CRAY T90 SERIES MME INTERFACE REFERENCE

Description of this Document	vii
Notational Conventions	viii
ENVIRONMENT 0	1
Interface Components	1
Automatic or Manual Mode	1
Base Window Title	2
Version Number	2
Signalator or FEI Channel	2
Workshifton or Channel Number	2
Copy Number Q1	2
	2
Module and Test Selection Area	2
Total Pass and Enter South	3
Control Buttons	3
Configuration Information	\square
Status Information	-1
Modes	4
Compose Mode	5
Base Window Title	5
Version Number	5
Simulator or FEI Channel	5
Workstation or Channel Number	6
Copy Number	6
Menu Bar	6
Sequence Editing Buttons	6
Total Pass and Error Counts	7
Control Buttons	7
Configuration Information	8
Status Information	8
Modes	9

	Sequence Scroll Box	9
Men	u Button Commands	10
H	File -> Load -> Sequence	10
I	File -> Load -> Data	11
I	File -> Save -> Sequence	13
H	File -> Save -> Data	14
I	File -> Delete	15
I	File -> Print -> Root	16
I	File -> Print -> Screen	16
I	File -> Print -> Setup	16
I	File -> Dump	17
X	/iew -> Memory	19
	Changing Memory	24
	Using the Keyboard Accelerator	26
V	/iew -> Buffer	34
V	/iew -> Log	35
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	View -> Report	35
	7iew -> Notes	36
	Properties -> Environment -> ENV1	36
	roperties -> Environment -> ENV2	36
le la	Properties -> Partition	36
F F	Properties -> Resource Allocation	37
,	Specifying which CPU Writes and Reads Memory	37
	Setting the Debug Level that MME Uses	38
H	Properties -> Enable Auto Apply	38
I	Properties -> Disable Auto Apply	39
τ	Jtilities -> Pattern	39
τ	Jtilities -> Find	39
. t	Jtilities –> Configuration	41
τ	Jtilities -> Logic Monitor	42
ŀ	Reset -> Channel	42
ŀ	Reset -> Server	42
F	Reset -> Configuration	42

ENVIRONMENTS 1 AND 2

45

Interface Components	45
Base Window Title	46
Version Number	46
Simulator or FEI Channel	46
Workstation Name or Channel Number	46
Copy Number	46
Menu Bar	46
CPU Selection, Control Point, and Status Area	46
Controls	51
Configuration Information	52
Sections Scroll Box	52
Status Information	53
Control Points Scroll Box	54
Menu Button Commands	55
File -> Load -> Data	55
File -> Load -> Control Point	57
File -> Load -> Test List	59
File -> Load -> Layout	59
File -> Save -> Data	60
File -> Save -> Control Point	61
File -> Save -> Test List	62
File -> Save -> Layout	62
File -> Delete	63
File -> Print -> Root	64
File -> Print -> Screen	64
File -> Print -> Setup	64
File -> Dump	65
View -> Memory	67
Changing Memory	73
Using the Keyboard Accelerator	75
View -> Standard Locations	84
View –> Error Log	85
Memory Error Information	85

.

Register Parity Error Information	86	
Shared Register Error Information	86	
LAT Error Information	87	
View -> Memory Map	87	
View -> Runtime Information -> Current	87	
View -> Runtime Information -> Controller (Environment 2		
Only)	89	
View -> Listing -> Current	90	
View -> Listing -> Controller	92	
View -> Listing -> Other	92	
View -> Notes	94	
Edit -> Delete Control Point -> Selected	94	
Edit -> Delete Control Point -> All	94	
Edit -> Assign CPU(s)	94	
Edit -> Deassign CPU(s)	94	
Properties -> Environment -> ENV2 (Environment 1 Only)	94	
Properties -> Environment -> ENV1 (Environment 2 Only)		
Properties -> Environment -> ENV0		
Properties -> Partition	95	
Properties -> Resource Allocation	96	
Changing Memory Allocation (Environment 2 Only)	96	
Changing the Auto Assignment, CPU Allocation, or CPU Control Options	98	
Changing the CPU to Memory Delay	100	
Changing the Section Swap Interval and Enabling or		
Displaying the Maximum Pass Option	101	
Changing the Error Logger Access Setting and Setting the Debug Level	102	
Properties -> Run System (Environment 2 Only)	103	
Utilities -> Clear	104	
Utilities -> Pattern	104	
Utilities -> Find	104	
Utilities -> Copy/Move	107	
Utilities -> IB Dump		
Utilities -> Configuration		
Utilities -> Logic Monitor		

Utilities -> Command Buffer	108
Reset -> Channel	108
Reset -> Server	108
Reset -> Configuration	109
Reset -> I/O (Quad 0)	109
Reset -> I/O (Quad 1)	109
Reset -> I/O (Quad 2)	110
Reset -> I/O (Quad 3)	110
Reset -> Shared	110

Figures

Figure 1.	Environment 0 Interface Components (Automatic or Manual Mode)	1
Figure 2.	Environment 0 Interface Components (Compose Mode)	5
Figure 3.	Environment 0 Menu Quick Reference	43
Figure 4.	Environments 1 and 2 Interface Components	45
Figure 5.	Example Interrupt Flag	48
Figure 6.	Example Controller Status Message	48
Figure 7.	Memory Allocation in Environment 2	97
Figure 8.	Environment 1 Menu Quick Reference	111
Figure 9.	Environment 2 Menu Quick Reference	112

Tables

Table 1.	Interrupt Flags	48
Table 2.	Controller Status Messages	49
Table 3.	Control Point Runtime Information Categories	88
Table 4.	Controller Runtime Information Categories	89

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 3, Figure 8, and Figure 9 contain illustrations of all menu button commands available in environments 0, 1, and 2, respectively. This document is one component of the MME documentation set, which includes the following documents.

CRAY T90 Series MME User Guide, publication number HDM-xxx-0.

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

CRAY T90 Series MME Interface Reference, publication number HDM-xxx-0.

This document describes the interfaces used with MME environments 0, 1, and 2. It also describes all available menu button commands.

CRAY T90 Series MME Diagnostic Tests and Utilities, publication number HDM-xxx-0.

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

Notational Conventions

This document uses the following notational conventions:

- The base of a number is decimal unless stated otherwise. All memory references are octal values.
- Buttons are shown the way they appear in a window; for example,
 Go
- Settings are shown the way they appear in a window; for example,
- The -> symbol indicates holding the MENU mouse button down and moving the mouse pointer to the next menu item.
- Courier type indicates a command you can enter.
- Courier bold type indicates commands you should enter.

- Helvetica type indicates references to the MME interface windows.
- Helvetica bold type indicates menu entries you should choose from the MME interface; for example, the text "choose View -> Memory" indicates you should choose the Memory entry from the (View V) menu button.



ENVIRONMENT 0

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

Interface Components



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, or FEI CHN 2 for channel 2).

Workstation or Channel Number

The workstation 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 does not display a copy number. For more information about starting MME with the -copy option, refer to the *CRAY T90 Series MME User Guide*, publication number HDM-xxx-0.

Menu Bar

The menu bar contains five menu buttons: (File v), (View v), (Properties v), (Utilities v), and (Reset v). For descriptions of the commands accessible from these menu buttons, refer to "Menu Button Commands" later in this section.

Module and Test Selection Area

In the module and test selection area, you can 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:

1. BS Communication	6. Exchange
2. Configuration (Basic)	7. Instruction Buffers
3. Memory	8. Configuration (Adv)
4. I/O Error Correction	9. Miscelianeous
5. Logic Monitor	

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

For more information about the environment 0 tests, refer to the *CRAY T90 Series MME Diagnostic Tests and Utilities* document, publication number HDM-xxx-0.

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 (\bigcirc) and stop testing (\bigcirc 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 (T4); MME is running in partition 0 (P0); and the configuration consists of 16 banks (16B), 8 subsections (8SS), and 8 sections (8S). Environment ENV0 – T4 – P0 16B/855/85

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

Description
A tester with 1 CPU and 1 memory module
A tester with 1 CPU and 4 memory modules
A tester with 4 CPUs and 4 memory modules
A mainframe with 4 CPUs
A mainframe with 16 CPUs
A mainframe with 32 CPUs

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.
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 <u>Automatic</u>, <u>Manual</u>, or <u>Compose</u> to indicate testing in automatic, manual, or compose mode.
- Error Mode can be set to <u>Stop On Channel Error</u> to stop testing when a channel error occurs and <u>Stop On Sequence Error</u> to stop testing when a sequence error occurs.
- The Debug Mode settings are used in compose mode only.

Compose Mode

Figure 2 shows the MME environment 0 graphic 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, or FEI CHN 2 for channel 2).

Workstation or Channel Number

The workstation 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 *CRAY T90 Series MME User Guide*, publication number HDM-xxx-0.

Menu Bar

The menu bar contains five menu buttons: (File v), (View v), (Properties v), (Utilities v), and (Reset v). For descriptions of the commands accessible from these menu buttons, refer to "Menu Button Commands" later in this section.

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.
Сору	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.

Butto	<u>on</u>	Function
Cut	Ð	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	Þ	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.
(Modul		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 (\bigcirc) and stop testing (\bigcirc).

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 (T4); MME is running in partition 0 (P0); and the configuration consists of 16 banks (16B), 8 subsections (8SS), and 8 sections (8S):

Environment ENVO – T4 – PO 16B/85S/8S

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

Туре	Description
TV1 (1x1)	A tester with 1 CPU and 1 memory module
TV4 (1x4)	A tester with 1 CPU and 4 memory modules
TV4 (4x4)	A tester with 4 CPUs and 4 memory modules
Τ4	A mainframe with 4 CPUs
T16	A mainframe with 16 CPUs
T32	A mainframe with 32 CPUs

Status Information

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

Message

Description

ActiveTest(s) are running.InactiveNo test(s) are running.I/O CPU ##The specified CPU is the I/O CPU.I/O DisabledNo CPUs are set as the I/O CPU.

HDM-xxx-0 December 21, 1994

Modes

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

- Test Mode can be set to <u>Automatic</u>, <u>Manual</u>, or <u>Compose</u> to indicate testing in automatic, manual, or compose mode.
- Error Mode can be set to <u>Stop On Channel Error</u> to stop testing when a channel error occurs and <u>Stop On Sequence Error</u> to stop testing when a sequence error occurs.
- Debug Mode can be set to <u>Enabled</u> to enable scope mode. Debug mode can also be set to <u>Disabled</u> to enable step mode, which causes one function or utility to execute each time you click <u>Go</u>.

Sequence Scroll Box

The Sequence scroll box shows the function entries for the current sequence. These functions run in the order they are displayed in the scroll box; when you click \bigcirc , 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 3 on page 43 shows all available menu button commands for environment 0.

File -> Load -> Sequence

File 🔻	V	iew v) (
Load	Sequ	lence.	Dł
Save	Data	a	
Delete Print ⊳		11 12	
Dump	R	13 14	

The File -> Load -> Sequence command, as shown at the left, loads previously saved sequences 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:

Ø MME Load/Save Sequence
Load Dir: <u>usr/seq/*</u> Load Files:
config.Z pcip.Z sanity.Z sanity.test.Z tester.config.Z tester.config.dma.Z
(<u>lcad.</u>) Save Dir: <u>usr/seq</u> Save File: <u></u> Save

- 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 <u>Load.</u>; MME loads the specified sequence.

File -> Load -> Data

File v		iew v) (
Load	Sequ	ience	
Save	Data	l	
Delete Print		11	
Dump.		13 14	

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:



- 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.



Directory	Description	
User	Files you have saved or modified	
Alpha	Prereleased diagnostic program files that are being tested and have not been released	
Utility -> Release	Utility files from the current offline diagnostic release	
Utility> Alpha	Prereleased utilities that are being tested and have not been released	
In the Load Files scroll box, click on the data file you want to load		

- 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

File 🛪		View	▼ (
Load	Þ		
Save	Sec	quenc	
	Da	ta	
Delete		11.11	11 1
Print	⊳		
Dump.	.	┥┝╧	
	.,	11 14	11 25

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:

MME Load/Save Sequent	ce
Load Dir: <u>usr/seg/*</u> Load Files:	_
config.Z pcip.Z sanity.Z sanity.test.Z tester.config.Z tester.config.dma.Z	
Save Dir: usr/seq Save File: Save	_

- 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 <u>Save</u> or press the Return key; MME saves the sequence in the specified file.

File --> Save --> Data

File v		iew v)(
Load			
Save	Sequ	ence	
	Data		
Delete		711	1
Print		12	
Dumn		13	\Box
n ann p		14	

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

Ø MMI	E Load/Save Data	
Mode: Word Parcel		
Load Destination:	Memory Buffer	
Load Directory:		
Load Files:	cfo/	
	cmd/	
	diag/	
	layout/	
Load Type:	Plain File	
Load Address:	0000000000000	
Load Longth:	the forest the second second second	
Save Source:	Memory Buffer	
Save Directory:	usr/	
Save File:		
Save Address:	000000000000000000000000000000000000000	
Save Length:	00000000000000000000000000000000000000	
Checking directory	8 files found	

- 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 on the MWS where the data is saved, 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:

Ø MME Delete	File
Dir: ▼ usr/seq/*	
Files:	
Vread.ckva.Z	
a1.Z	
brdwt.Z	부
break.Z	
cfgtmp.Z	
cft.seq.Z	
cft.seq1.Z	
cicjtest.Z	
cicjtest2.Z	
config.1x4.Z	
configtest.Z	
contest.Z	
dbchk.Z	
diag.Z	
L	ć [
81	files found

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

Directory	Description	
usr/*	All user directories	
usr/cmd	User command buffers	
usr/tst	User test lists	
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 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 1p commands used in the print processes, refer to the UNIX online manual (man) pages (enter man xwd, man xpr, or man 1p at a UNIX command prompt). Use the buttons in the MME Print Setup window to:

- Save the current printer setup commands for later use (<u>Save Commands To File</u>).
- Load the printer setup commands you saved previously ((Reset Commands From File)).
- Load the default printer setup commands that the MME program provides ((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:

Q	MME DI	ump Setup						
Mode:								
File	Printer	Compress						
Director	yo usi/							
Fi	e:							
Forma	at: 🔽 Pa	arcel						
Sourc	e: Memo	ory Buffer						
Start /	ddress:	000000000000						
Length	(words): j	00000000000						
End A	ddress:	00000000000						
Comment	s:							
•								
LI								
	Dum	a di						

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.

Click on <u>Compress</u> 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	Instruction data

- 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 return.
 - Enter the length (in words) of the data block in the Length (words) field, and press return.
 - Enter the ending address of the data block you want to dump in the End Address field, and press return.
- 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 is the result of a specific test or that it was created on a specific date.
- 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 mainframe memory locations or to change the data stored in mainframe memory. This command displays the MME View Memory Setup window:

Ø MME View Memory Setup							
Refresh (msec): 1000 [] - []= []							
Format:							
Nibble	Halfw	ord	Text				
Byte	Wor	d	Address				
Parcel	He	x					
Mode:							
Memory	Memory Exchange Instruction						
Source:							
Memo	xry		Buffer				
Size: ত Large Font:							
Address: 🔍							
View							

- 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 Format [<u>Nibble</u>, <u>Halfword</u>, <u>Text</u>, <u>Byte</u>, <u>word</u>, <u>Address</u>, <u>Parcel</u>, or <u>Hex</u> (hexadecimal)] to specify the format in which you want the data displayed.
- 3. Click on a Mode (<u>Memory</u>, <u>Exchange</u>, or <u>Instruction</u>) to specify the way you want the data displayed.

Memory mode (<u>Memory</u>) displays normal memory:

ļ	0				
	5	мето	ry – Ab	solute	
	00000000000000	00000	000000	000000	000000
	0000000000000001	000000	000000	000000	000000
ĺ	000000000002	000000	000000	000000	000000
	00000000003	000000	000000	000000	000000
	000000000004	000000	000000	000000	000000
	000000000005	000000	000000	000000	000000
	00000000000	000000	000000	000000	000000
	00000000007	000000	000000	000000	000000
	00000000010	000000	000000	000000	000000
	000000000011	000000	000000	000000	000000
	000000000012	000000	000000	000000	0000000
		000000	000000	000000	0000000
		000000	000000	000000	000000
		000000	000000	000000	000000
		000000	000000	000000	000000
		000000	000000	000000	000000
1	000000000020	0000000	000000	000000	000000
	000000000021	000000	000000	000000	000000
	000000000022	000000	000000	0000000	000000
	00000000023	0000000	000000	000000	000000
	00000000024	000000	000000	000000	000000
	000000000025	0000000	0000000	000000	000000
	000000000027	0000000	0000000	000000	000000
		000000	0000000	000000	000000
	000000000000000000000000000000000000000	000000	000000	000000	000000
	00000000032	000000	000000	000000	000000
	00000000033	000000	000000	000000	000000
	00000000034	000000	000000	000000	000000
	00000000035	000000	000000	000000	000000
	00000000036	000000	000000	000000	000000
	00000000037	000000	000000	000000	000000

Exchange mode (<u>Exchange</u>) displays exchange information:

Ø	Memory – Absolute	
AD>	000000000000000000000000000000000000000	
P	000000000a AO 000000 000000 000000 000000 SO 000000 000000 000	000
PN	UUU	
EXC	DOODOOD A3 000000 000000 000000 000000 S3 000000 000000 000000 000	
EX1	0000000 A4 000000 000000 000000 000000 54 000000 000000 000	000
EX2	D000000 A5 000000 000000 000000 000000 S5 000000 000000 000	000
EX4	DODDODD AF COUCCE COUCCE DOCCUE SE COUCCE	
[
	DO VL 000 MODES 000 BDD SCE TRI ESL BDM MM STATS 00 VNU FPS WS BML	
IIIM	DODOD IRP IUM IEP IOR TER FEX TRP TOM TWO TRT TTP TTO TEC TOL TWT ENX	там
IF	DODOD RPE MEU FPE ORE PRE EEX BPI MEC MCU RTI ICP IOI PCI DL MII NEX	AMI
	RWXC OR RWXD ON PR OD000000000000000000000000000000000000	
LAT	RWXC 00 RWXD 00 PB 00000000000 LB 00000000000 LL 00000000	
	RWXC 00 RWXD 00 PB 00000000000 LB 00000000000 LL 00000000	
	RWXC OD RWXD OD PB 000000000000 LB 00000000000000000000	
LAT	RWXC OO RWXD OO PB 00000000000 LB 00000000000 LL 00000000	
LAT	RWXC 00 RWXD 00 PB 000000000000 LB 000000000000 LL 00000000	

Instruction mode (<u>Instruction</u>) decodes the memory into instructions.

Q		Memory – Absolute
000000000000a	00000	ERR
000000000000000000000000000000000000000	000000	ERR
00000000000	000000	ERR
b00000000000	000000	ERR
0000000001a	000000	ERR
00000000016	000000	ERR
0000000001 c	000000	ERR
0000000001d	000000	ERR
00000000002a	000000	ERR
0000000002b	000000	ERR
0000000002c	000000	ERR
0000000002d	000000	ERR
0000000003a	000000	ERR
0000000003b	000000	ERR
0000000003c	000000	ERR
10000000003d	000000	ERR
0000000004a	000000	ERR
00000000046	000000	ERR
0000000004c	000000	EKK
10000000040	000000	ERR
00000000005a	000000	EKK
0000000055	000000	ERR
0000000005c	000000	EKK
000000000050	000000	ERR
	000000	EKK
000000000000000000000000000000000000000	000000	ERK
1000000000000000	000000	EKK
0000000000000	000000	
000000000078	000000	
000000000070	0000000	
000000000076	000000	
100000000000	000000	

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:

Description
The font size is small.
The font size is medium.
The font size is 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 <u>View.</u>. 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:

Q		Memo	ry – Ab	solute	
0000000	00000	00000	000000	000000	000000
0000000	20001			000	000000
0000000	Form	nat		⊳ ₽ 00	000000
0000000	1			D 00	000000 [
0000000	1			D 00	000000
10000000	Merr	tory (Met	ta-M)	D 00	000000
0000000	- COURT	- 	-to V)	D 00	000000
0000000	Exci	ange on	era-v)	D 00	000000
0000000	Instr	uction (I	Meta-I)	⊳ ₿ 000	000000
0000000				D00	000000
0000000	1			D 00	000000
0000000	l Wind	dow Size	2	⊳ ₽ 00	000000
0000000				b 00	000000
0000000	i wind	low Font	t	▶ ₽ 00	000000
0000000	JUNITARY				000000
0000000)0017	000000	000000	000000	000000
0000000)0020	000000	000000	000000	000000
0000000)0021	000000	000000	000000	000000
0000000)0022	000000	000000	000000	000000
0000000)0023	000000	000000	000000	000000
0000000	10024	000000	000000	000000	000000
0000000	10025	000000	000000	000000	000000
0000000	10026	000000	000000	000000	000000
0000000	10027	000000	000000	000000	000000
0000000	10030	000000	000000	000000	000000
10000000	10031	000000	000000	000000	000000
0000000	10032	000000	000000	000000	000000
0000000	10033	000000	000000	000000	000000
0000000	JOO34	000000	000000	000000	000000
0000000	10035	000000	000000	000000	000000
0000000)0036	000000	000000	000000	000000
10000000	10037	000000	000000	000000	000000

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

					_	_								-				-
Ø	l.						I	Mem	ory	– Abs	olu	te						
ADX	00000	0000]														
Р	00000	0000)Õa Al	0 00	0000	000	000	0000	0 00	00000) SO	0000	000	00000)O O	00000	000	000
PN	000	~~	A'	1 00	0000	000	000	0000	00 0	00000) <u>51</u>	0000	000	00000	0 0	00000	000	0000
IXA	00000	00	A.	2 00	0000		000	00000	0 00	00000	1 52	0000	100	00000	10 0	00000		0000
	000000	00		3 00	0000		000	0000	00 U	000000	53	0000	100	00000	10 U	00000		
FŶ2	00000	00	A A	5 00	0000		000	00000	00 U	000000	, 37 1 55	0000	100	00000	10 0 10 0	00000		
EX3	00000	õõ	A	5 00	0000	000	000	0000		000000	56	0000	000	00000	ñõõ	00000		
EX4	00000	00	A	7 00	ŌÕÕÕ	000	000	0000	ÕÕ Õ	00000	Ĵ \$7	0000	000	00000	jõ õ	00000	000	0000
CN	000 VL	000) Me	ODES	000	BDD	SCE	TRI	ESL	BDM	MM S	STATS	5 00	VNU	FPS	₩S	BML	
тм	000000	тра	тим	TED	TOP	-	653	/ TDO	TCN	TMC	тот	ттп	770	TDC	TDI	тмт	CNV	там
ŤF	0000000	RPF	MEII	FDF		PRE	FEY	RDT	MEC	MCIL	RTT	TCD	TOT	PCT	DI	MTT	NEY	AMT
_ .					••••										•••			
LAT	O RWXC	00	RWXD	00	PB C	0000	0000	00000	LB	00000	0000	00000)0 L	L 000	1000	00000	000	
LAT	1 RWXC	00	RWXD	00	PB 0	0000	0000	00000	LB	00000	1000	00000)0 L	L 000	1000	00000	000	
LAT	2 RWXC	00	RWXD	00	P8 (00000		00000	LB	00000	1000	00000	00 L	L 000	1000	00000	000	
	3 RWAC	00		00	78 U 89 G	00000	υυυι Νοος	00000	LB	00000	1000	10000	10 L	1 000	1000	00000	000	
LAT	5 RWXC	ãõ	RWXD	ññ	PB 0	0000	nnnr	10000	1 B	00000	1000	nnnn	ίΩι	1 000	1000	00000	000	
LAT	6 RWXC	ŌŎ	RWXD	ŌŌ	PBO	0000	0000	00000	ĹВ	00000	0000	00000	οī	L 000	0000	00000	000	
LAT	7 RWXC	00	RWXD	nñ		innññ	nnnn	nnnn	ĪŘ	00000	nnnn	nnnn	no ī	i nnn	nnnn	nnnnn	nñññ	

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 (\diamond or \blacklozenge , 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 0000000005b was selected:

	Q	Memory – Absolute								
	000000000000	000000	000000	000000	000000					
	000000000001	000000	000000	000000	000000					
	000000000000002	000000	000000	000000	000000					
1	000000000003	000000	000000	000000	000000					
	000000000000004	000000	<u>0</u> 00000	000000	000000					
	000000000005	000000	00000	000000	000000					
1	000000000000	000000	000000	000000	000000					
	00000000007	000000	000000	000000	000000					
	000000000010	000000	000000	000000	000000					
	00000000011	000000	000000	000000	000000					
	00000000012	000000	000000	000000	000000					
		000000	0000000	000000	000000					
		000000	000000	000000	000000					
	00000000015	000000	000000	000000	000000					
1		000000	000000	000000						
		000000	000000	000000	000000					
	000000000020	000000	000000	000000	000000					
1		000000	000000	000000	000000					
		000000	000000	000000	000000					
		000000	000000	000000	000000					
	000000000024	000000	000000	0000000	000000					
	00000000023	000000	000000	000000	0000000					
	000000000020	000000	000000	000000	0000000					
	000000000021	000000	000000	000000						
	000000000000000000000000000000000000000	0000000	0000000	nnnnnn	nnnnn					
	000000000032	000000	000000	000000	nnnnn					
	00000000033	000000	000000	000000	000000					
	00000000034	000000	000000	000000	000000					
	00000000035	000000	000000	000000	000000 l					
	00000000036	000000	000000	000000	000000					
	00000000037	000000	000000	000000	000000					

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 0000000005b:

	Ø	Memo	ry – Ab:	solute	
	0000000000000	000000	000000	000000	000000
	000000000000	000000	000000	000000	000000
	000000000002	000000	000000	000000	000000
	000000000003	000000	000000	000000	000000
	000000000000	000000	000000	000000	000000
ł	000000000000005	000000	000217	000000	000000
	000000000000	000000	000000	000000	000000
	000000000007	000000	000000	000000	000000
	000000000010	000000	000000	000000	000000
	00000000011	000000	000000	000000	000000
	00000000012	000000	000000	000000	000000
	00000000013	000000	000000	000000	000000
	00000000014	000000	000000	000000	000000
ľ	00000000015	000000	000000	000000	000000
	000000000016	000000	0000000	000000	000000
		000000	000000	000000	000000
		000000	000000	000000	
1	00000000021	000000	000000	000000	000000
	00000000022	000000	000000	000000	000000
l		000000	000000	000000	000000
	100000000024	000000	000000	000000	000000
		000000	000000	000000	000000
		000000	000000	000000	000000
	000000000027	000000	000000	000000	000000
1	000000000000000000000000000000000000000	000000	000000	000000	000000
	000000000000000000000000000000000000000	000000	000000	000000	000000
l	000000000000000000000000000000000000000	000000	000000	000000	000000
	000000000033	000000	000000	000000	
	00000000035	000000	000000	000000	
	000000000000000000000000000000000000000	000000	000000	000000	000000
	00000000037	000000	000000	000000	000000

3. Press and release the Return key to update memory. This example shows memory location 0000000005b changed from 000000 to 000217:

Ø	Memo	ry – Ab:	solute	
00000000000	000000	000000	000000	000000
1000000000001	000000	000000	000000	000000
1000000000002	000000	000000	000000	000000
000000000003	000000	000000	000000	000000
0000000000000004	000000	000000	000000	000000
0000000000000005	000000	000217	000000	000000
000000000006	000000	000000	000000	000000
00000000007	000000	000000	000000	000000
00000000010	000000	000000	000000	000000
000000000011	000000	000000	000000	000000
00000000012	000000	000000	000000	000000
00000000013	000000	000000	000000	000000
00000000014	000000	000000	000000	000000
00000000015	000000	000000	000000	000000
00000000016	000000	000000	000000	000000
00000000017	000000	000000	000000	000000
00000000020	000000	000000	000000	000000
00000000021	000000	000000	000000	000000
00000000022	000000	000000	000000	000000
00000000023	000000	000000	000000	000000
00000000024	000000	000000	000000	000000
00000000025	000000	000000	000000	000000
00000000026	000000	000000	000000	000000
00000000027	000000	000000	000000	000000
000000000030	000000	000000	000000	000000
00000000031	000000	000000	000000	000000
00000000032	000000	000000	000000	000000
00000000033	000000	000000	000000	000000
00000000034	000000	000000	000000	000000
00000000035	000000	000000	000000	000000
00000000036	000000	000000	000000	000000
00000000037	000000	000000	000000	000000

4. Repeat Steps 1 through 3 to change all desired 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:

Q		MME Keyboard Accelerator							
Commands:	Dump	Enter	Go	Halt	Load	Save	0-7	RETURN	

HDM-xxx-0 December 21, 1994

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:

Q	MME Keyboard Accelerator
Address:	[0-7]* - SPACE when complete
Dump Buf	fer to Printer Parcel

NOTE: By default, the Dump command dumps buffer 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:

Q	MME Keyboard Accelerator
Length:	[0-7]* - RETURN when ready
Dump Bui	ffer to Printer Parcel 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:

0	MME Keyboard Accelerator
Length:	[0-7]* - RETURN when ready
Dump But	ffer to Printer Parcel 100 2000

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

Ø MME Keyboard Accelerator									
Commands:	Dump	Enter	Go	Halt	Load	Save	0-7	RETURN	

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:

Q	MME Keyboard Accelerator			
Enter: Enter	eXchange, Auto, address [0-7]*[a-d]			

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*:

Q	MME Keyboard Accelerator
Not imp	emented - RETURN when ready
Enter ex	(change

• 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 return. For this example, you would enter 102:

Ø	MME Keyboard Accelerator
Data:	RETURN when complete, ESC to cancel
Enter	Auto 102

2. Enter the first data word and press return. For this example, you would enter 17777 177777:

Ø	MME Keyboard Accelerator
Data:	RETURN when complete, ESC to cancel
Enter	Auto 102 17777 17777

HDM-xxx-0 December 21, 1994

28
The window advances to the next memory location:

Q	MME Keyboard Accelerator					
Data: Enter	RETURN when Auto 103	complete, ESC to cancel				

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

MME Keyboard Accelerator
Commands: Dump Enter Go Halt Load Save 0-7 RETURN

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

Q	MME Keyboard Accelerator
Address: [0-7]*[a Enter 1000b	-d] - SPACE when complete

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.

Q		MME Keyboard Accelerator	
RETURN when Enter 1000b	ready 177777	177777 177777 177777	

Press return to write the data to memory:

Q	Memory – Absolute							
00000001000	000000	177777	177777	177777				
00000001001	177777	000000	000000	000000				
00000001002	000000	000000	000000	000000				

The window displays the main menu again:

Q		P	ИМ	E Key	board	Acce	elera	tor	
Commands:	Dump	Enter	Go	Halt	Load	Save	0-7	RETURN	

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:

Ø	MME Keyboard Accelerator	
RETURN when Go	ready	

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

Q		P	им	E Key	board	Acce	elera	tor	
Commands:	Dump	Enter	Go	Halt	Load	Save	0-7	RETURN	

Halt Command

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

ø	MME Keyboard Accelerator	
RETURN when ready		

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

MME Keyboard Accelerator
Commands: Dump Enter Go Halt Load Save 0-7 RETURN

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:

Q	MME Keyboard Accelerator
Load: Data, Load	Sequence

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:

Q	MME Keyboard Accelerator	
Save: Data Save	, Sequence	

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:

 Ø
 MME Keyboard Accelerator

 [0-7]*[a-d], RETURN to change display, SPACE to convert

 5000

The Memory — Absolute window displays memory at location 5000:

Ø	Memory – Absolute								
00000005000	000000	000000	000000	000000					
00000005001	000000	000000	000000	000000					
00000005002	000000	000000	000000	000000					
00000005003	000000	000000	000000	000000					
00000005004	000000	000000	000000	000000					
00000005005	000000	000000	000000	000000					
00000005006	000000	000000	000000	000000					
00000005007	000000	000000	000000	000000					
00000005010	000000	000000	000000	000000					

The window displays the main menu again:

MME Keyboard Accelerator
Commands: Dump Enter Go Halt Load Save 0-7 RETURN

• 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:

Q	MME Keyboard Accelerator	
[0-7]*[a-d], RETURN 5000	to change display, SPACE to cor	ivert

The parcel format equivalent is displayed:

Ø	MME Keyboard Accelerator	
RETURN when done 5000 = 01200a		

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

ſ	Q	MME Keyboard Accelerator							
	Commands:	Dump	Enter Go	Halt	Load	Save	0-7	RETURN	

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:

Ø MM	Ø MME View Memory Setup						
Refresh (n	Refresh (msec): 1000 [] -						
Format:							
Nibble	Halfw	ord	Text				
Byte	Wor	d	Address				
Parcel	He	×					
Mode:							
Memory	Exchan	ige	Instruction				
Source:							
Memo	ry		Buffer				
Si: Fo	Size:						
Address: Q							
(View)							

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

Q		Buffer		
000000000000000000000000000000000000000	000000	000000	000000	000000
0000000000001	000000	000000	000000	000000
000000000002	000000	000000	000000	000000
000000000003	000000	000000	000000	000000
000000000004	000000	000000	000000	000000
000000000000	000000	000000	000000	000000
00000000006	000000	000000	000000	000000
00000000007	000000	000000	000000	000000

View -> Log

View 🗸	(
Memory	
Buffer	İ
	1
Log.	
Report	
-	
Notes	

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

F	<u>ک</u>	MME Log	
	Running DMA Chip test Write CPU = 0, Read CPU	- Pattern = ODD BITS J = O	Π
	Running DMA Chip test Write CPU = 1, Read CP	- Pattern = ODD BITS J = 1	
	Running DMA Chip test Write CPU = 2, Read CPU	- Pattern = ODD BITS J = 2	
	Running DMA Chip test Write CPU = 3, Read CPU	- Pattern = ODD BITS J = 3	
	Running DMA Chip test Write CPU = 0, Read CPU	- Pattern = EVEN BITS J = O	
	Running DMA Chip test Write CPU = 1, Read CPU	- Pattern = EVEN BITS J = 1	
	Running DMA Chip test Write CPU = 2, Read CPU	- Pattern = EVEN BITS J = 2	
	Running DMA Chip test Write CPU = 3, Read CPU	- Pattern = EVEN BITS J = 3	
	Running DMA Chip test Write CPU = 0, Read CPU	- Pattern = WADDR J = 0	
	Running DMA Chip test Write CPU = 1, Read CPU	- Pattern = WADDR J = 1	

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:

Ø MME Report Display							
View: Di	fferences Only Cl	ear Report					
Offset Ex	xpected (+000000)	Actual (+000000)	Difference (+000000)				
		No Report Data Av	ailable.				

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, indicated by the value in parentheses.

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 and which debug level MME uses. This command displays the MME Resource Allocation window; choose the category you want to modify from the Category [7].

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:

Ø MME Res	source A	lloca	tion	
Catagory: 🔽 CPU All	ocation/C	ontro	L	
Auto Assignment	Disabled	Enal	oled	
I/O CPU	•)•)	1:)	<u></u> ;	30
	91 92		21 22	31 30
	03	13	23	33
	·)4	14	<u>:</u> 4	34
	1/5	15	 	35 36
	07	17	:7	37
		(14	gile)	
PCI:				

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

Setting the Debug Level that MME Uses

To specify which debug level MME uses, choose **Miscellaneous** from the Category:

The MME Resource Allocation window changes to:

Ø MMER	esource A	lloca	tion		
Catagory: 🔽 CPU Allocation/Control					
Auto Assignment	Disabled	Enal	yled		
CPU Mode:					
I/O CPU	(·(·	10	20	30	
	01	11	21	31	
	02	12	22	30	
	03	13	23	33	
	ېز:	14	24	34	
	95	15	25	35	
	-36	18	<u></u> 28	38	
	07	17	27	37	
		(gile)		
PCI:					

The debug level specifies the amount of output that MME returns to the standard output window from which you started MME. Set the value to 0, 1, or 2, where 0 causes MME to display the least information and 2 causes MME to display the most information. Enter the number in the Debug Level field and press return, or click on the arrows to change the number in the field.

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

This feature has not been implemented yet.

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:

Q	MME Find Utility	
Source:		_
Buffer		
Search Boundary:		
Byte Parcel Halfword Word		
Pattern/Mask Size:		
Word		
Pattern/Mask Format:		
Byte Parcel Halfword Word		
Pattern:		
000000 000000 000000 000000		
Mask:		
Address: 00000000000000		
Length: 0000000000000		
Limit: <u>0000000000000</u>		
Start (Continue)		

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 that have 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 <u>Continue</u> 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 Percel 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 return.
 - Enter the length of the memory block in the Length field, and press return.
 - Enter the last address of the memory block in the Limit field, and press return.
- Click on <u>Start</u> to start the search. The <u>Start</u> button changes to <u>Stop</u>, and MME updates the MME Find Utility window.

	MARE Find Heil	14
Source:	0000000010000	
	000000000000000000000000000000000000000	
Butter	00000000010002	
	000000000000000000000000000000000000000	
Search Boundary:	0000000010004	
Byte Parcel Halfword Word	00000000010005	
by to Traiter Hainword Word	00000000010006	
Pattern/Mask Size:	00000000010007	
	00000000010010	000000 000000 000000 000000
Word	00000000010011	000000 000000 000000 000000
	00000000010012	000000 000000 000000 000000
Pattern/Mask Format:	00000000010013	000000 000000 000000 000000
Pute Darcol Halfword Word	00000000010014	000000 000000 000000 000000
byte Farter Hanword Word	00000000010015	000000 000000 000000 000000
Pattern:	00000000010016	000000 000000 000000 000000
	00000000010017	00000 00000 000000 000000
	00000000010020	000000 000000 000000 000000
Mask	00000000010021	
177777 177777 177777 177777	0000000000000022	
	100000000010023	
	000000000000024	
Address: 0000000010000	0000000000000025	
Length: 00000000010000	0000000000000026	
	000000000000027	
	000000000000000000000000000000000000000	
(Stern Countinue)	000000000000000000000000000000000000000	
	000000000000000000000000000000000000000	
	100000000000000000000000000000000000000	
256 matches, additional occurances know	n to exist	

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

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 *System Configuration Environment* document, publication number HDM-xxx-0.

Utilities -> Logic Monitor

) Utilities 7	
Pattern	
Find	100000
Configuration	
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 *CRAY T90 Series LME User Guide* document, publication number HDM-xxx-0.

Reset -> Channel



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

Reset --> Server



The Reset -> Sever 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 *System Configuration Environment* document, publication number HDM-xxx-0.

HDM-xxx-0 December 21, 1994



Figure 3. Environment 0 Menu Quick Reference

ENVIRONMENTS 1 AND 2

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

Interface Components

The environment 1 and 2 interfaces share an identical interface that is located in the base window. Use this interface to control testing in environment 1 and environment 2. Figure 4 shows the common interface. The paragraphs that follow the figure describe the components of the interface.



Figure 4. 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, or FEI CHN 2 for channel 2).

Workstation Name or Channel Number

The workstation 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 *CRAY T90 Series MME User Guide*, publication number HDM-xxx-0.

Menu Bar

The menu bar contains six menu buttons: (File v), (View v), (Edit v), (Properties v), (Utilities v), and (Reset v). For descriptions of the commands accessible from these menu buttons, refer to "Menu Button Commands" later in this section.

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:

00 00 csr.t

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:

00	00 csr.	t [1:>]		20		30	
•)1		Active CPU Display		21		31	
92	-	Control Point		22		30	
03		Pass Count (Global)		20		33	
1)4		Pass Count (Section)		24		34	
-05		(P Register		25		35	
->5.		CIP		26		36	
7(1		[17]	.			37	
		L		L	l	L	

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

Entry	Description
Control	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 plus (+) next to the copy number indicates the master CPU for a group of CPUs assigned to a multiple-CPU control point. The master CPU is the first CPU assigned to the control point.

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





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

Interrupt Flag	Description
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 1. Interrupt Flags (continued)

Table 2 describes the controller status messages.

Status Message	Description
CIB	The control point attempted to clear a cluster that is not in the data space.
CNR	The control point attempted to clear 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 unreserved channel occurred.
LEBi	The logical base from dmpAREA is less than the starting logical base [for an exchange using IEXP (hDIFM)].
LBEI	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)].
LLEI	The logical limit from dmpAREA is less than the starting logical limit [for a restart CPU load (cLOAD) function].

Status Message	Description
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.
ОК	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 due to a dump and wait/resume request.
WTW	The control point is waiting due to a dump and wait/resume request.
XNRi	An exchange occurred using a cluster that was not reserved [for an exchange using IEXP (hDIFM)].
XNRI	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)].

Table 2. Controller Status Messages (continued)

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 control points assigned CPUs.
Selected	Performs the control button command on the selected control points.
Co	Starts the control points.
Halt D	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), restarts the CPU(s), builds a starting exchange package (SEXP) that points to dump memory, and dumps registers at memory location dmpAREA.
	For detailed information about what happens when you choose one of the halt options, refer to the <i>CRAY T90 Series MME User Guide</i> , publication number HDM-xxx-0.
Reload	Reloads the control points.
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 MME is in environment 1 (Environment ENV1); the mainframe type is a CRAY T94 system (T4); MME is running in partition 0 (P0); and the configuration consists of 16 banks (16B), 8 subsection (8SS), and 8 sections (8S):

Environment ENV1 - T4 - P0 16B/8SS/8S

The configuration information component displays the following mainframe types:

Туре	Description
Test(1x1)	A tester with 1 CPU and 1 memory module
Test(1x4)	A tester with 1 CPU and 4 memory modules
Test(4x4)	A tester with 4 CPUs and 4 memory modules
Τ4	A mainframe with 4 CPUs
T16	A mainframe with 16 CPUs
T32	A mainframe with 32 CPUs

Sections Scroll Box

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

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 \bigcirc $\stackrel{c_0}{\bigcirc}$ is clicked have a check mark (\checkmark) next to them. To select or deselect a section, move the mouse pointer over the section and click the EXTEND 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.

HDM-xxx-0 December 21, 1994

Sec	tion	s:	
	00	cm±0	Sections:
١r	00	cmtO	(Select All)
╎└	02	cmt0	Deselect All
ľ	03	cmtO	3.6.3
ļ	04	cmt04	4.t 5 1
			ļ.

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 EXTEND (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 it is the current section, and the section is loaded into mainframe memory.

Status Information

The status information displays the current state of the MME program, 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.
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:



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:

Control Points:

\checkmark	00	cmt.t	000000000000000000	ŀ
				ŀ
				۴
				L
				l.

HDM-xxx-0 December 21, 1994

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 8 on page 111 and Figure 9 on page 112 show all available menu button commands for environments 1 and 2, respectively.

File --> Load --> Data



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.

Change the directory, if necessary, by choosing a directory from the Load Directory
 or by entering the directory in the Load Directory
 field. The following directories are available in the Load
 Directory
 :

Directory	Description
Release	Diagnostic program files from the current offline diagnostic release
User	Files you have saved or modified
Alpha	Prereleased diagnostic program files that are being tested and have not been released
Utility -> Release	Utility files from the current offline diagnostic release
Utility> Alpha	Prereleased utilities that are being tested and have not been released

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

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

File -> Load -> Control Point

		-
(File v	Data	
Load	Control Point	
Save		
	Lay-out	
Delete		
Print	Þ	۵۵ ۲۰
Dump.		
-		1:

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 prerelease versions of the control points, and to access user-created or modified control points. This command displays the MME Load Control Point window:

Ø мме	Load Control	Point
Dir: 👽 rel/diag.cp02/*		
Files:	Name:	
asb.t/	Revision:	
asf.t/	Date:	
btv.t/	J Time:	
btv.t.old/	Type:	
cach.t/	Base:	
cct.t/	Sizo:	
cct.t.old/		
cmp.t/	LIMIC	
cmtt/		to each Claude
cmtt.old/	Moae:	Insert Single
csr.t/		Insert Multiple
ctt.t/		Replace Single
eft.t/		Replace All
ept.t/		
fbt.t/	Capies:	
fbt.t.old/		
fpb.t/	(<u>inf-)</u>) ()
	-	34 files found

This window displays the control points you can load under MME. The directory path displayed to the right of the Dir \bigtriangledown 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 displays the sections.

Perform the following procedure to manipulate this window:

1. Change the directory, if necessary, by choosing a directory from the Dir vov or by entering the directory in the Dir field. The following directories are available in Dir vov:

Directory	Description
Release	Diagnostic program files from the current release
User	Files you have saved or modified

	Directory	Description
	Alpha	Prereleased diagnostic program files that are being tested and have not been released
	Utility -> Release	Utility files from the current release
	Utility> Alpha	Prereleased utilities that are being tested and have not been released
NO'	FE: A .t extension in mode. A .c extension mode.	ndicates a control point assembled in Triton ension indicates a control point assembled in C90
2.	Click on the control description informa	point you want to load. The following tion 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
	Туре	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.
 - Limit indicates the maximum address for the control point. Normally, this should be the default 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 \bigcirc ;	MME loads the specified control point.
NOTE: The <u>info</u> b point. This fil requirements f	utton displays the information file for the control e indicates the available sections and the memory for the control point.

File --> Load --> Test List

This feature has not been implemented yet.

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:

Ø мм	E Load/Sav	e Data
Mode:	Mode: Word Parcel	
Load Base:	Absolute	Relative
Load Directory:	⊽ usr/da	ta/*
Load Files:	ha	
	bg1	
	bg2	P
	bob	
	L	
Load Type:	Plain Fila	
Load Address:	0000000000000	
Load Length:	Connection (Lead)	
Save Base:	Absolute	Relative
Save Directory:	usr/data	
Save File:		
Save Address:	000000000	000000
Save Length:	00000000	000000 (Save)
		78 files found

Perform the following procedure to manipulate this window:

- 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.
- 5. Specify the starting address of the data block you want to save in the Save Address field.
- 6. Specify the length of the data block you want to save in the Save Length field.
- 7. Click on (Save); MME saves the specified data set.

File --> Save --> Control Point

(File ⊽		lit v
Load p	Data	DF
Save b	Control Point	
Delete	Lay-out	ž
Print 🖻		13
Dump		14
The second s		

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:

Ø	MME Save Control Point
Mode: All Sections (User Changes Only) Current Section (Memory Image)	
Directory: <u>usr/dlag</u> File: <u>newcp</u> Name: <u>fptt</u> Capy: (() Revision: TRI 4.1	
Me mory Me mory	✓ MIN: 00000000100000 ✓ MIN: 1000000001000000 ✓ MAX: 1000000000000000000000000000000000000
Section 00 01 02 03 04 05	Section: 001 Origin:

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 <u>Current Section (Memory Image</u>) 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 <u>Current Section (Memory Image</u>), 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 <u>Save</u>; MME saves the modified control point information.

File --> Save --> Test List

This feature has not been implemented yet.

File -> Save -> Layout

This feature has not been implemented yet.

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:

Ø	MME Delete	File
Dir: 🔻	usr/diag/*	
Files:		
addrp/		
ept.tmp	/	
find/		
forceme	c/	
fpblp/		
fpblp1/		
fpblp2/		
fpblp3/		
fpmbg/		
fpmbg1.	/	
fpmbg2.	/	
fpmbg3,	/	
fprbg/		
fpt3lp/		
L		dò
	39	files found

Perform the following procedure to manipulate this window:

- 1. Change the directory, if necessary, by:
 - Entering the directory in the Dir. The field and pressing the return key, or
 - Choosing the directory from the Dir. v button. The following user directories are available:

Directory	Description
usr/*	All user directories
usr/cmd	User command buffers
usr/tst	User test lists
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 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 1p commands used in the print processes, refer to the UNIX online manual (man) pages (enter man xwd, man xpr, or man 1p at a UNIX command prompt). Use the buttons in the MME Print Setup window to:

- Save the current printer setup commands for later use (<u>Save Commands To File</u>).
- Load the printer setup commands you saved previously ((Reset Commands From File)).
- Load the default printer setup commands that the MME program provides (<u>Reset Commands From Defaults</u>).

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:

Ø	MME Dump Setup
Mode:	
File	Printer Compress
Directo	ry: <u>usi/</u>
Fi	le:
Form	at: 🟹 Parcel
Ba	se: Absolute Relative
Start Address: 00000000000	
Length (words): 00000000000	
End Address: <u>0000000000</u>	
Commen	ts:
•	
L	
Dump	

Perform the following procedure to manipulate this window:

1. Specify the Mode. Click on <u>File</u> to output the data to a file, or click on <u>Printer</u> to output the data to the printer.
Click on <u>Compress</u> 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	Instruction data

- 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 return.
 - In the Length (words) field, enter the length (in words) of the data block and press return.
 - In the End Address field, enter the ending address of the data block you want to dump and press return.
- 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 of a specific test or that you created it on a specific date.
- Click on <u>Dump</u>; 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:

Ø MME View Memory Setup				
Refresh (r	nsec):	1000		
Format:				
Nibble	Halfv	vord	Text	
Byte	Wo	rd	Address	
Parcel	He	X		
Mode:				
Memory	Excha	nge	Instruction	
Base:				
Absol	ute		Relative	
Drifti	Drifting Anchored			
Si	ze: 🛡	Lar	ge	
Fo	nt: 🔽	Me	dium	
Address: 0				
View				

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.)
- Click on a Format [<u>Nibble</u>, <u>Halfword</u>, <u>Text</u>, <u>Byte</u>, <u>word</u>, <u>Address</u>,
 <u>Parcel</u>, or <u>Hex</u> (hexadecimal)] to specify the format in which you want to display the data.
- 3. Click on a Mode (<u>Memory</u>, <u>Exchange</u>, or <u>Instruction</u>) to specify the way you want to display the data.

Memory mode (<u>Memory</u>) displays normal memory:

	Q	Memory – Absolute				
ł	000000000000000000000000000000000000000	000000	000000	000000	000000	
1	000000000001	000000	000000	000000	000000	
I	0000000000000002	000000	000000	000000	000000	
I	00000000003	000000	000000	0 000 00	000000	
I	000000000000004	000000	000000	000000	000000	
I	0000000000000005	000000	000000	000000	000000	
۱	00000000000	000000	000000	000000	000000	
I	000000000007	000000	000000	000000	000000	
I	00000000010	000000	000000	000000	000000	
I	00000000011	000000	000000	000000	000000	
I	00000000012	000000	000000	000000	000000	
ł	00000000013	000000	000000	000000	000000	
ł	00000000014	000000	000000	000000	000000	
I	00000000015	000000	000000	000000	000000	
I	00000000016	000000	000000	000000	000000	
Į	100000000017	000000	000000	000000	000000	
ł	00000000020	000000	000000	000000	000000	
I	00000000021	000000	000000	000000	000000	
I	00000000022	000000	000000	000000	000000	
I	00000000023	000000	000000	000000	000000	
I	00000000024	000000	0000000	000000	000000	
I	00000000025	000000	000000	000000	000000	
I	00000000026	000000	000000	000000	000000	
ł	0000000027	000000	000000	000000	000000	
1	00000000030	000000	000000	000000	000000	
I	00000000031	000000	000000	000000	000000	
I	10000000032	000000	000000	000000	000000	
I	100000000033	000000	000000	000000	000000	
I	100000000034	0000000	000000	000000	000000	
Į	100000000035	0000000	0000000	000000	000000	
1	000000000035	0000000	0000000	000000	000000	

Exchange mode (<u>Exchange</u>) displays exchange information:

0	Memory – Absolute
ADX	000000000000000000000000000000000000000
Р	000000000a A0 000000 000000 000000 000000 S0 000000 000000
I PN	000 A1 000000 000000 000000 S1 000000 000000 000000 000000 1
IXA.	0000000 A2 000000 000000 000000 S2 000000 000000 000000 000000
	0000000 A3 000000 000000 000000 53 000000 000000 000000 000000
FY2	
EX3	
EX4	0000000 A7 000000 000000 000000 57 000000 000000 000000 000000
1	
CN	DOO VL DOO MODES DOO BDD SCE TRI ESL BDM MM STATS OO VNU FPS WS BML
тм	
ÎF	DOODOD RPE MEU FPE ORE PRE EEX BPI MEC MCU RTI ICP IOI PCI DL MII NEX AMI
<u> </u>	
]) LAT	0 RWXC 00 RWXD 00 PB 00000000000000000 LB 000000000000
LAT	1 RWXC 00 RWXD 00 PB 00000000000000000000000000000000
	2 RWXC 00 RWXD 00 PB 00000000000 LB 000000000000000000
	3 RWXC 80 RWXD 80 RB 00000000000 LB 00000000000000000000
	+ ΠΠΛC ΟΟ ΠΠΛΡ ΟΟ ΡΒ ΟΟΟΟΟΟΟΟΟΟΟ LB ΟΟΟΟΟΟΟΟΟΟΟ LL ΟΟΟΟΟΟΟΟΟ
LAT	6 RWXC 00 RWXD 00 PB 00000000000 IB 000000000000 LL 0000000000
LAT	7 RWXC 00 RWXD 00 PB 000000000000 LB 000000000000 LL 00000000

Instruction mode (<u>Instruction</u>) decodes the memory into instructions:

Q		Memory – Absolute	
0000000000a	000000	ERR	
00000000000b	000000	ERR	
00000000000c	000000	ERR	
p00000000000	000000	ERB	
0000000001a	000000	ERR	
00000000001b	000000	ERR	[]
0000000001c	000000	ERR	
00000000001d	000000	ERR	
00000000002a	000000	ERR	
0000000002b	000000	ERR	
0000000002c	000000	ERR	
0000000002d	000000	ERB	
0000000003a	000000	ERR	
0000000003b	000000	ERR	
0000000003c	000000	ERR	
0000000003d	000000	ERR	
00000000004a	000000	ERR	
0000000004b	000000	ERR	
0000000004c	000000	ERR	
0000000004d	000000	ERR	
0000000005a	000000	ERR	1
00000000005b	000000	ERR	
0000000005c	000000	ERR	
0000000005d	000000	ERR	1
0000000006a	000000	ERR	
0000000006b	000000	ERR	
0000000006c	000000	ERR	
10000000006d	000000	ERR	
0000000007a	000000	ERR	
0000000007b	000000	ERR	
0000000007c	000000	ERR	
0000000007d	000000	ERR	

4. Specify a Base. Click on <u>Absolute</u> 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 <u>Relative</u> 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 <u>Drifting</u> 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 <u>Anchored</u> 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 \bigtriangledown . This affects only the memory and instruction mode windows.

The following window sizes are available:

Size	Description
Small	The window displays 108 words.
Medium	The window displays 208 words.
Large	The window displays 40 ₈ words.
X–Large	The window displays 1008 words.

6. Choose the font size you want to display in the window from the Font \overline{v} .

The following font sizes are available:

SizeDescriptionSmallThe font size is small.MediumThe font size is medium.LargeThe font size is large.X-LargeThe 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 <u>View.</u>. 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.

Q	Memory – Absolute					
0000000	0000	00000	000000	000000	000000	
10000000	0001	000000		ഫ്ന്റ്റ്റ്റ്റ്റ	000000	
0000000	Form	nat		⊳ р 00	000000	
10000000				D 00	000000	
0000000				1000	000000	
0000000	Merr	tory (Met	ta-M)	000	000000	
0000000	Eych	anna (M	ota-Vi		000000	
10000000	C L A L I	ango (m	cta ny		000000	
10000000	Instr	uction (I	Meta-I)	⊳ ₽uu	000000	
0000000				100	000000	
0000000				000	000000	
	Wind	low Size			000000	
0000000	Wind	low Cont	•			
10000000	99 1110		L		000000	
0000000			000000		000000	
10000000	0017	000000	000000	000000	000000	
	0020	000000	000000	000000	000000	
10000000	0021	000000	000000	000000	000000	
10000000	0022	000000	000000	000000	000000	
0000000	0023	000000	000000	000000	000000	
	0024	000000	0000000	0000000	000000	
0000000	0023	000000	000000	0000000	000000	
00000000	0020	0000000	000000	000000	000000	
00000000	0027	000000	000000	000000	000000	
100000000	0030	000000	000000	000000	000000	
00000000	0031	000000	000000	0000000	0000000	
0000000	0035	000000	000000	000000	000000	
10000000	0033	000000	000000	000000		
	0035	000000	000000	000000	000000	
	0036	000000	000000	000000	0000000	
10000000	0037	000000	000000	000000	000000	

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

0		Memory – Absolute
AD) P		000 40 000000 000000 000000 50 000000 000000 000000
PN	000	A1 000000 000000 000000 000000 51 000000 000000 000000 000000
ÊXC	0000000	A3 000000 000000 000000 000000 53 000000 000000 000000 000000
EX2	0000000	AF COUCCU COUCUU COUCUU <thcuu< th=""> COUCUU</thcuu<>
EX4	0000000	AF 000000 000000 000000 000000 SF 000000 000000 000000 000000
CN	000 VL 000	MODES 000 BDD SCE TRI ESL BDM MM STATS 00 VNU FPS WS BML
IM IF	000000 IRP IU 000000 RPE ME	IM IFP IOR IPR FEX IBP ICM IMC IRT IIP IIO IPC IDL IMI FNX IAM EU FPE ORE PRE EEX BPI MEC MCU RTI ICP IOI PCI DL MII NEX AMI
LAT	O RWXC OO RWX	KD 00 PB 000000000000 LB 0000000000000 LL 00000000
LA	1 RWXC UU RWX 2 RWXC OO RWX	0 00 PB 0000000000000000000000000000000
LAT	'3 RWXC OO RWX '4 RWXC OO RWX	() 00 PB 000000000000 LB 000000000000 LL 00000000
LAT	'5 RWXC OO RWX '6 RWXC OO RWX	(D 00 PB 00000000000000000000000000000000
LA1	7 RWXC 00 RWX	(D CO PB 000000000000 LB 00000000000000000000

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.

71

In this example, instead of using the MENU mouse button, you may also use the diamond-shaped meta key (\diamond or \blacklozenge , 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 0000000005b was selected:

	Q	Memory – Absolute				
	000000000000	000000	000000	000000	000000	
1	000000000000	000000	000000	000000	000000	
	000000000002	000000	000000	000000	000000	
1	0000000000000003	000000	000000	000000	000000	
	000000000004	000000	<u>0</u> 00000	000000	000000	
1	0000000000000005	000000	000000	000000	000000	
i	00000000000	000000	000000	000000	000000	
	00000000007	000000	000000	000000	000000	
I	00000000010	000000	000000	000000	000000	
I	00000000011	000000	000000	000000	000000	
1	00000000012	000000	000000	000000	000000	
	00000000013	000000	000000	000000	000000	
		000000	000000	0000000	000000	
		000000	000000	000000		
		000000	000000	000000	000000	
I		000000	000000	000000	000000	
1		000000	000000	000000	000000	
		000000	000000	000000	000000	
	000000000022	000000	000000	000000	000000	
I	000000000023	000000	000000	000000	0000000	
ł	100000000024	000000	000000	000000	000000	
I	1000000000023	000000	000000	000000	0000000	
I	000000000020	000000	000000	000000		
l	100000000000000000000000000000000000000	0000000	nnnnnn	000000		
1	000000000000000000000000000000000000000	000000	000000	000000	000000	
	00000000032	000000	000000	000000	000000	
	00000000033	000000	000000	000000	000000	
	00000000034	000000	000000	000000	000000	
	00000000035	000000	000000	000000	000000	
	00000000036	000000	000000	000000	000000	
	00000000037	000000	000000	000000	000000	

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 0000000005b:

	Q	Memory – Absolute				
	000000000000000000000000000000000000000	000000	000000	000000	000000	
	00000000000000001	000000	000000	000000	000000	
	0000000000000002	000000	000000	000000	000000	
	0000000000000003	000000	000000	000000	000000	
	00000000000	000000	000000	000000	000000	
	0000000000000005	000000	000217	000000	000000	
	00000000000	000000	000000	000000	000000	
	00000000007	000000	000000	000000	000000	
	000000000010	000000	000000	000000	000000	
	00000000011	000000	000000	000000	000000	
	00000000012	000000	000000	000000	000000	
	00000000013	000000	000000	000000	000000	
	00000000014	000000	000000	000000	000000	
	00000000015	000000	000000	000000	000000	
	00000000016	000000	000000	000000	000000	
	00000000017	000000	000000	000000	000000	
	000000000020	000000	000000	000000	000000	
ľ	00000000021	000000	000000	000000	000000	
	00000000022	000000	000000	000000	000000	
	00000000023	000000	000000	000000	000000	
	00000000024	000000	000000	000000	000000	
	00000000023	000000	000000	000000	000000	
	000000000028	000000	000000	000000	0000000	
	000000000027	000000	000000	000000	0000000	
	0000000000000000	000000	000000	000000	0000000	
	0000000000000000	000000	000000	000000		
	00000000000000002	000000	000000	000000	0000000	
	1000000000000000	000000	000000	000000		
	00000000035	000000	000000	000000		
	a£0000000036	000000	000000	000000	000000	
	00000000037	000000	000000	000000	000000	

3. Press and release the return key, which updates memory. In this example, memory location 0000000005b changed from 000000 to 000217, as shown:

Q	Memory – Absolute			
000000000000000	000000	000000	000000	000000
000000000000000000000000000000000000000	000000	000000	000000	
000000000000000000000000000000000000000	000000	000000	000000	000000
00000000000000003	000000	000000	000000	000000
0000000000000004	000000	000000	000000	000000
00000000000000000	000000	000217	000000	000000
00000000000	000000	000000	000000	000000
00000000000	000000	000000	000000	000000
00000000010	000000	000000	000000	000000
00000000011	000000	000000	000000	000000
00000000012	000000	000000	000000	000000
00000000013	000000	000000	000000	000000
00000000014	000000	000000	000000	000000
00000000015	000000	000000	000000	000000
00000000016	000000	000000	000000	000000
00000000017	000000	000000	000000	000000
00000000020	000000	000000	000000	000000
000000000021	000000	000000	000000	000000
00000000022	000000	000000	000000	000000
00000000023	000000	000000	000000	000000
00000000024	000000	000000	000000	000000
00000000025	000000	000000	000000	000000
00000000026	000000	000000	000000	000000
00000000027	000000	000000	000000	000000
00000000030	000000	000000	000000	000000
00000000031	000000	000000	000000	000000
00000000032	000000	000000	000000	000000
00000000033	000000	000000	000000	000000
00000000034	000000	000000	000000	000000
00000000035	000000	000000	000000	000000
00000000036	000000	000000	000000	000000
00000000037	000000	000000	000000	000000

4. Repeat Steps 1 through 3 to change all desired 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:

Q	MME Keyboard Accelerator								
Commands:	Dump	Enter	Go	Halt	Load	Save	0-7	RETURN	

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:

Q	MME Keyboard Accelerator	
Address: [0-7]* Dump to Printer	- SPACE when complete Parcel	

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:

5	MME Keyboard Accelerator	
Length: Dump to F	0-7]* - RETURN when ready Printer Parcel 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:

Ø	MME Keyboard Accelerator	
Length: Dump to	[0-7]* - RETURN when ready Printer Parcel 100 2000	

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

Q	MME Keyboard Accelerator								
Commands:	Dump	Enter	Go	Halt	Load	Save	0-7	RETURN	

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:

Q		MA	IE Keyba	ard Accelerator	
Enter: Enter	eXchange,	Auto,	address	(0-7)*(a-d)	

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*:

Ø	MME Keyboard Accelerator
Not implemente Enter eXchange	ed – RETURN when ready

• 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 return. For this example, you would enter 102:

Ø	MME Keyboard Accelerator
Data:	RETURN when complete, ESC to cancel
Enter	Auto 102

2. Enter the first data word and press return. For this example, you would enter 17777 177777:

Ø	MME Keyboard Accelerator		
Data:	RETURN when complete, ESC to cancel		
Enter	Auto 102 17777 17777		

The window advances to the next memory location:

Q	MME Keyboard Accelerator
Data:	RETURN when complete, ESC to cancel
Enter	Auto 103

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

 Ø
 MME Keyboard Accelerator

 Commands: Dump Enter Go Halt Load Save 0-7 RETURN

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

Ø	MME Keyboard Accelerator
Address:	[0-7]*[a-d] - SPACE when complete
Enter 10	000b

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.

Q	MME Keyboard Accelerator
RETURN when	ready
Enter 1000b	177777 177777 177777 177777

Press return to write the data to memory:

Q	Memory – Absolute					
00000001000	000000 177777 177777 177777					
00000001001	77777 000000 000000 000000					
00000001002	000000 000000 000000					

The window displays the main menu again:

Ø		N	4 M I	E Key	board	Acce	elera	tor	
Commands:	Dump	Enter	Go	Halt	Load	Save	0-7	RETURN	

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:

Q	MME Keyboard Accelerator
RETURN when ready Go Selected	

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

 Ø
 MME Keyboard Accelerator

 Commands: Dump Enter Go Halt Load Save 0-7 RETURN

Halt Command

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

Ø	MME Keyboard Accelerator
RETURN	when ready
Halt Se	lected Xchange Dump

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 backspace key to move backward through the menu selections. Then, type the menu options you want.

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

Commands: Dump Enter Go Halt Load Save 0-7 RETURN

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:

Q	MME Keyboard Accelerator
Load: Control	point, D ata

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.

Q	MME Keyboard Accelerator
File: RETURN	when ready (rel/diag.cp01)
Load 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 the following:

Ø	MME Keyboard Accelerator
File: RETURN	when ready (rel/dlag.cp01)
Load Control	point asb.t

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

MME Keyboard Accelerator
 Commands: Dump Enter Go Halt Load Save 0-7 RETURN

• 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:

Q	MME Keyboard Accelerator	
Save: Control Save	point, D ata	

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.

Ø	MME Keyboard Accelerator	
File: RETURN Save Control	when ready (usr) point a	

Then, enter a filename to save the control point. For example, to save the control point as mycp, enter mycp:

Ø	MME Keyboard Accelerator	
File: Save C	RETURN when ready (usr) ontrol point mycp	

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

MME Keyboard Accelerator
Commands: Dump Enter Go Halt Load Save D-7 RETURN

• 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:

MME Keyboard Accelerator

[0-7]*[a-d], RETURN to change display, SPACE to convert
5000

The window displays memory at location 5000:

Ø	Memory – Absolute				
00000005000	000000	000000	000000	000000	
00000005001	000000	000000	000000	000000	
00000005002	000000	000000	000000	000000	
00000005003	000000	000000	000000	000000	
00000005004	000000	000000	000000	000000	
00000005005	000000	000000	000000	000000	
00000005006	000000	000000	000000	000000	
00000005007	000000	000000	000000	000000	
00000005010	000000	000000	000000	000000	

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:

Ø	MME Keyboard Accelerator	
[0-7]*[a-d], 5000	RETURN to change display, SPACE to convert	

The window then displays the parcel format equivalent.

Q	MME Keyboard Accelerator
RETURN when done	

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

Q	MME Keyboard Accelerator									
Commands:	Dump	Enter	Go	Halt	Load	Save	0-7	RETURN		

Return

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

View -> Standard Locations

This feature has not been implemented yet.

HDM-xxx-0 December 21, 1994

View -> Error Log

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Ł	Memory	T
Ē		
	Standard Locations	
	Error Log	
1	Метолу Мар.,	
۹		
	Runtime Information	⊳
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-	Licting	
=	Listing	۳ I
-	A	
Ţ	NOTES	

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

Ø		MME Memory/Register Parity Error Log	9		
ି	lear	Print V File: usr/elogs			
NUM	TYPE	Memory Errors - Entries O, Errors O DESTINATION SECT BANK MODULE SYNDROME	LOG/PHY	COUNT	
		No Errors Logged.			
NUM	ТҮРЕ	Register Parity Errors - Entries O, Errors O CHIP No Errors Logged	LOG/PHY	COUNT	
NUM	Түре	Shared Register Errors - Entries O, Errors O CLUSTER No Errors Logged.	LOG/PHY	COUNT	
NUM	ТҮРЕ	LAT Errors - Entries O, Errors O No Errors Logged.	LOG/PHY	COUNT	
	· · · · -				1-

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

The MME Memory/Register Parity 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

The MME Memory/Register Parity 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

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

LAT Error Information

The MME Memory/Register Parity 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

View -> Memory Map

This feature has not been implemented yet.

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:

Q						Run	time	Inf	orm	atio	n Dis	spla	y - (10 v O	nc.t		
MAIN	VHI	RROR	DI IANN	AGIN	FO Ompr	PARA EHEN	METE SIVE	RS	CONT	ENTS	HE	LP	EXCH	ANGE	Pas Err Sec	s or tion	000000000 000000000 000000000
	Fet Vec	ch/Ex tor P	cha Iort	nge Act	Acti ivit	vity y Co	Cou unt	nt	0000 0000	00 00 0000	000 000				Sub	aition -Cond	000000000000000000000000000000000000000
	Cha	nnels	Ru	nnin	9:												
	20 1	21 1	22 1	23 1	24 1	25 1	26 1	27 1	30 1	31 1	32 1	33 1	34 1	35 1	36 1	37 1	
								•									•
MA	IN -	Run	time	e dis	play.												

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 the text is mainframe memory data, blue indicates the text is window text, and green indicates you can click on the text to switch to a different display. On monochrome displays, bold text indicates you can click on the text to switch to a different display.

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 under test, the condition under test, the subcondition under test, 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 help information, if any is available.
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.

Table 3. Control Point Runtime Information Categories

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

File 🔻 View 🐨 (Edi	it v) (Propertie
Memory	
Standard to-ations	
Error Log	
Немату Мар.,	
Listing	
	[
Notes	

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

Ø		Runtime	Infor	matio	n Display – Co	ontroller	,
MAIN ERR VHISP LO	OR DIAGINF SP CLUSTER	O PARAMETE S LIMITS	RS C	DNTENT	TS HELP EXCH	ANGE	
<pre><all> CPU 00 CPU 01 CPU 02 CPU 03</all></pre>	Pass 00000000 00000000 00000000 00000000	Error 00000000 00000000 00000000 00000000	SUT 000 000 000	CUT 000 000 000	P-reg 0000000000 0000000000000000000000000	IF 000000 00000 000000 000000	Base 000000000000000 0000000000000 00000000
MAIN - R	un time disp	lay.					<u></u>

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 the text is mainframe memory data, blue indicates the text is window text, and green indicates you can click on the text to switch to a different display. On monochrome displays, bold text indicates 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 under test, condition under test, 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 <i>CRAY T90 Series MME User Guide</i> , publication number HDM-xxx-0.	

Category	Description
DIAGINFO	This display shows the pass count, error count, P register value, interrupt flags, mmeCIFM parameter, and dcCIFM parameter for each CPU. For more information about these parameters, refer to the online listing of the controller or to the <i>CRAY T90 Series MME User Guide</i> , publication number HDM-xxx-0.
VHISP	This display shows the VHISP reservation table.
LOSP	This display shows the LOSP reservation table.
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 <i>CRAY T90 Series MME User Guide</i> , publication number HDM-xxx-0.

Table 4. Controller Runtime Information Categories (continued)

View -> Listing -> Current

Э	File v) (View v) (E	dit 🕈	Proper	tic
Ŧ	Memory		—	_
4				
1	Standard Letations		~~	
1	Error Log			
]	Мемиу Мар.,			•
]	Runtime Information	10		
1				٤.
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1		Cor	itroiler	ŀ
1	Notes	Oth	ier	F

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.

	rel/diag/cach.t/lst/cach00.t.l.Z
(Find Forward) (Find Backward) Patte	rn: (STDLOC) (PARAM) (CODE V) (IDATA) (UDATA)
1CAL Version 2 - 9.0ed 04 (06/23/94)	mmefrm400 10. 11.
	12. 13.* 14.* Cray Research, Inc. 15.* Unpublished Proprietary Information - All Rights Reserved. 15.*
	17. 18. 19. 20.************************************
	22.* Name : cachOO.t Status : Pre-Release 23.* 24.* Title : Cache test 25.* Section : Enable/disable test
	27.* Revision : TRI a.3 Type : Diagnostic 28.* Mainframe : T32T Env. : ENV1 A7=CPU 29.* Level : Quick test 30.* Date : 07/18/94 31.* Time : 09:31:28 32.* Target : CRAY TS
	34.* Program uses WAIT/RESUME. 35.* 36.*

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, diagnostic main code, or subroutines, choose CODE -> STDCODE, CODE -> MAIN, or CODE -> CODESUB, respectively.

View -> Listing -> Controller

File View 7 Ec	lit v	Propertie
Memory		
Standard Letations		
Error Log		
Меточу Мар.,		
Runtime Information	۵	
1		
Cisting	Ci	irrent
]	œ	ntroller
Notes	01	:her

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 "View Listing -> Current" subsection for an example of the listing window and a description of manipulating the listing.

View --> Listing --> Other

File View 🔿 (Edi	t v) Properties
Memory	
Standerd Lecations	
Error Log	
Метежу Мар.,	
Runtime Information	>
(Listing	Current
Notes	

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 following options are available:

Directory	Description
Release	Listings for diagnostic tests included in the current offline diagnostic release (choose the appropriate revision level)
User	Listings saved or modified by the user
Alpha	Listings for prereleased diagnostic tests (choose the appropriate revision level)
Utility -> Release	Listings for control point utilities included in the current offline diagnostic release (choose the appropriate revision level)
Utility -> Alpha	Listings for prereleased control point utilities (choose the appropriate revision level)

- 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 <u>View</u>. MME displays the listing.

Refer again to the "View Listing -> Current" subsection for an example of the listing window and a description of manipulating 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

Jiew 🔻 Edit 🔊 🤇	Pr∢ €	elested
Delete Control Poi	nt A	<u> </u>
Assign C PUIS)	6	
Geassign CPU(s)	¢۶	

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

Jiew V Edit V	Pr Sel	ected
Delete Control Por		
Assign C PUIS)		[
Deassign CPU(s)	÷	[

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)

lit ⊽) (Properties T) (I	Jtilities ⊽
Environment	
Partition	ENV1
	ENVO
Resource Allocation	
Run System	

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

Environment	>
Partition	
Resource Allocation Nun System	
	*

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 you want to modify from the Category ∇ .

Changing Memory Allocation (Environment 2 Only)

To change the memory allocation in environment 2, choose **Memory Allocation** from the Category \boxdot . The MME Resource Allocation window changes to:

Ø	MME Resou	rce Alloca	tion				
Catagory: 🔽 Memory Allocation							
Allocation N	Allocation Mode:						
Bottom Up	Top Down	Random	Partition				
Part	ition Count	: 4					
Part	Partition Size: 0000000340						

The Memory Allocation category is valid for environment 2 only. Memory allocation defines how control point sections are loaded into memory (refer to Figure 7), whether memory is partitioned, the number of memory partitions, and the size of memory partitions. Memory allocation changes affect only the control points that are loaded after the changes are made.



Figure 7. 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 100000₈ 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.

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 \boxdot . The MME Resource Allocation window changes to:

Ø MME Resource Allocation						
Catagory: 🔽 CPU Allocation/Control						
Auto Assignment: Disabled Enabled						
CPU Mode:						
I/O CPU	00	1.>	20	30		
Cache Disable	01	ΠΠ	21	31		
IRP Disable	02	12	22	32		
IUM Disabled	03	13	23	33		
ICM Disabled	:)4	14	24	34		
SBC/DBD Disabled	1)5	15	~~~	25		
SEC/DED Disabled				20		
	-97			لمشا		
		(T(-2	ialo)			
PCI: <u>00000004000</u>						
L						

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.

<u>____</u>

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
SBC/DBD Disabled	Disables single-byte correction/ double-byte detection (SBCDBD)
SEC/DED Disabled	Disable 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 [1/0 CPU \neg 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 **⑦**. The MME Resource Allocation window changes to:

Q		MN	1E Re	source	All	oca	tion		
Catago	Catagory: 🔽 CPU/Memory Delay								
Set Delay For: All CPUs Single CPU									
CPUs	:			Delay	/ (C	P):			.
00	10	20	30	CJO:	0	4	16	63	
(11	11	27	31	CJ1:	0	4	16	63	
(•2	12	22	32	CJ2:	0	4	16	63	
(•3	13	23	33	CJ3:	0	4	16	63	
(1-4	24	34	CJ4:	0	4	16	63	
05	15	25	35	CJ5:	0	4	16	63	
(•6	16	26	36	CJ6:	0	4	16	63	
(17	17	27	37	CJ7:	0	4	16	63	
Set All 0 CP (Set All 16 CP) (Set All 4 CP) (Set All 63 CP)									

Perform the following procedure to manipulate this window:

- 1. Specify the CPUs for which you want to set the delay (click on <u>All CPUs</u> to set the delay for all CPUs or <u>single CPU</u> and a CPU to set the delay for one CPU).
- Specify the delay in clock periods (CPs) for each of the ports (CJ0 through CJ7; CJ refers to the option type), or click (Set All 0 CP), (Set All 4 CP), (Set All 15 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 Displaying 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 \heartsuit . The MME Resource Allocation window changes to:

MME Resource Allocation	
atagory: 🔽 Control Point Properties	
Swap Interval: <u>100</u> [] []	
Maximum Pass: Disabled Enabled	

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.

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.
Changing the Error Logger Access Setting and Setting the Debug Level

To change the error logger access setting and set the debug level, choose **Miscellaneous** from the Category \bigtriangledown . The MME Resource Allocation window changes to:

Ø	ММЕ	Resource Alloca	tion
Cata	ory: 🔽 Mis	cellaneous	
Err	r Logger Acc	ess:	
No	nexclusive E	xclusive	
Del	ug Level: <u>0</u>		

The error logger access setting specifies whether MME has exclusive access to the error channel. By default, MME has exclusive access to the error logger channel: when a control point requests MME to log errors from the error channel, MME restricts access to the error channel so the error logging software doesn't 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 the appropriate setting.

The debug level specifies the amount of output that MME returns to the standard output window from which you started MME. Set the value to 0, 1, or 2, where 0 causes MME to display the least information and 2 causes MME to display the most information. Enter the number in the Debug Level field and press return, or click on the arrows to change the number in the field.

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, where 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. (Refer to the CRAY T90 Series MME Diagnostic Tests and Utilities document, publication number HDM-xxx-0, to determine which control points rotate under the run system.)
- The control point must have only one CPU assigned to it.

This command displays the MME Run System window:

Ø MME Run System
Run System:
Disabled Enabled
Mode:
Swap Pair Swap Group
interval: 5 0 • 60 (seconds)

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 current 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.

- Specify the mode you want to use. Click on Mode: <u>Swap Pair</u> to swap CPUs for a pair of control points at each swap interval. Click on Mode: <u>Swap Group</u> to swap CPUs for all control points at each swap interval.
- 3. Specify the interval (in seconds) you want to pass before MME 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

This feature has not been implemented yet.

Utilities -> Pattern

This feature has not been implemented yet.

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.

Q	MME Find Utility
Base: Absolute Relative	
Search Boundary:	
Byte Parcel Halfword Word	
Pattern/Mask Size: Word Pattern/Mask Format:	
Byte Parcel Halfword Word	
Pattern: 000000 000000 000000 000000	
Mask: 177777 177777 177777 177777 Address: 0000000000000 Length: 0000000000000 Limit: 000000000000000000000000000000000000	
(<u>Start</u>) (<u>Continue</u>)	L

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 <u>Continue</u> 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 return.
 - Enter the length of the memory block in the Length field and press return.
 - Enter the last address of the data block in the Limit field and press return.
- 8. Click on <u>Start</u> to start the search. The <u>Start</u> button changes to <u>Stop</u>, and MME updates the MME Find Utility window.

Q	MME Find Util	lity			
Base:	000000000000100				
Absolute Relative	000000000000101				
Hosting Holderte	00000000000102				
Search Boundary:					
Dute Derrel Helfward Island	00000000000000000				
Byte Parcel Hallword Word	000000000000000000000000000000000000000				
Pattern/Mask Size	000000000000107				
racer ny mask size.	00000000000110	000000 000000 000000 000000			
Word	00000000000111	000000 000000 000000 000000			
Dattern /Maals Formats	00000000000112				
Patterny Mask Format:	00000000000113				
Byte Parcel Halfword Word	000000000000114				
	00000000000115				
Pattern:	00000000000117				
000000 000000 000000 000000	00000000000120				
Manalu	0000000000121	000000 000000 000000 000000			
Mask:	00000000000122	000000 000000 000000 000000			
<u>177777 177777 177777 177777</u>	00000000000123				
	00000000000124				
Address: 0000000000000000	1000000000000125				
Length: 0000000100000,	000000000000000000000000000000000000000				
Limit: 0000000100010	000000000000130				
	00000000000131				
(Stop) (Continue)	00000000000132	000000 000000 000000 000000			
	00000000000133	<u> </u>			
256 matches, additional occurances known to exist					

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

Utilities -> Copy/Move

This feature has not been implemented yet.

Utilities -> IB Dump

This feature has not been implemented yet.

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 *System Configuration Environment* document, publication number HDM-xxx-0.

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 *CRAY T90 Series LME User Guide* document, publication number HDM-xxx-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 CRAY T90 Series CBP Runtime Module document, publication number HDM-xxx-0.

Reset -> Channel



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

Reset -> Server

(Reset $ abla$)	_
Channel	Ì
Server	
Configuration	
I/O (Quad 0)	
I/O (Quad 1)	I
1/0 (Quad 2)	
1/O (Quad 3)	
Shared	

The Reset -> Sever 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 done by 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 *System Configuration Environment* document, publication number HDM-xxx-0.

Reset -> I/O (Quad 0)



The Reset \rightarrow I/O (Quad 0) command, as shown at the left, toggles Master Clear for I/O quadrant 0.

Reset -> I/O (Quad 1)



The Reset \rightarrow I/O (Quad 1) command, as shown at the left, toggles Master Clear for I/O quadrant 1.

Reset -> I/O (Quad 2)

Reset 🗸
Channel
Server
Configuration
I/O (Quad 0)
I/O (Quad 1)
1/0 (Quad 2)
1/O (Quad 3)
Shared

The Reset \rightarrow I/O (Quad 2) command, as shown at the left, toggles Master Clear for I/O quadrant 2.

Reset -> I/O (Quad 3)



Reset -> Shared



The Reset \rightarrow I/O (Quad 3) command, as shown at the left, toggles Master Clear for I/O quadrant 3.

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

HDM-xxx-0 December 21, 1994



Figure 8. Environment 1 Menu Quick Reference



Figure 9. Environment 2 Menu Quick Reference

CRAY T90 Series MME Interface Reference

Title: CRAY T90[™] Series MME Interface Reference *Preliminary Information*

Number: HDM-xxx-0 December 1994

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