mask you want to use in the Mask field. The mask specifies which bits to compare. If a bit in the mask is set to 0, the bit position is not compared; if a bit in the mask is set to 1, the bit position is compared.

7. Specify the memory block to search (performing any two of the following actions automatically updates the third field):

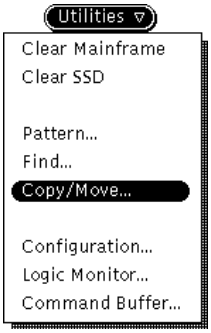
   - Enter the first address of the memory block in the Starting Address field and press the Return key.
   - Enter the length of the memory block in the Length field and press the Return key.
   - Enter the last address of the data block in the Limit field and press the Return key.

8. Click on (Start) to start the search. The (Start) button changes to (Stop), and MME updates the MME Find Utility window.

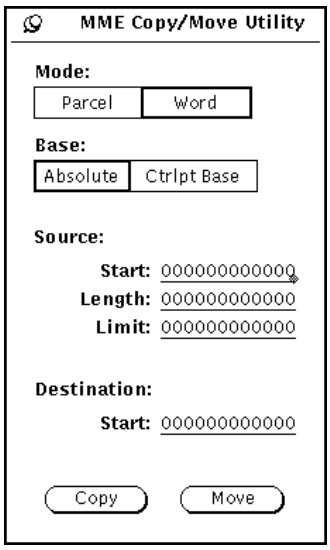


Click on Stop to stop searching for the pattern; if more than 256 occurrences exist, click on Continue to see the next set of entries.

Utilities –> Copy/Move



The Utilities –> Copy/Move command, as shown at the left, enables you to copy (or move) data in mainframe memory. This command displays the MME Copy/Move Utility window:



Perform the following procedure to manipulate this window:

1. Specify the Mode. Click on [Parcel] to use parcel values for addresses. Click on [Word] to use word values for addresses.

2. Specify the Base of the addresses. Click on [Absolute] to use absolute (based on 0) addresses. Click on [Ctrlpt Base] to use addresses that are relative to the base address of the current control point.

3. Specify the location of the source data. In the Start field, enter the first address of the block of data that you want to move or copy. In the Length field, enter the length of the block of data to move or copy. In the Limit field, enter the last address of the block of data to move or copy.

   You must press the Return key after you enter data in these fields, or MME will not use the data. Entering data in two of the fields causes MME to automatically update the third field.

4. In the Start field, specify the destination where MME should write the copied/moved data.

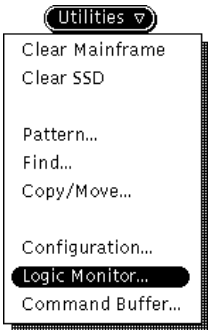
   You must press the Return key after you enter data in this field.

5. Click on Copy to copy the data, or click on Move to move the data. (When you move data, MME fills the source mainframe memory locations with 0's.)

Utilities –> Configuration

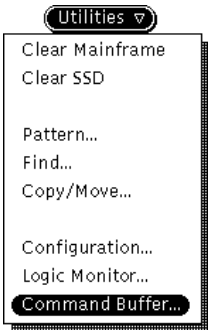
The Utilities –> Configuration command, as shown at the left, starts the System Configuration Environment (SCE), which you use to configure the mainframe. For more information about SCE, refer to the *SCE User Guide*, publication number HDM-069-A.

Utilities –> Logic Monitor



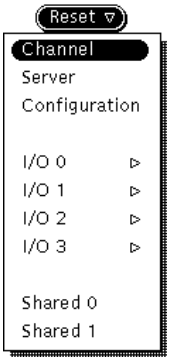
The Utilities –> Logic Monitor command, as shown at the left, starts the Logic Monitor Environment (LME). For more information about LME, refer to the *LME User Guide*, publication number HDM-070-0.

Utilities –> Command Buffer



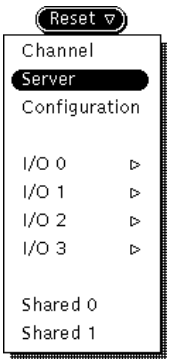
The Utilities –> Command Buffer command, as shown at the left, starts the Command Buffer Parser (CBP) application with the CRAY T90 series CBP runtime module. For more information about the CRAY T90 series CBP runtime module, refer to the *CBP Runtime Module* document, publication number HDM-071-A.

Reset –> Channel



The Reset –> Channel command, as shown at the left, resets the FY driver.

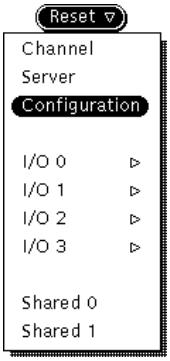
Reset –> Server



The Reset –> Server command, as shown at the left, resets the server. This halts all control points, reloads the controller (environment 2 only), and reloads the control points.

NOTE: The control point reload function of the Reset –> Server command does not remove any global or local changes you have made to the control points. If you want to reload control points and remove any global or local changes, click on Reload.

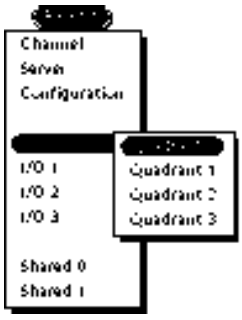
Reset –> Configuration



The Reset –> Configuration command, as shown at the left, causes SCE to reapply the configuration.

NOTE: This command does not work if any partitions have an OS owner. For more information about partition ownership, refer to the *SCE User Guide*, publication number HDM-069-A.

Reset –> I/O 0 –> Quadrant 0



The Reset –> I/O 0 –> Quadrant 0 command, as shown at the left, uses logical IO module 0 to toggle Master Clear for I/O quadrant 0.

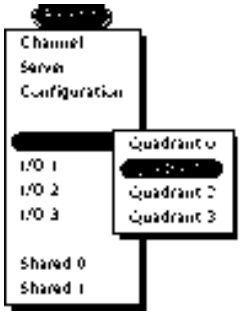
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 0 –> Quadrant 1



The Reset –> I/O 0 –> Quadrant 1 command, as shown at the left, uses logical IO module 0 to toggle Master Clear for I/O quadrant 1.

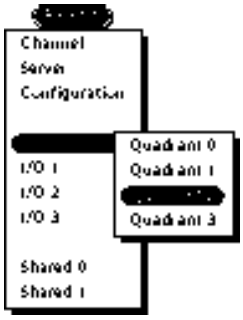
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 0 –> Quadrant 2



The Reset –> I/O 0 –> Quadrant 2 command, as shown at the left, uses logical IO module 0 to toggle Master Clear for I/O quadrant 2.

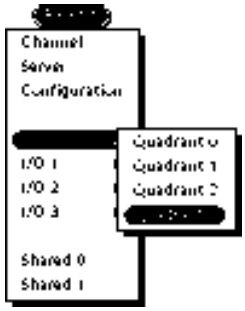
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 0 –> Quadrant 3



The Reset –> I/O 0 –> Quadrant 3 command, as shown at the left, uses logical IO module 0 to toggle Master Clear for I/O quadrant 3.

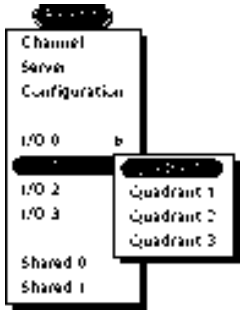
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 1 –> Quadrant 0



The Reset –> I/O 1 –> Quadrant 0 command, as shown at the left, uses logical IO module 1 to toggle Master Clear for I/O quadrant 0.

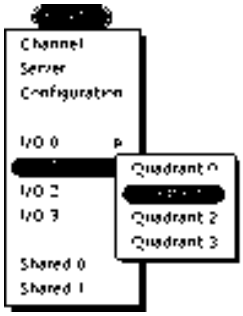
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 1 –> Quadrant 1



The Reset –> I/O 1 –> Quadrant 1 command, as shown at the left, uses logical IO module 1 to toggle Master Clear for I/O quadrant 1.

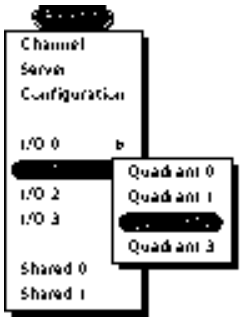
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 1 –> Quadrant 2



The Reset –> I/O 1 –> Quadrant 2 command, as shown at the left, uses logical IO module 1 to toggle Master Clear for I/O quadrant 2.

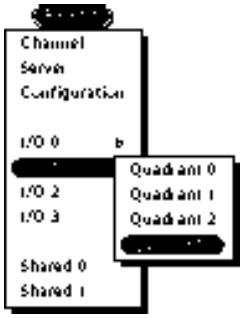
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 1 –> Quadrant 3



The Reset –> I/O 1 –> Quadrant 3 command, as shown at the left, uses logical IO module 1 to toggle Master Clear for I/O quadrant 3.

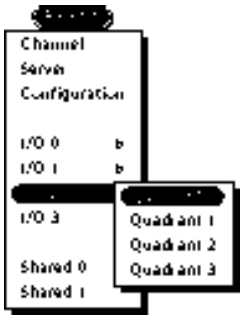
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 2 –> Quadrant 0



The Reset –> I/O 2 –> Quadrant 0 command, as shown at the left, uses logical IO module 2 to toggle Master Clear for I/O quadrant 0.

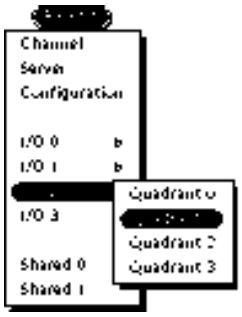
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 2 –> Quadrant 1



The Reset –> I/O 2 –> Quadrant 1 command, as shown at the left, uses logical IO module 2 to toggle Master Clear for I/O quadrant 1.

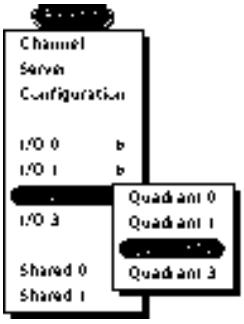
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 2 –> Quadrant 2



The Reset –> I/O 2 –> Quadrant 2 command, as shown at the left, uses logical IO module 2 to toggle Master Clear for I/O quadrant 2.

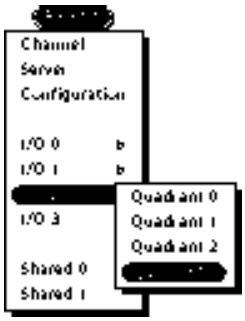
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 2 –> Quadrant 3



The Reset –> I/O 2 –> Quadrant 3 command, as shown at the left, uses logical IO module 2 to toggle Master Clear for I/O quadrant 3.

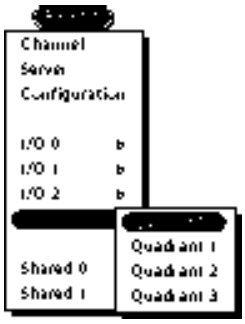
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 3 –> Quadrant 0



The Reset –> I/O 3 –> Quadrant 0 command, as shown at the left, uses logical IO module 3 to toggle Master Clear for I/O quadrant 0.

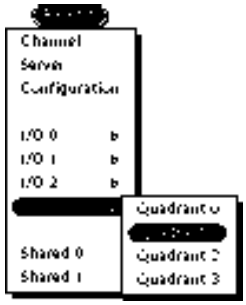
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 3 –> Quadrant 1



The Reset –> I/O 3 –> Quadrant 1 command, as shown at the left, uses logical IO module 3 to toggle Master Clear for I/O quadrant 1.

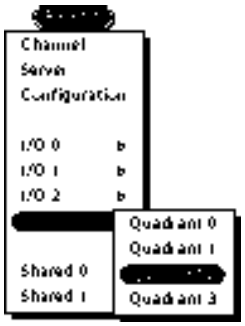
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 3 –> Quadrant 2



The Reset –> I/O 3 –> Quadrant 2 command, as shown at the left, uses logical IO module 3 to toggle Master Clear for I/O quadrant 2.

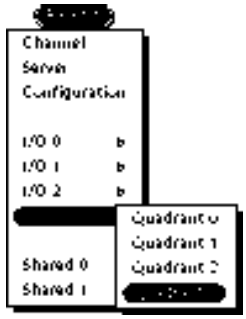
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> I/O 3 –> Quadrant 3



The Reset –> I/O 3 –> Quadrant 3 command, as shown at the left, uses logical IO module 3 to toggle Master Clear for I/O quadrant 3.

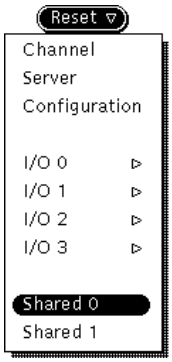
MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)

  NOTE: At the time of this printing, UNICOS does not support multiple logical partitions (creating logical machines).

- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> Shared 0

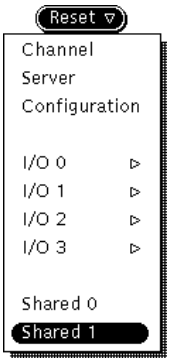


The Reset –> Shared 0 command, as shown at the left, toggles Master Clear for shared module 0.

MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)
- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

Reset –> Shared 1



The Reset –> Shared 1 command, as shown at the left, toggles Master Clear for shared module 1.

MME does not perform this command if either of the following conditions is true:

- The operating system owns the logical partition in which MME is running, which implies concurrent maintenance is being performed. (If MME toggled the Master Clear, all I/O activity for channels in use by the OS would also be stopped.)
- More than one logical partition exists in the physical partition in which MME is running. (If MME toggled the Master Clear, all I/O activity for channels in use by the other logical partitions would also be stopped.)

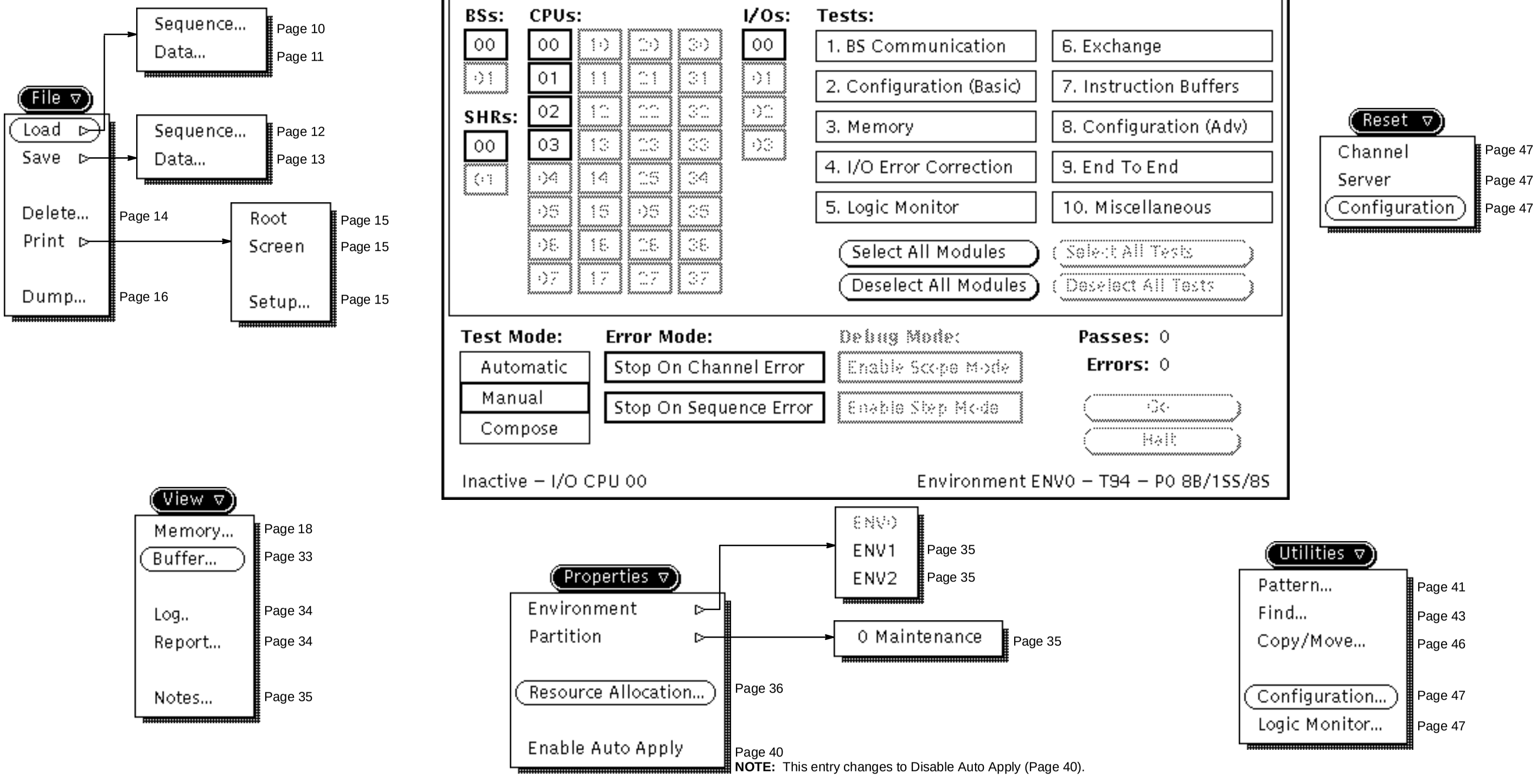


Figure 9. Environment 0 Menu Quick Reference

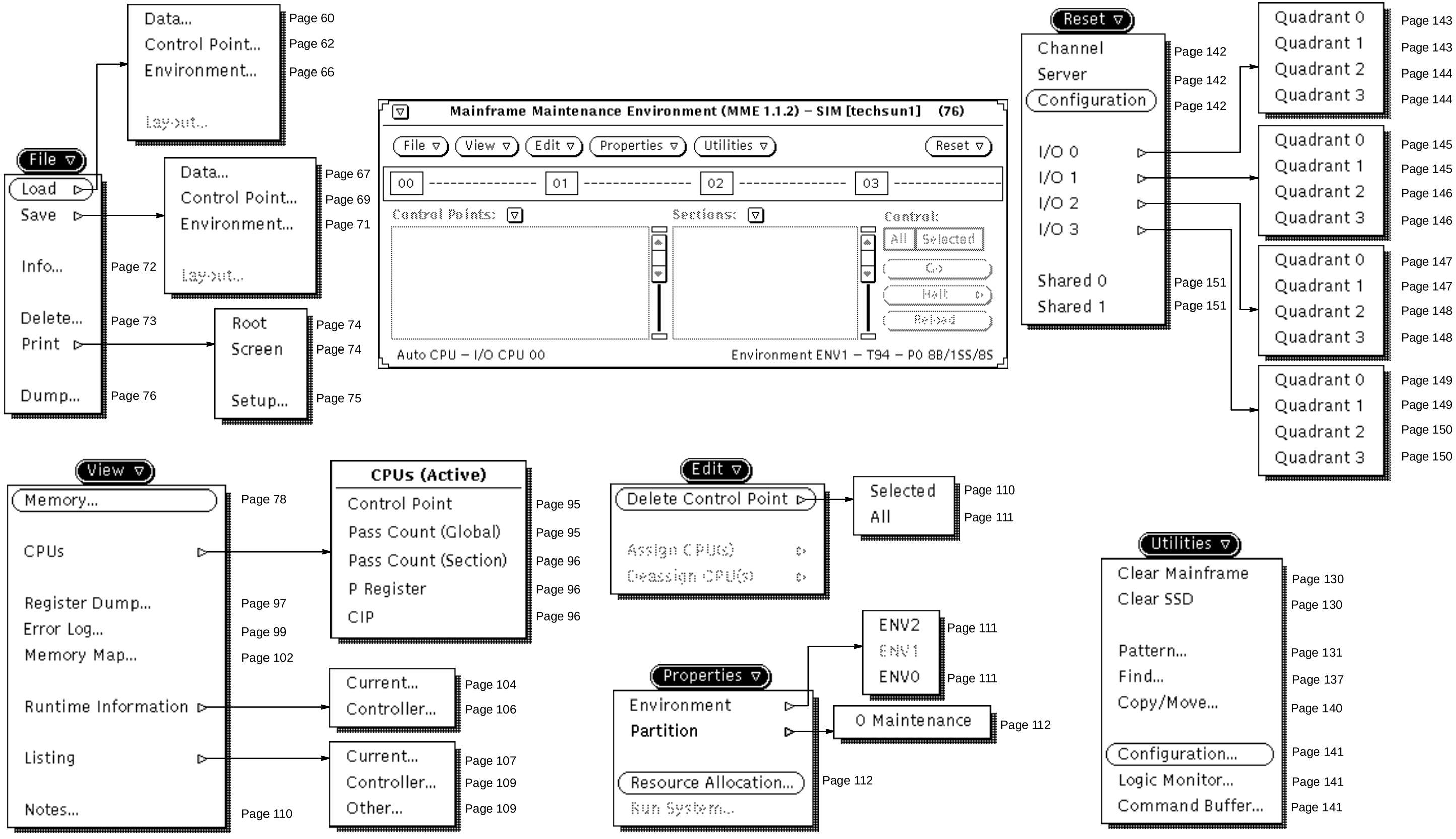


Figure 10. Environment 1 Menu Quick Reference

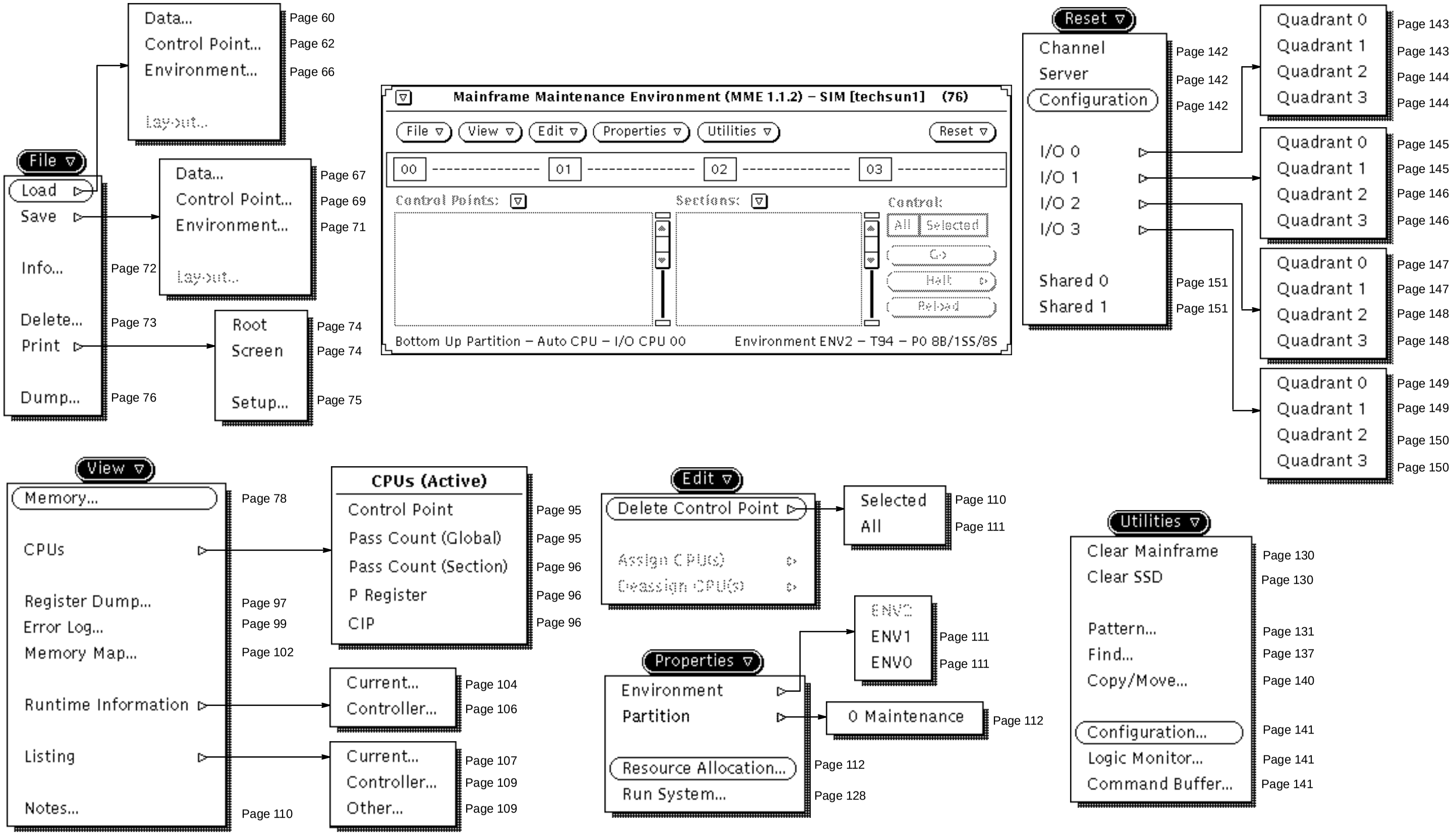


Figure 11. Environment 2 Menu Quick Reference