SCE Interface Reference

(CRAY T90™ Series)

HDM-182-C

Cray Research/Silicon Graphics Proprietary

Record of Revision

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SCE INTERFACE REFERENCE

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Description of this Document

This document is a reference for the user interface of the System Configuration Environment (SCE) application that configures CRAY T90™ series mainframes. This document describes the SCE interface and all available menu button commands. Figure 5 on page 71 shows all available menu button commands and indicates the pages in this document that describe the commands.

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

SCE User Guide, publication number HDM-069-C.

The *SCE User Guide* describes how to use SCE to configure CRAY T90 series mainframes.

Interface Components

Figure 1 shows the components of the interface contained in the SCE base window. The paragraphs that follow the figure describe the components of the interface.

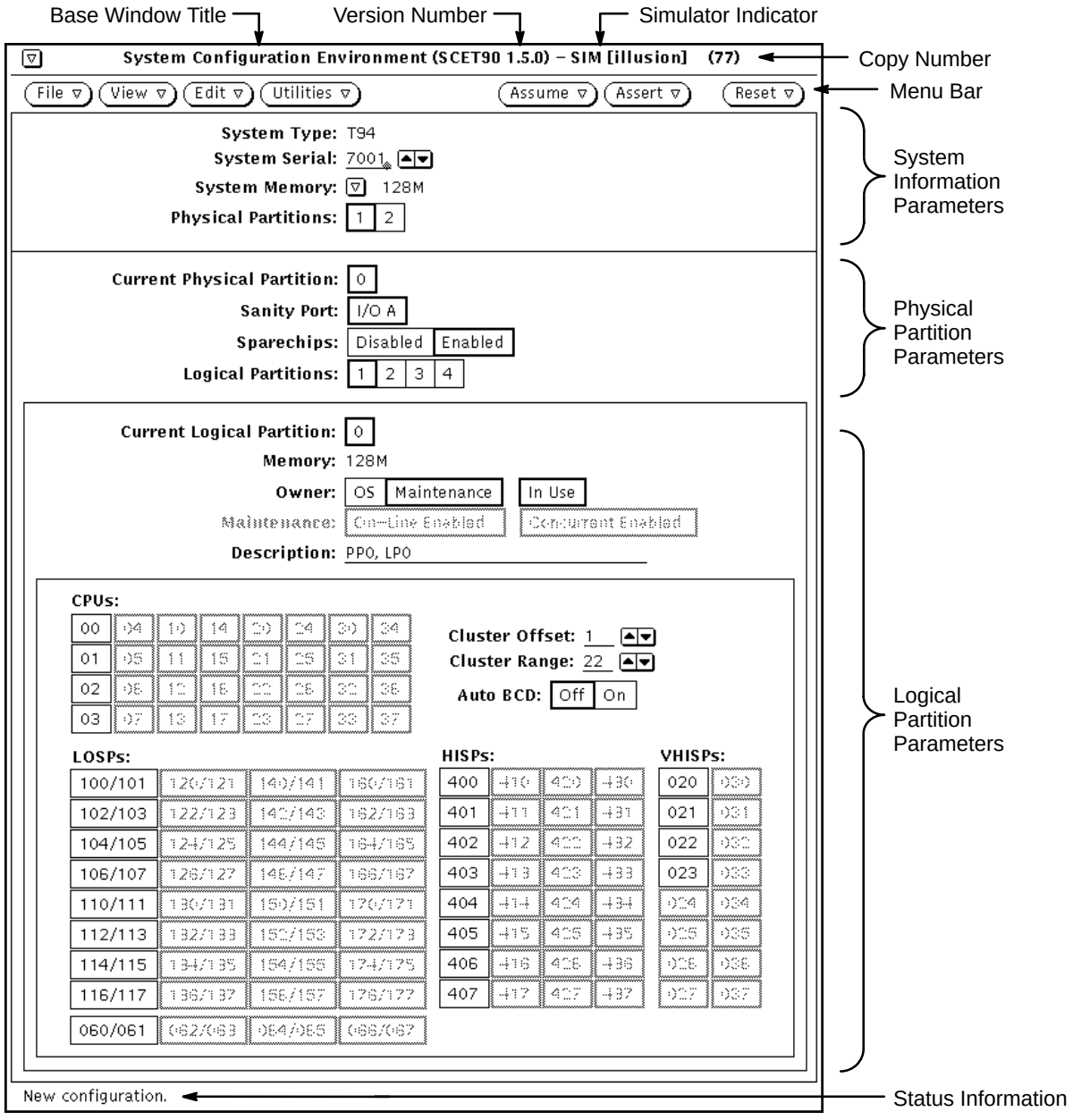


Figure 1. Interface Components

NOTE: Parameters are not updated until you choose a command from the Assume, Apply, or Assert menu button.

Base Window Title

The base window title displays the name of the program: System Configuration Environment.

Version Number

The version number indicates which version of SCE you are using.

Simulator Indicator

When SCE is running with the mainframe simulator (MSIM), the simulator indicator displays SIM and the name of the workstation on which MSIM is running.

Copy Number

The copy number indicates the copy of SCE that you are using. To set the copy number, start SCE with the `-copy` option. If you start SCE with the default copy number of 0, the SCE base window does not display a copy number. For more information about starting SCE with the `-copy` option, refer to the *SCE User Guide*, publication number HDM-069-C.

Menu Bar

The menu bar contains seven menu buttons: File, View, Edit, Utilities, Assume, Assert, and Reset. For descriptions of the commands that are accessible from these menu buttons, refer to "Menu Button Commands" on page 11.

NOTE: The Properties... button has been removed from the interface. Choose **Edit –> Properties** to access the SCE T90: Properties window.

System Information Parameters

The system information parameters define general system information. Table 1 describes the system parameters.

Table 1. System Information Parameter Descriptions

Parameter	Description
System Type	Mainframe type (This is set by the type you choose with the File –> New command.)
System Serial	Mainframe serial number
System Memory	Total amount of memory in the mainframe
Physical Partitions	Number of physical partitions in the mainframe **NOTE:** CRAY T94™ and CRAY T916™ mainframes can have only one physical partition.

Physical Partition Parameters

The physical partition parameters define the physical partition configuration information. Table 2 describes the physical partition parameters.

Table 2. Physical Partition Parameter Descriptions

Parameter	Description
Current Physical Partition	Physical partition that you are currently configuring
Sanity Port	Maintenance port that SCE uses to access the sanity tree This setting is used for CRAY T932™ mainframes, which have two maintenance ports.
Sparechips	Specifies whether spare chips will be used for the current physical partition
Logical Partitions	Number of logical partitions that you want to configure in the current physical partition **NOTE:** Changing the number of logical partitions resets all current logical partition parameter settings. Make sure you select the proper number of logical partitions before you enter any logical partition parameter settings.

NOTE: The parameters that you use to configure the CRAY T90 series support multiplexer (TSM) channels have moved from the base window to the SCE T90: Miscellaneous Configuration window. You can access this window with the View –> Miscellaneous command. Refer to “View –> Miscellaneous” on page 56 for more information.

Logical Partition Parameters

The logical partition parameters define the logical partition configuration information. Table 3 describes the logical partition parameters.

Table 3. Logical Partition Parameter Descriptions

Parameter	Description
Current Logical Partition	Logical partition you are currently configuring
Memory	Amount of memory allocated to the current logical partition: SCE automatically sets this value based on the total memory, the number of logical partitions, and any memory degrades that have been indicated. This value adjusts immediately when you change the number of physical or logical partitions.
Owner	Owner of the partition: An operating system (OS) owner indicates that the logical partition is running an OS. A maintenance system (MS) owner indicates that you will perform maintenance activities in the logical partition. No OS-based user activity can use this logical partition. **NOTE:** Ensure that the Owner setting is set to OS whenever the operating system is running in the mainframe. If you run the operating system in a partition that is owned by the maintenance system, the OS will crash if you start MME. (MME cannot be started in a partition that is owned by the OS.)
Maintenance	Type of maintenance allowed for an OS-owned partition: Use these settings to enable online and concurrent maintenance for the partition.
Description	Description of the current logical partition: Use this field to describe the current logical partition.
CPUs	CPUs configured for the current logical partition: Click on a CPU to select or deselect it. If you select a CPU that is already configured in a different logical partition, SCE removes the CPU from that logical partition and configures it into the current logical partition.

Table 3. Logical Partition Parameter Descriptions (continued)

Parameter	Description
Cluster Offset	First physical cluster contained in the current logical partition: This is logical cluster 1 for the current logical partition. This cluster appears as cluster 1 to the CPU.
Cluster Range	Number of shared clusters in the current logical partition: SCE uses this value and the cluster offset value to determine the range of clusters that the current logical partition contains. For example, if the cluster offset is 2 and the cluster range is 3, the current logical partition contains physical clusters 2, 3, and 4, which correspond to logical clusters 1, 2, and 3 for the current logical cluster. Numbering starts with logical cluster 1 because all logical partitions contain a logical cluster 0. If only one logical partition exists in the current physical partition, SCE sets this parameter to 22_8 and the Cluster Offset parameter to 1. If more than one logical partition exists in the current physical partition, SCE automatically sets this value to the number of CPUs in the logical partition plus 1. **NOTE:** Clusters should not overlap logical partitions.
Auto BCD	Enables or disables the automatic broadcast cluster detach (auto BCD) function for CPUs in the current logical partition: If auto BCD is enabled (on), a CPU automatically detaches from a cluster when an exchange sequence occurs, which emulates normal CRAY C90 series mainframe operation mode. If auto BCD is disabled (off), an explicit function must execute to detach a CPU from its current cluster, which enables a CPU to attach to several clusters simultaneously.
LOSPs	LOSP channel pairs configured for the current logical partition: Click on a LOSP channel pair to select or deselect it. If you select a LOSP channel pair that is already configured in a different logical partition, SCE removes the LOSP channel pair from that logical partition and configures it into the current logical partition. **NOTE:** All LOSP settings appear gray if you do not select any IO01 modules in the SCE T90: I/O Configuration window (for example, if you select the GigaRing™ setting for all IO modules in the system).

Table 3. Logical Partition Parameter Descriptions (continued)

Parameter	Description
HISPs	HISP channels configured for the current logical partition: Click on a HISP channel to select or deselect it. If you select a HISP channel that is already configured in a different logical partition, SCE removes the HISP channel from that logical partition and configures it into the current logical partition. **NOTE:** All HISP settings appear gray if you do not select any IO01 modules in the SCE T90: I/O Configuration window (for example, if you select the GigaRing setting for all IO modules in the system).
VHISPs	VHISP channels configured for the current logical partition: Click on a VHISP channel to select or deselect it. If you select a VHISP channel that is already configured in a different logical partition, SCE removes the VHISP channel from that logical partition and configures it into the current logical partition. **NOTE:** All VHISP settings appear gray if you do not select any IO01 modules in the SCE T90: I/O Configuration window (for example, if you select the GigaRing setting for all IO modules in the system).

Status Information

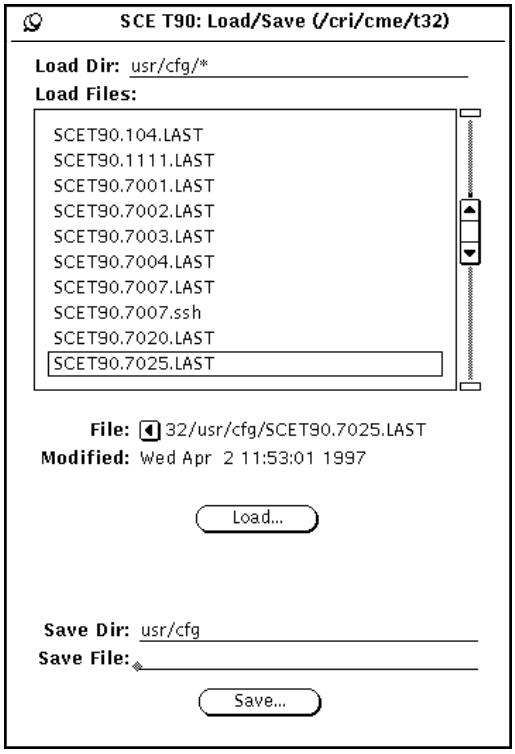
The status information indicates the current status of a configuration.

Menu Button Commands

The menu buttons contain commands that manipulate SCE. This subsection describes the function of each command and how to use it. Figure 5 on page 71 shows all available menu button commands.

File –> Load

The File –> Load command, as shown at the left, enables you to load a previously saved configuration file. This command displays the SCE T90: Load/Save (*directory*) window:



Perform the following procedure to manipulate this window:

1. Change the directory in the Load Dir field, if necessary, and press the Return key.

   SCE appends the directory in the Load Dir field to the directory shown in parentheses (`/cri/cme/t32` in the example window shown) to determine the actual directory that SCE uses to load a file.

2. In the Load Files scroll box, click on the configuration file that you want to load.

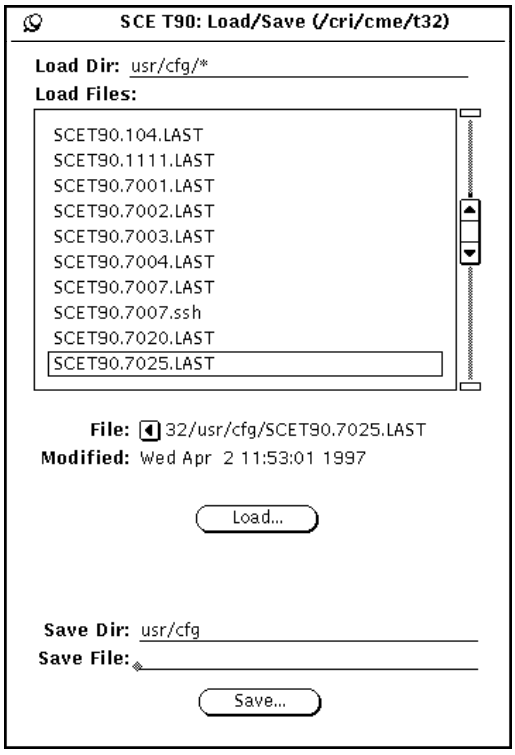
   The File field displays the complete pathname for the file. The Modified field displays the date on which the configuration file was last modified.

3. Click on Load... . SCE loads the specified file.

   NOTE: You can also load a file by double-clicking on the file in the Load Files scroll box.

File –> Save

The File –> Save command, as shown at the left, enables you to save the current configuration parameters in a file. This command displays the SCE T90: Load/Save (*directory)* window:



Perform the following procedure to manipulate this window:

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

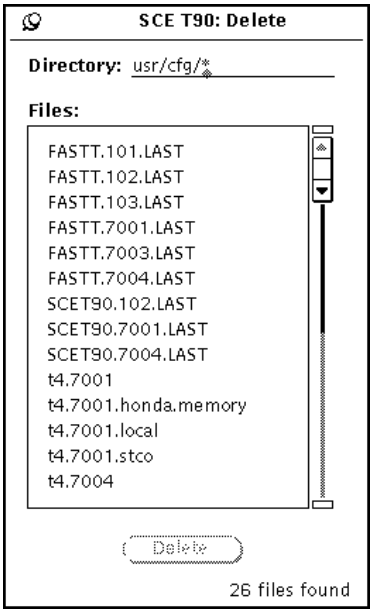
   SCE appends the directory in the Save Dir field to the directory shown in parentheses (`/cri/cme/t32` in the example window shown) to determine the actual directory that SCE uses to save a file.

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

3. Click on Save... or press the Return key; SCE saves the specified configuration file.

File –> Delete

The File –> Delete command, as shown at the left, enables you to delete files that you no longer need. This command displays the SCE T90: Delete window:

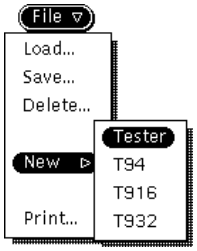


NOTE: On an MWS, you can delete files that are located in the `/cri/cme/t32/usr/` directory structure only. On an SWS, you can delete files that are located in the `/opt/CYRIdiag/t32/usr/` directory structure only.

Perform the following procedure to manipulate this window:

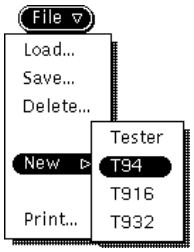
1. Change the directory in the Directory field, if necessary, and press the Return key.
2. Click on the file(s) that you want to delete.
3. Click on Delete; SCE deletes the file(s).

File –> New –> Tester



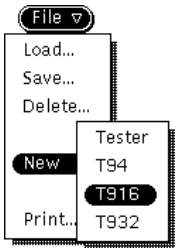
The File –> New –> Tester command, as shown at the left, creates a default set of parameters to configure a CP module tester.

File –> New –> T94



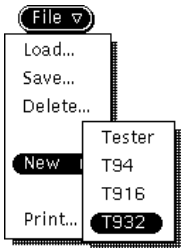
The File –> New –> T94 command, as shown at the left, creates a default set of parameters to configure a CRAY T94 mainframe.

File –> New –> T916



The File –> New –> T916 command, as shown at the left, creates a default set of parameters to configure a CRAY T916 mainframe.

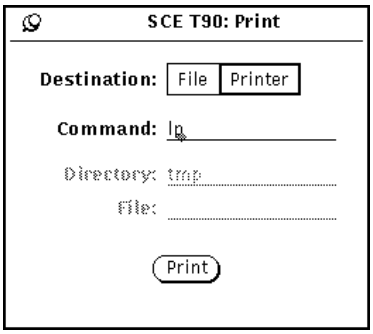
File –> New –> T932



The File –> New–> T932 command, as shown at the left, creates a default set of parameters to configure a CRAY T932 mainframe.

File –> Print

The File –> Print command, as shown at the left, enables you to print the current configuration data to the printer or to a file. This command displays the SCE T90: Print window:



How to Print the Configuration Data to a File

1. Click on Destination: File.
2. In the Directory field, change the name of the directory to which SCE should print the file, if necessary. Press the Return key.
3. In the File field, enter the name of the file to which SCE should print the configuration data. Press the Return key.
4. Click on Print.

How to Print the Configuration Data to the Printer

1. Click on Destination: Printer.
2. In the Command field, change the UNIX® command to print the file, if necessary.
3. Click on Print.

View –> Memory

The View –> Memory command, as shown at the left, enables you to configure the parameters for the memory modules. This command displays the SCE T90: Memory Configuration window.

You can configure three different memory characteristics with this window: module types, memory degradations, and memory partitions. The Configure settings specify which characteristic the window will display. The following subsections describe the parameters that you use to configure these three memory characteristics.

Module Type Parameters

Click on Configure: Modules to access the module configuration parameters. The window changes as shown in the following snap:

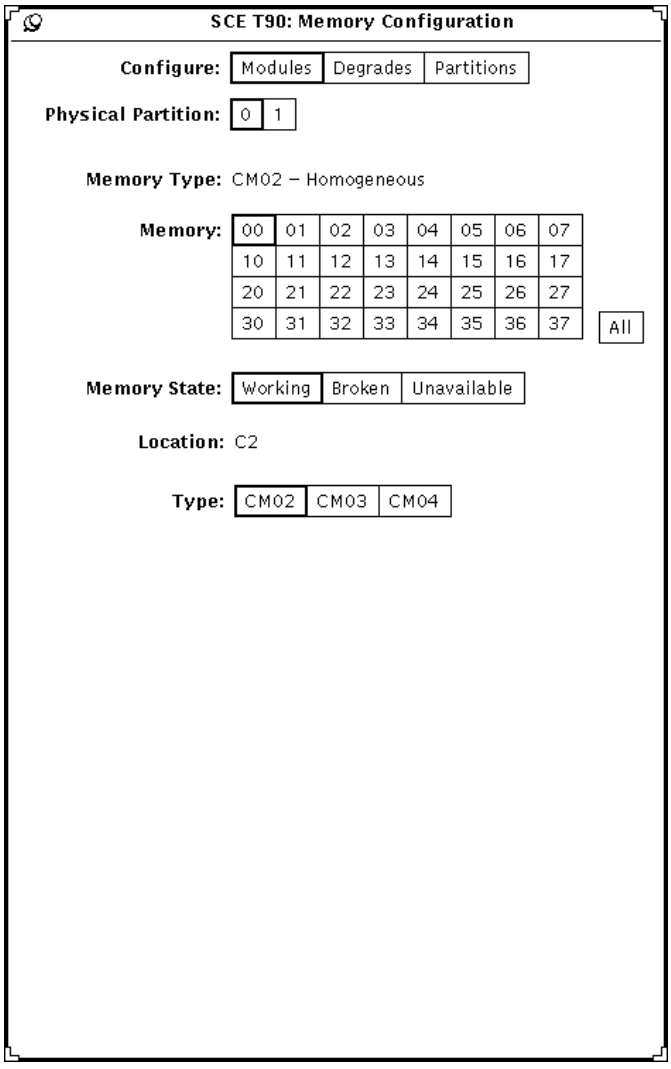


Table 4 describes the memory module type parameters.

Table 4. Memory Module Type Parameters

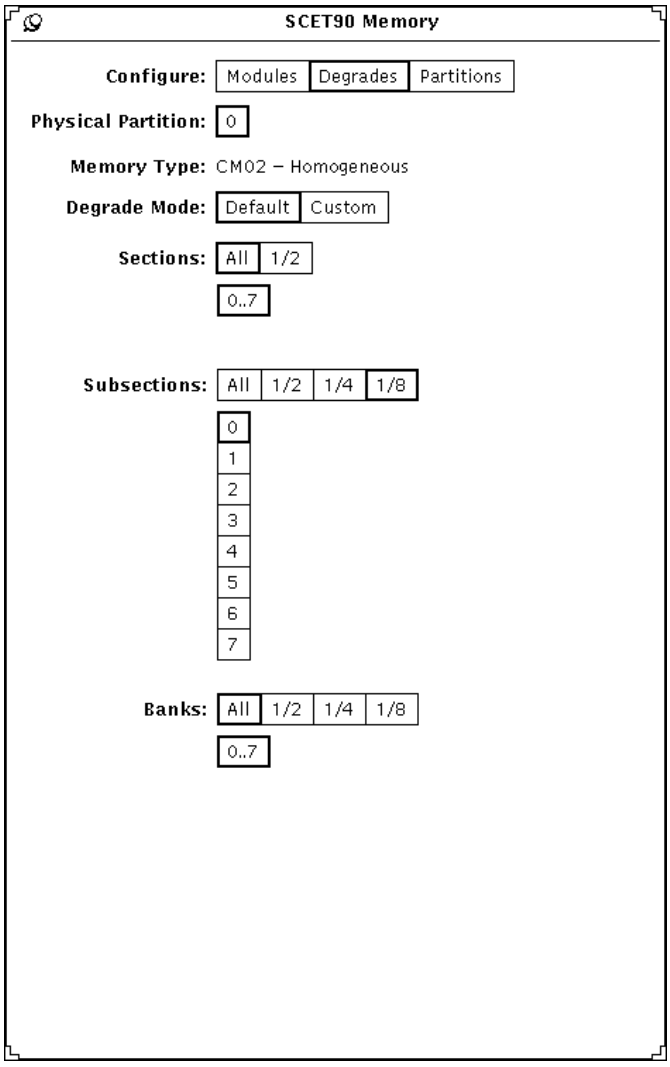
Parameter	Description	
Configure	Specifies which memory characteristic you want to configure (module types, memory degradations, or memory partitions)	
Physical Partition	Specifies the physical partition for which you want to modify the memory module type parameters	
Memory Type	Specifies the type of memory modules that are in the mainframe. This parameter can have the following values:	
	Value:	**Description:**
	CM02 – Homogeneous	The mainframe contains only CM02 modules.
	CM03 – Homogeneous	The mainframe contains only CM03 modules.
	CM04 Homogeneous	The mainframe contains only CM04 modules.
	CM02/CM03 Mix	The mainframe contains CM02 and CM03 modules. (This value appears when you choose CM02 for some modules and CM03 for other modules.)
	CM02/CM04 Mix	The mainframe contains CM02 and CM04 modules. (This value appears when you choose CM02 for some modules and CM04 for other modules.)
	CM03/CM04 Mix	The mainframe contains CM02 and CM03 modules. (This value appears when you choose CM02 for some modules and CM03 for other modules.)
	Unsupported/Unknown	The configuration that you are trying to create is not supported. (For example, if you try to create a configuration that contains CM02, CM03, and CM04, SCE displays the Unsupported/Unknown message.)

Table 4. Memory Module Type Parameters (continued)

Parameter	Description
Memory	Specifies the memory module for which you want to modify the configuration information (the Memory State and Type parameters). Settings 00, 01, 02, and 03 are valid for CRAY T94 mainframes. Settings 00, 01, 02, 03, 04, 05, 06, 07, 10, 11, 12, 13,14 15, 16, and 17 are valid for CRAY T916 mainframes. Settings 00, 01, 02, 03, 04, 05, 06, 07, 10, 11, 12, 13,14 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 30, 31, 32, 33, 34, 35, 36, and 37 are valid for CRAY T932 mainframes. Use the All setting to specify that the modules are all one Type (either CM02, CM03, or CM04).
Memory State	Specifies the current state of the selected memory module: Working: Indicates that the module is installed in the mainframe and is operating correctly. Broken: Indicates that is installed in the mainframe, but the module is not operating correctly. Unavailable: Indicates that the selected module is not installed in the mainframe.
Location	Indicates the slot location of the selected memory module.
Type	Specifies the type of the selected memory module: CM02, CM03, or CM04.

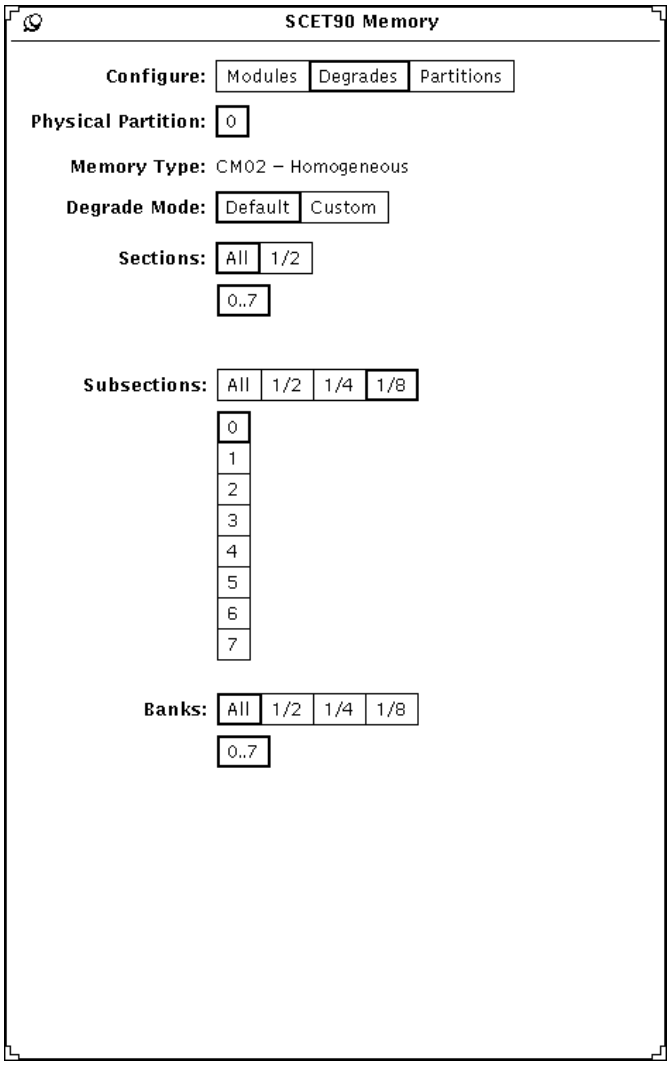
Memory Degradation Parameters

Click on Configure: [Degrades] to access the memory degradation parameters. The window changes as shown in the following snap:



The memory degradation parameters enable you to perform memory degradation; for more information about memory degradation, refer to the *SCE User Guide*, publication number HDM-069-C.

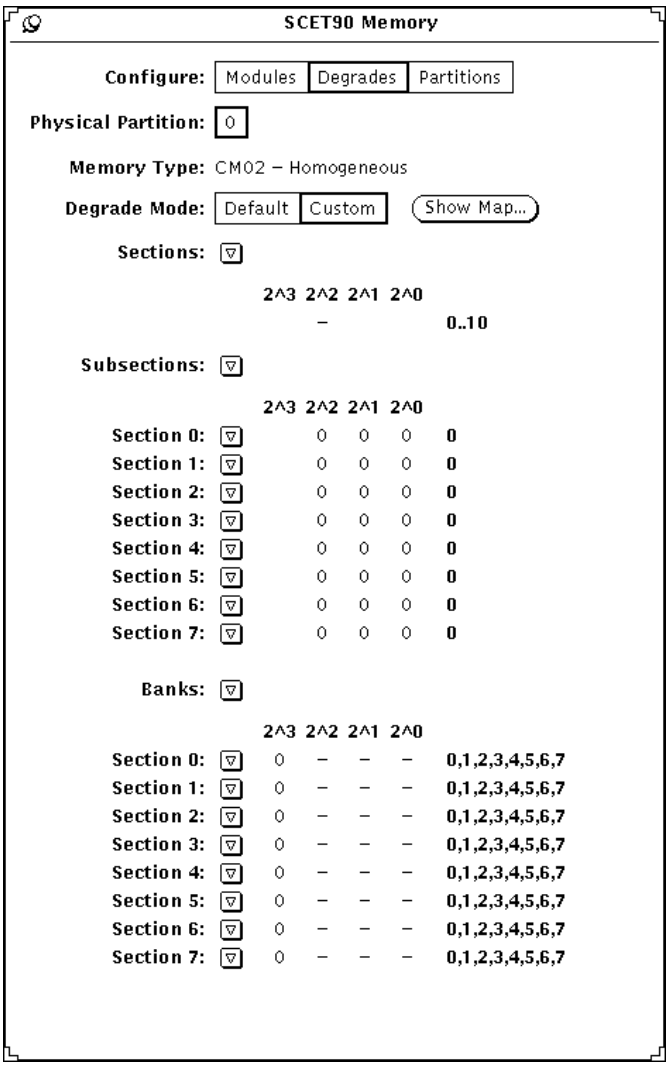
Two versions of this window are available. If you click on Degrade Mode: Default, this window displays the default memory degradation parameters:



The default memory degradation parameters present memory degradations as fractional components of the complete memory system. You can degrade sections to use half of the available sections. You can degrade subsections to use a half, a quarter, or an eighth of the available subsections. You can degrade banks to use a half, a quarter, an eighth, or a sixteenth (CRAY T94 mainframes with CM03 modules and CRAY T932 mainframes with CM03 modules only) of the available banks.

For examples of how to use default mode to perform memory degradation, refer to the *SCE User Guide*, publication number HDM-069-C.

If you click on Degrade Mode: Custom, this window displays the custom memory degradation parameters:



The custom memory degradation parameters enable you to perform memory degradations at the section level. You can change the parameters by choosing values from the abbreviated menu buttons or by clicking on the bits shown in the window.

For examples of how to use custom mode to perform memory degradation, refer to the *SCE User Guide*, publication number HDM-069-C.

Table 5 describes the memory configuration parameters that are available in both versions of the window. Table 6 describes the parameters that are available only in default mode. Table 7 describes the parameters that are available only in custom mode.

Table 5. General Memory Degradation Parameters

Parameter	Description
Configure	Specifies which memory characteristic you want to configure (module types, memory degradations, or memory partitions)
Physical Partition	Specifies the physical partition for which you want to modify the memory degradation parameters
Memory Type	Indicates the type of memory modules that are in the mainframe This read–only parameter displays the following messages: **Value:** — **Description:** CM02 – Homogeneous — The mainframe contains only CM02 modules. CM03 – Homogeneous — The mainframe contains only CM03 modules. CM04 Homogeneous — The mainframe contains only CM04 modules. CM02/CM03 Mix — The mainframe contains CM02 and CM03 modules. (This value appears when you choose CM02 for some modules and CM03 for other modules.) CM02/CM04 Mix — The mainframe contains CM02 and CM04 modules. (This value appears when you choose CM02 for some modules and CM04 for other modules.) CM03/CM04 Mix — The mainframe contains CM02 and CM03 modules. (This value appears when you choose CM02 for some modules and CM03 for other modules.) Unsupported/Unknown — The configuration that you are trying to create is not supported. (For example, if you try to create a configuration that contains CM02, CM03, and CM04, SCE displays the Unsupported/Unknown message.)
Degrade Mode	Specifies that you want to perform memory degradation in default mode or custom mode

Table 6. Default Mode Memory Degradation Parameters

Parameter	Description
Sections	Degrades memory by sections: You can select to use All or 1/2 of the sections. If you use 1/2 of the sections, you can choose 0, 1, 2, 3 or 4, 5, 6, 7.
Subsections	Degrades memory by subsections: You can select to use all of the available subsections, one-half of the available subsections, one-quarter of the available subsections, or one-eighth of the available subsections. If you click on All, the memory configuration includes subsections 0 through 7. If you click on 1/2, you can select one of the following combinations: 0, 2, 4, 6 0, 1, 4, 5 0, 1, 2, 3 1, 3, 5, 7 2, 3, 6, 7 4, 5, 6, 7 If you click on 1/4, you can select one of the following combinations: 0, 4 0, 2 0, 1 1, 5 1, 3 2, 3 2, 6 4, 6 4, 5 3, 7 5, 7 6, 7 If you click on 1/8, you can select any one subsection: 0, 1, 2, 3, 4, 5, 6, or 7.
Banks	Degrades memory by banks: You can select to use all of the available banks, one-half of the available banks, one-quarter of the available banks, one-eighth of the available banks, or one-sixteenth of the available banks (for CM03 and CM04 modules only). **For CM02 Modules:** If you click on All, the memory configuration includes banks 0 through 7. If you click on 1/2, you can select one of the following combinations: 0, 1, 2, 3 0, 1, 4, 5 0, 2, 4, 6 4, 5, 6, 7 2, 3, 6, 7 1, 3, 5, 7 If you click on 1/4, you can select one of the following combinations: 0,1 0,2 0,4 2,3 1,3 1,5 4,5 4,6 2,6 6,7 5,7 3,7 If you click on 1/8, you can select any one bank: 0, 1, 2, 3, 4, 5, 6, or 7.

Table 6. Default Mode Memory Degradation Parameters (continued)

Parameter	Description
Banks (continued)	**For CM03 and CM04 modules:** If you click on All, the memory configuration includes banks 0 through 16. If you click on 1/2, you can select one of the following combinations: 0, 1, 2, 3, 4, 5, 6, 7 10, 11, 12, 13, 14, 15, 16, 17 0, 1, 2, 3, 10, 11, 12, 13 4, 5, 6, 7, 14, 15, 16, 17 0, 1, 4, 5, 10, 11, 14, 15 2, 3, 6, 7, 12, 13, 16, 17 0, 2, 4, 6, 10, 12, 14, 16 1, 3, 5, 7, 11, 13, 15, 17 If you click on 1/4, you can select one of the following combinations: 0, 1, 2, 3 — 0, 2, 4, 6 — 0, 2, 10, 12 4, 5, 6, 7 — 1, 3, 5, 7 — 1, 3, 11, 13 10, 11, 12, 13 — 10, 12, 14, 16 — 4, 6, 14, 16 14, 15, 16, 17 — 11, 13, 15, 17 — 5, 7, 15, 17 0, 1, 4, 5 — 0, 1,10, 11 — 0, 4, 10, 14 2, 3, 6, 7 — 2, 3, 12, 13 — 1, 5, 11, 15 10, 11, 14, 15 — 4, 5, 14, 15 — 2, 6, 12, 16 12, 13, 16, 17 — 6, 7, 16, 17 — 3, 7, 13, 17 If you click on 1/8, you can select one of the following combinations: 0, 1 — 0, 2 — 0, 4 — 0, 10 2, 3 — 1, 3 — 1, 5 — 1, 11 4, 5 — 4, 6 — 2, 6 — 2, 12 6, 7 — 5, 7 — 3, 7 — 3, 13 10, 11 — 10, 12 — 10, 14 — 4, 14 12, 13 — 11, 13 — 11, 15 — 5, 15 14, 15 — 14, 16 — 12, 16 — 6, 16 16, 17 — 15, 17 — 13, 17 — 7, 17 If you click on 1/16, you can select any one bank: 0, 1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 13 ,14, 15, 16, or 17.

Table 7. Custom Mode Memory Degradation Parameters

Parameter	Description
Show Map	This button displays a graphical representation of the current memory utilization. Figure 2 on page 27 shows an example.
Sections	Specifies the memory sections to use: Choose the memory sections that you want to use from the Sections abbreviated menu button. You can also change the selected sections by clicking on the bits that are shown. Figure 3 on page 28 shows how these bit settings correspond to the section bits in the address bits. These bits set the section profile and select bits. Each bit in this window can have one of three values [a dash (–), a 0, or a 1]: The dash (–) sets the profile bit to 0 and the select bit to 0. The 0 sets the profile bit to 1 and the select bit to 0. The 1 sets the profile bit to 1 and the select bit to 1.
Subsections	Specifies the memory subsections to use: Choose the memory subsections that you want to use from the Subsections abbreviated menu button. In custom mode, you can set the subsections that you want to use for each section (for example, you could have one section use only subsections 0 through 3 and another section use only subsections 4 through 7. To do this, you choose the appropriate value from the abbreviated menu button next to the section that you want to change. You can also change the selected subsections by clicking on the bits that are shown next to the abbreviated menu buttons. Figure 3 on page 28 shows how these bit settings correspond to the subsection bits in the address bits. These bits set the subsection profile and select bits. Each bit in this window can have one of three values [a dash (–), a 0, or a 1]: The dash (–) sets the profile bit to 0 and the select bit to 0. The 0 sets the profile bit to 1 and the select bit to 0. The 1 sets the profile bit to 1 and the select bit to 1.

Table 7. Custom Mode Memory Degradation Parameters (continued)

Parameter	Description
Banks	Specifies the memory banks to use: Choose the memory subsections that you want to use from the Banks abbreviated menu button. In custom mode, you can set the banks that you want to use for each section (for example, you could have one section use only banks 0 through 3 and another section use only banks 4 through 7. To do this, you choose the appropriate value from the abbreviated menu button next to the section that you want to change. You can also change the selected banks by clicking on the bits that are shown next to the abbreviated menu buttons. Figure 3 on page 28 shows how these bit settings correspond to the bank bits in the address bits. These bits set the bank profile and select bits. Each bit in this window can have one of three values [a dash (–), a 0, or a 1]: The dash (–) sets the profile bit to 0 and the select bit to 0. The 0 sets the profile bit to 1 and the select bit to 0. The 1 sets the profile bit to 1 and the select bit to 1.

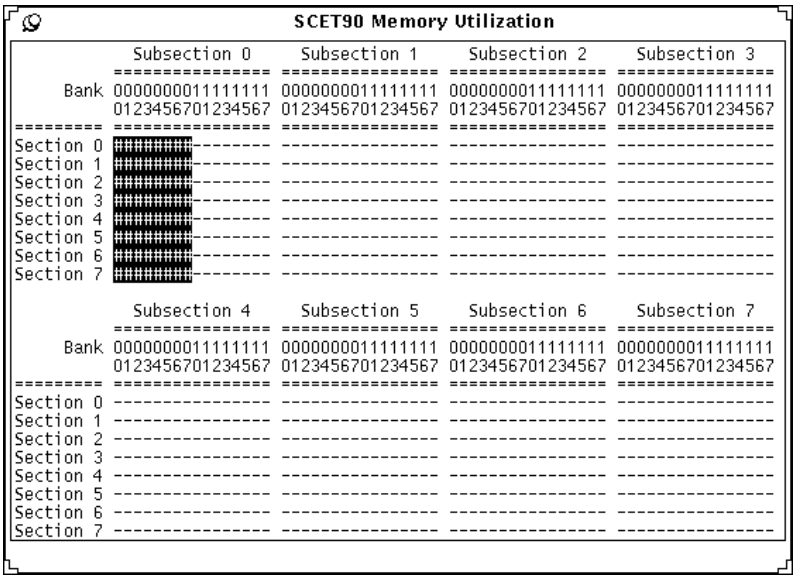


Figure 2. Memory Utilization Map

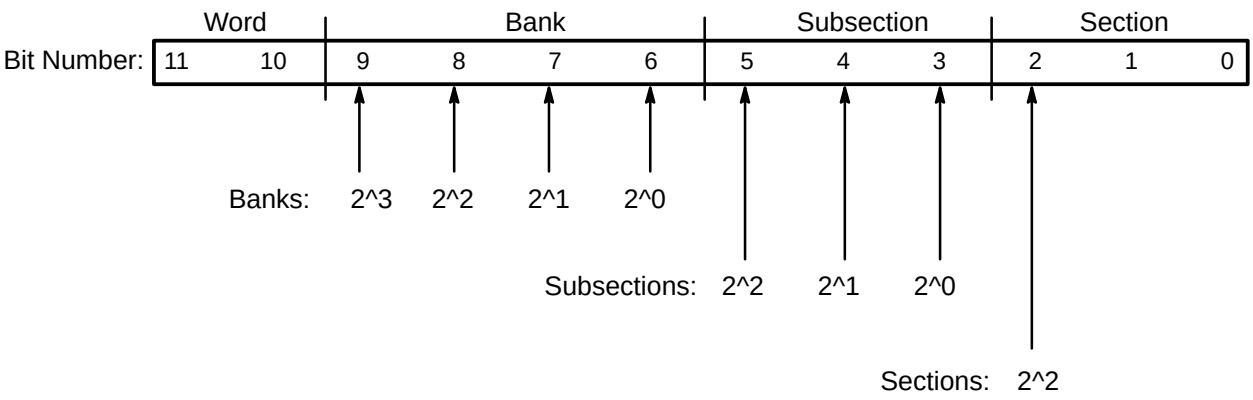
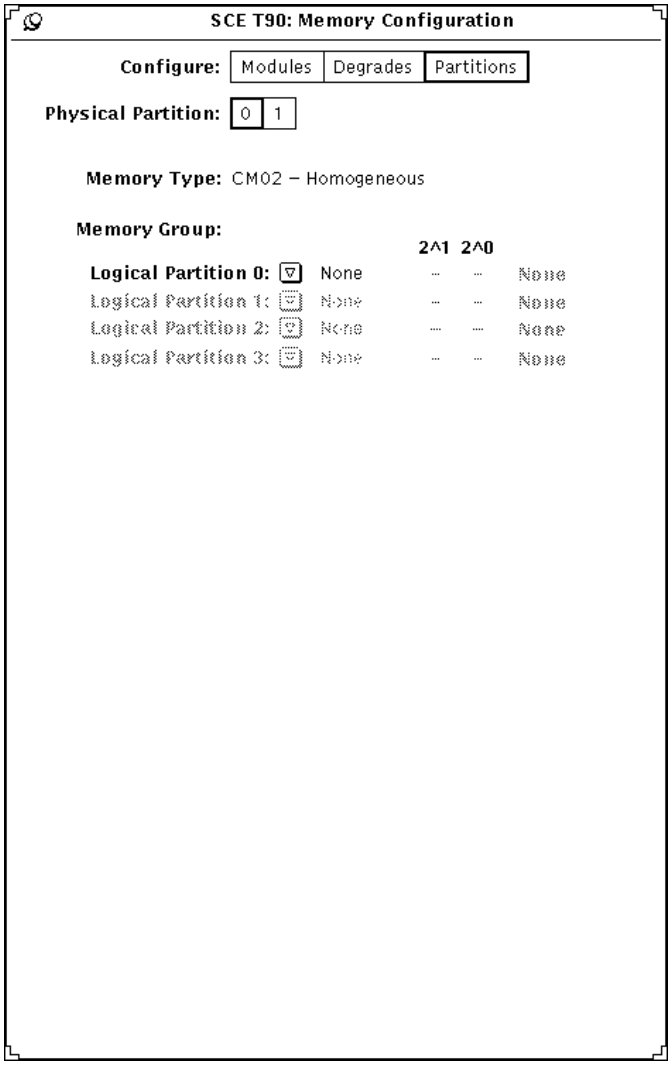


Figure 3. Correlation of Bit Settings to Address Bits

Memory Partition Parameters

Click on Configure: Partitions to access the memory partition parameters. The window changes as shown in the following snap:



This window enables you to change the memory groups that SCE assigns to the logical partition in the configuration.

Table 8 describes the memory partition parameters.

Table 8. Memory Partition Parameters

Parameter	Description
Configure	Specifies which memory characteristic you want to configure (module types, memory degradations, or memory partitions)
Physical Partition	Specifies the physical partition for which you want to modify the memory partition parameters
Memory Type	Indicates the type of memory modules that are in the mainframe This read–only parameter displays the following messages: **Value:** — **Description:** CM02 – Homogeneous — The mainframe contains only CM02 modules. CM03 – Homogeneous — The mainframe contains only CM03 modules. CM04 Homogeneous — The mainframe contains only CM04 modules. CM02/CM03 Mix — The mainframe contains CM02 and CM03 modules. (This value appears when you choose CM02 for some modules and CM03 for other modules.) CM02/CM04 Mix — The mainframe contains CM02 and CM04 modules. (This value appears when you choose CM02 for some modules and CM04 for other modules.) CM03/CM04 Mix — The mainframe contains CM02 and CM03 modules. (This value appears when you choose CM02 for some modules and CM03 for other modules.) Unsupported/Unknown — The configuration that you are trying to create is not supported. (For example, if you try to create a configuration that contains CM02, CM03, and CM04, SCE displays the Unsupported/Unknown message.)

Table 8. Memory Partition Parameters (continued)

Parameter	Description
Memory Group Parameters:	
Logical Partition 0	Specifies the memory group for logical partition 0 (SCE defaults this to 0) You can set this parameter to None, 0, 1, 2, 3, or Custom. The Custom setting enables you to specify the values of the group profile and select bits. To change the values, click on the bit values under the 2^1 and 2^0 headings. Each bit can have one of three values [a dash (–), a 0, or a 1]: The dash (–) sets the group profile bit to 0 and the group select bit to 0. The 0 sets the group profile bit to 1 and the group select bit to 0. The 1 sets the group profile bit to 1 and the group select bit to 1.
Logical Partition 1	Specifies the memory group for logical partition 1 (SCE defaults this to 1) You can set this parameter to None, 0, 1, 2, 3, or Custom. The Custom setting enables you to specify the values of the group profile and select bits. To change the values, click on the bit values under the 2^1 and 2^0 headings. Each bit can have one of three values [a dash (–), a 0, or a 1]: The dash (–) sets the group profile bit to 0 and the group select bit to 0. The 0 sets the group profile bit to 1 and the group select bit to 0. The 1 sets the group profile bit to 1 and the group select bit to 1.

Table 8. Memory Partition Parameters (continued)

Parameter	Description
Logical Partition 2	Specifies the memory group for logical partition 2 (SCE defaults this to 2) You can set this parameter to None, 0, 1, 2, 3, or Custom. The Custom setting enables you to specify the values of the group profile and select bits. To change the values, click on the bit values under the 2^1 and 2^0 headings. Each bit can have one of three values [a dash (–), a 0, or a 1]: The dash (–) sets the group profile bit to 0 and the group select bit to 0. The 0 sets the group profile bit to 1 and the group select bit to 0. The 1 sets the group profile bit to 1 and the group select bit to 1.
Logical Partition 3	Specifies the memory group for logical partition 3 (SCE defaults this to 3) You can set this parameter to None, 0, 1, 2, 3, or Custom. The Custom setting enables you to specify the values of the group profile and select bits. To change the values, click on the bit values under the 2^1 and 2^0 headings. Each bit can have one of three values [a dash (–), a 0, or a 1]: The dash (–) sets the group profile bit to 0 and the group select bit to 0. The 0 sets the group profile bit to 1 and the group select bit to 0. The 1 sets the group profile bit to 1 and the group select bit to 1.

View –> CPUs

The View –> CPUs command, as shown at the left, enables you to configure the parameters for the CP modules. This command displays the SCE T90: CPU Configuration window:

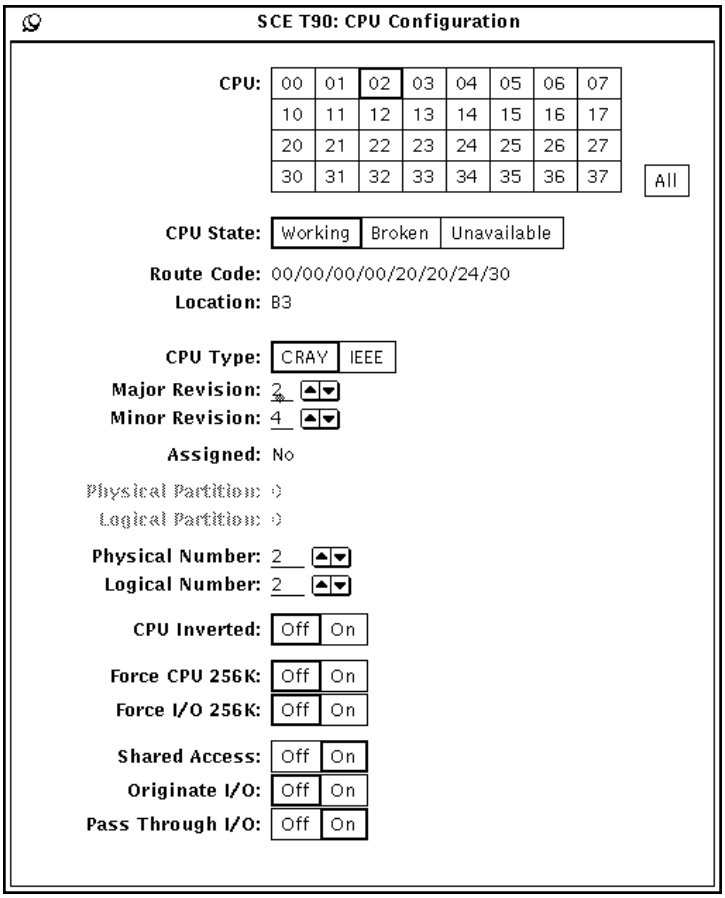


Table 9 describes the available CPU parameters.

Table 9. CPU Parameters

Parameter	Description
CPU	Specifies the CPU for which you want to modify parameters
CPU State	Specifies whether the CP module is working, broken, or unavailable: Working: Indicates that the CP module is physically present and in working condition (The CP module can perform processing and can control I/O functions.)

Table 9. CPU Parameters (continued)

Parameter	Description
CPU State (continued)	Broken: Indicates that the CP module is physically present but not in working condition (This setting specifies that the module cannot be used as a processor because a functional unit is broken, but it can control I/O functions.) **NOTE:** Do not use the Broken setting if the CP module has memory/path problems. Use the Unavailable setting in this situation because the CP module cannot control I/O functions. Unavailable: Indicates that the CP module is not logically present (no processing or I/O functions are available.): either the CP module is not physically in the mainframe, or the CP module is so badly broken that it cannot control I/O functions.
Route Code	Displays the route code to access the selected CP module
Location	Displays the physical location of the CP module (stack and slot)
CPU Type	Specifies whether the CP module uses Cray Research, Inc. (CRAY) or IEEE floating-point number format: The CRI setting sets Major Revision to 2 and Minor Revision to 4. The IEEE setting sets Major Revision to 1 and Minor Revision to 0.
Major Revision	Specifies the major revision level of the CP module
Minor Revision	Specifies the minor revision level of the CP module
Assigned	Indicates whether or not the CPU is assigned to a physical and logical partition
Physical Number	Displays the physical number in the mainframe of the CP module: Do not change this number.
Logical Number	Specifies the logical number of the CP module: Do not change this number unless you use caution and have a thorough understanding of CRAY T90 series mainframe configuration.
CPU Inverted	Indicates the orientation of the CP module: Off: Indicates that the CP module is not inverted On: Indicates that the CP module is inverted When this parameter is set to On, SCE complements the section address before the address gets to the CI options. Only CRAY T916 and CRAY T932 mainframes can have inverted CP modules (in stacks F and N).
Force CPU 256K	Forces the CPU to access only the upper 256 Kwords of memory (used for concurrent maintenance mode) when set to On

Table 9. CPU Parameters (continued)

Parameter	Description
Force I/O 256K	Forces all I/O activity through this CPU to access only the upper 256 Kwords of memory (used for concurrent maintenance mode) when set to On **NOTE:** This setting also affects direct memory access (DMA) transfers made with the maintenance channel through this CPU.
Shared Access	Enables the CPU to access the shared module, which provides access to the clusters and semaphores
Originate I/O	Enables the CPU to initiate I/O activity
Pass Through I/O	Enables I/O transfers to pass through this CPU when another CPU requests data from this CPU's channels **NOTE:** Not all CPUs have channel access.

View –> Shareds

The View –> Shareds command, as shown at the left, enables you to configure the parameters for the shared modules. This command displays the SCE T90: Shared Configuration window:

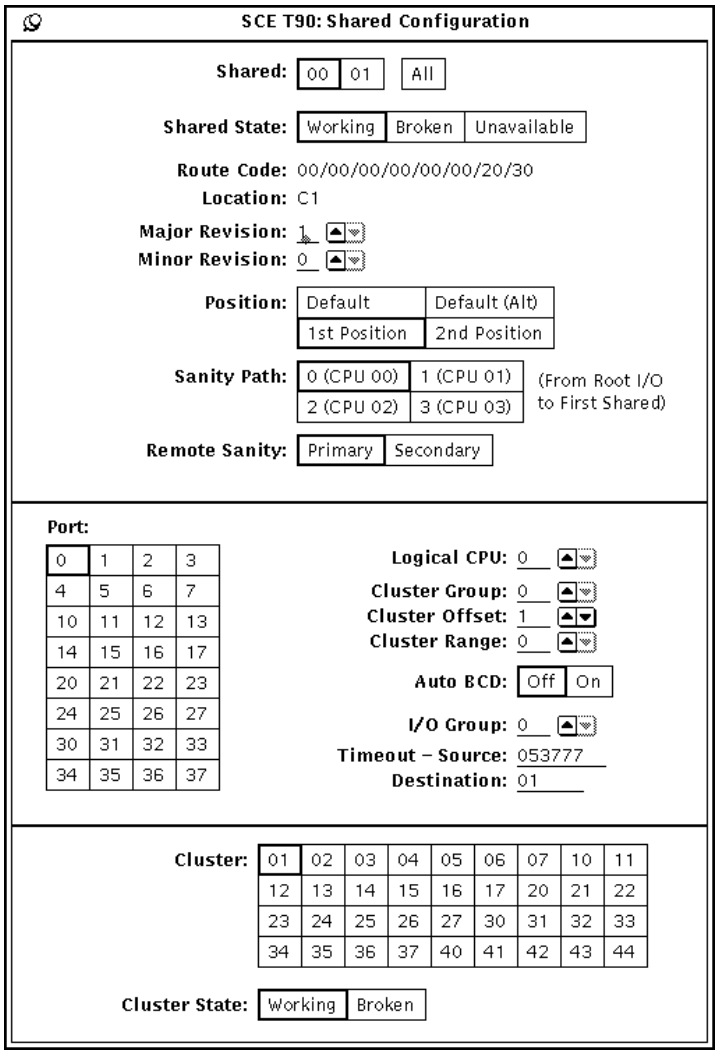


Table 10 describes the available shared module configuration parameters.

Table 10. Shared Module Parameters

Parameter	Description
Shared	Specifies the shared module for which you want to modify parameters
Shared State	Specifies whether the shared module is working, broken, or unavailable: Working: Indicates that the shared module is physically present and in working condition Broken: Indicates that the shared module is physically present but not in working condition Unavailable: Indicates that the shared module is not logically present
Route Code	Displays the route code to access the selected shared module
Location	Displays the physical location of the shared module
Major Revision	Specifies the major revision level of the shared module
Minor Revision	Specifies the minor revision level of the shared module
Position	Specifies the physical location of the shared module in the mainframe (determines with which IO module the shared module communicates)
Sanity Path	Specifies the path (CP module) through which to route the sanity code from the IO module to the first shared module
Remote Sanity	Specifies the sanity path (primary or secondary [CRAY T932 systems only])
Port	Specifies the port for which you want to modify parameters. (Refer to Table 11, Table 12, and Table 13 to find out which shared module ports reference which CPUs.) You can set the following parameters for each port: Logical CPU: Specifies the logical CPU number of the CP module. Do not change this unless you use caution and have a thorough understanding of CRAY T90 series mainframe configuration. Cluster Group: Specifies which cluster group the CPU is in Cluster Offset: Specifies the first physical cluster accessed by this port's associated CPU Cluster Range: Specifies the number of clusters accessed by this port's associated CPU (For more information, refer to page 9.)

Table 10. Shared Module Parameters (continued)

Parameter	Description
Port (continued)	Auto BCD: Enables or disables the automatic broadcast cluster detach option (For more information, refer to page 9.) I/O Group: Specifies which I/O group the CPU is in Timeout – Source: Specifies the source timer value for 033 instructions Destination: Specifies the destination timer value for 033 instructions
Cluster	Specifies the cluster for which you want to modify parameters
Cluster State	Specifies whether the cluster is working or broken

Table 11. CRAY T94 Shared Module Ports and CPUs

Port	CPU
2	0
3	1
4	2
5	3

Table 12. CRAY T916 Shared Module Ports and CPUs

Shared Module	Port	CPU
0	0	0
0	1	1
0	2	2
0	3	3
0	4	4
0	5	5
0	6	6
0	7	7
0	10	10
0	11	11
0	12	12
0	13	13
0	14	14
0	15	15
0	16	16
0	17	17

Table 13. CRAY T932 Shared Module Ports and CPUs

Shared Module	Port	CPU
0	0	0
0	1	1
0	2	2
0	3	3
0	4	4
0	5	5
0	6	6
0	7	7
0	10	10
0	11	11
0	12	12
0	13	13
0	14	14
0	15	15
0	16	16
0	17	17
1	0	20
1	1	21
1	2	22
1	3	23
1	4	24
1	5	25
1	6	26
1	7	27
1	10	30
1	11	31
1	12	32
1	13	33
1	14	34
1	15	35
1	16	36
1	17	37

View –> I/Os

The View –> I/Os command, as shown at the left, enables you to configure the parameters for the IO modules. This command displays the SCE T90: I/O Configuration window:

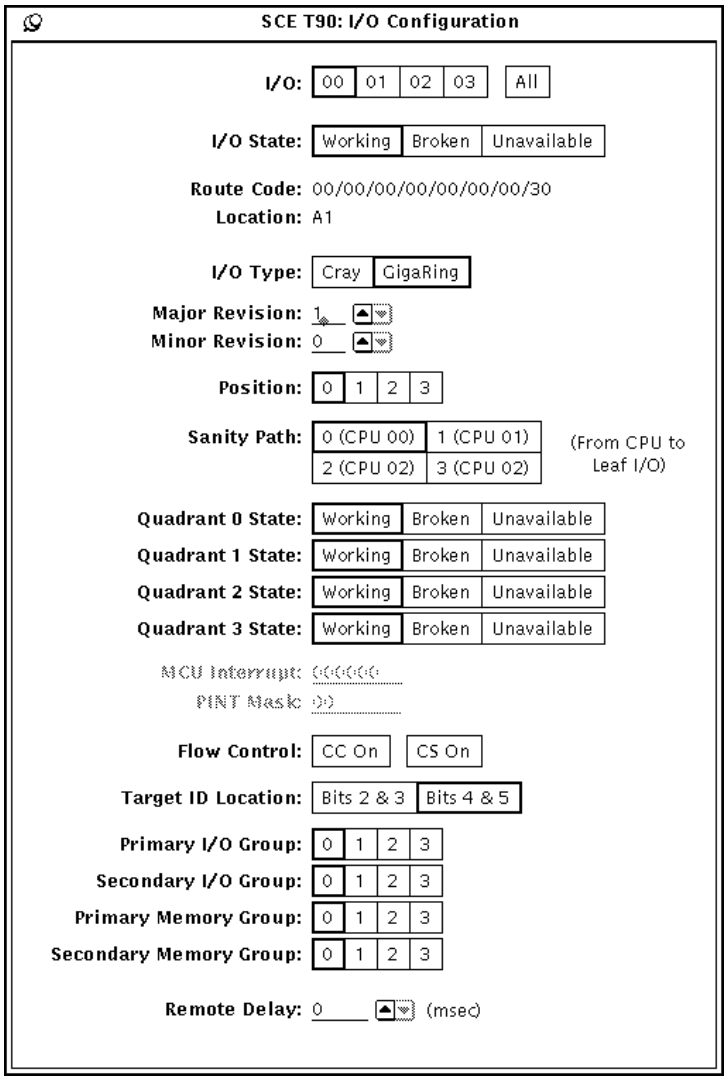


Table 14 describes the available I/O configuration parameters.

Table 14. I/O Parameters

Parameter	Description
I/O	Specifies the IO module for which you want to modify parameters
I/O State	Specifies whether the IO module is working, broken, or unavailable: Working: Indicates that the IO module is physically present and in working condition Broken: Indicates that the IO module is physically present but not in working condition Unavailable: Indicates that the IO module is not logically present
Route Code	Displays the route code used to access the selected IO module
Location	Displays the physical location of the IO module in the mainframe
I/O Type	Specifies the type of the selected IO module: The Cray setting specifies that the module is an IO01 module. The GigaRing setting specifies that the module is an IO02 module.
Major Revision	Specifies the major revision level of the selected IO module
Minor Revision	Specifies the minor revision level of the selected IO module
Position	Specifies the logical position of the selected IO module, which determines the range of I/O channel numbers for the module: This value biases the logical channel numbers. For example, if the module is configured as position 0, the module has VHISP channels 20, 21, 22, 23; if the module is configured as position 1, the module has VHISP channels 24, 25, 26, 27; etc. Set Position to 0 for a CRAY T94 mainframe. **NOTE:** This parameter is valid only for IO01 modules.
Sanity Path	Selects one of the four CP module pass-through ports through which the IO module sends data: This setting specifies the first local CP module to turn sanity on to the IO module. For larger CRAY T90 series mainframes, this is important for the second, third, and fourth IO modules because it establishes the route codes to these IO modules. (This setting specifies which path is used to configure the IO module and return the error logger data.) **NOTE:** This setting applies only to the leaf IO module in the sanity tree. For the root IO module, SCE enables sanity from the local CP modules to the IO module, but error logger data does not return on this path.
Quadrant 0 State	Specifies whether quadrant 0 is working, broken, or unavailable
Quadrant 1 State	Specifies whether quadrant 1 is working, broken, or unavailable

Table 14. I/O Parameters (continued)

Parameter	Description
Quadrant 2 State	Specifies whether quadrant 2 is working, broken, or unavailable
Quadrant 3 State	Specifies whether quadrant 3 is working, broken, or unavailable
MCU Interrupt	Specifies a value to load into the MCU interrupt register **NOTE:** This parameter is valid only for IO01 modules.
PINT Mask	Specifies a value used to mask the I/O group bits sent by a PINT channel operation: Any bit set to 0 in this mask prevents the PINT function from interrupting any CPU in the corresponding I/O channel group **NOTE:** This parameter is valid only for IO01 modules.
Flow Control	Selects the handshaking protocol that is used for congestion control (determines what hardware controls the number of packets on the GigaRing nodes): CS: Selects system congestion control CC: Selects client congestion control (Do not enable this setting because the hardware currently does not support client congestion control.) **NOTE:** This parameter is valid only for IO02 modules.
Target ID Location	Selects the bits in the GigaRing address that select the I/O group to use. **NOTE:** This parameter is valid only for IO02 modules.
Primary I/O Group	Selects the primary I/O group to which the GigaRing node belongs. (This parameter defaults to 0. Do not change this parameter.) **NOTE:** This parameter is valid only for IO02 modules.
Secondary I/O Group	Selects the secondary I/O group to which the GigaRing node belongs. (This parameter defaults to 0. Do not change this parameter.) **NOTE:** This parameter is valid only for IO02 modules.
Primary Memory Group	Selects the primary memory group to which the GigaRing node belongs. (This parameter defaults to 0. Do not change this parameter.) **NOTE:** This parameter is valid only for IO02 modules.

Table 14. I/O Parameters (continued)

Parameter	Description
Secondary Memory Group	Selects the secondary group to which the GigaRing node belongs. (This parameter defaults to 0. Do not change this parameter.) **NOTE:** This parameter is valid only for IO02 modules.
Remote Delay	Specifies the timeout delay (in milliseconds) on the DN option. **NOTE:** This parameter is valid only for IO02 modules.

View –> Networks

The View –> Networks command, as shown at the left, enables you to configure the network module parameters in CRAY T916 and CRAY T932 mainframes. This command displays the SCE T90: Network Configuration window:

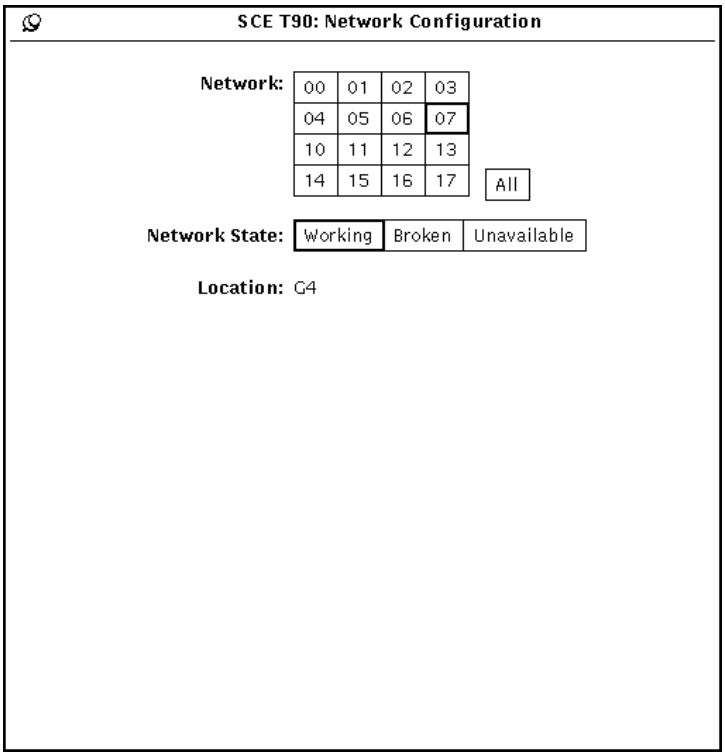


Table 15 describes the available network module parameters.

Table 15. Network Module Parameters

Parameter	Description
Network	Selects the module for which you want to modify the Network State parameter
Network State	Specifies whether the network module is working, broken, or unavailable: Working: Indicates that the network module is physically present and in working condition Broken: Indicates that the network module is physically present but not in working condition Unavailable: Indicates that the network module is not present
Location	Displays the physical location of the module in the mainframe

View –> Channels

The View –> Channels command, as shown at the left, enables you to configure the channel parameters. This command displays the SCE T90: Channel Configuration window, which contains the configuration parameters for the LOSP, HISP, and VHISP channels.

LOSP Channel Configuration Parameters

Click on Channel Type: LOSP to access the LOSP channel configuration parameters. The SCE T90: Channel Configuration window displays the LOSP parameters:

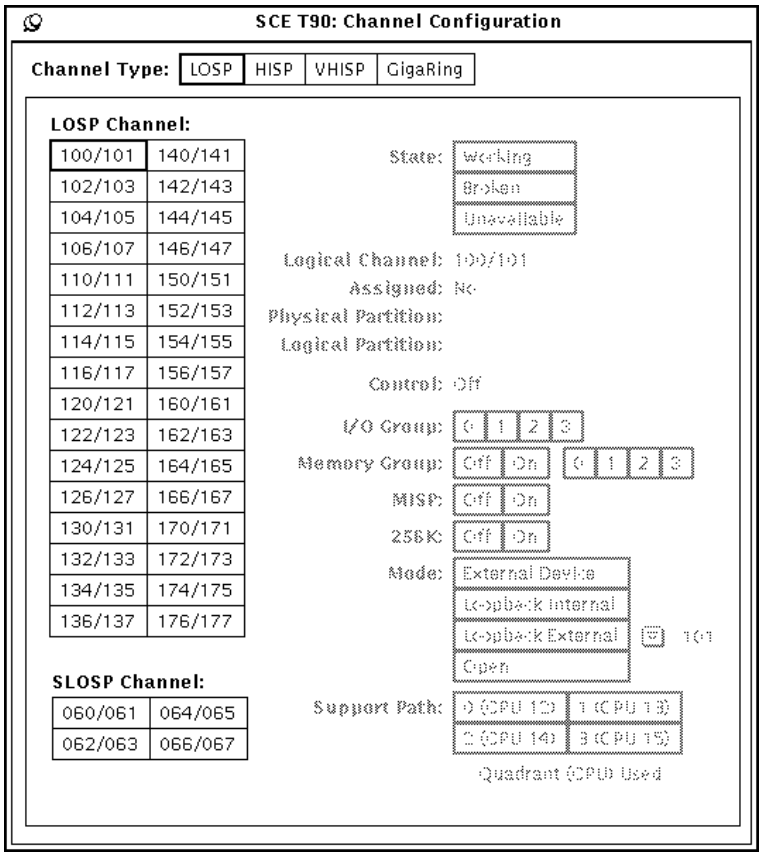


Table 16 describes the LOSP channel configuration parameters.

Table 16. LOSP Parameters

Parameter	Description
LOSP Channel	Selects the LOSP channel pair for which you want to modify parameters
SLOSP Channel	Selects the support LOSP (SLOSP) channel pair for which you want to modify parameters
State	Specifies whether the LOSP channel pair is working or broken
Logical Channel	Displays the logical channel numbers that SCE assigns to the LOSP channel pair
Assigned	Indicates whether or not the LOSP channel pair is assigned to a physical and logical partition
Physical Partition	Indicates the physical partition to which the LOSP channel pair is assigned
Logical Partition	Indicates the logical partition to which the LOSP channel pair is assigned
Control	Indicates whether the selected LOSP channel pair is On or Off: The channel pair is logically turned off if you do not include it in a configuration (when you do not select it in the SCE base window). The channel pair is logically turned on if you include it in a configuration (when you select it in the SCE base window).
I/O Group	Specifies the I/O group to which the LOSP channel pair is assigned: These channels are isolated to the CPUs within this I/O group, and these channels can interrupt only CPUs in the same I/O group. These channels can accept commands only from CPUs in the same I/O group.
Memory Group	Specifies the memory group to which the LOSP channel pair is assigned
MISP	Specifies whether or not the channel should operate in MISP mode
256K	Specifies whether or not the LOSP channel pair is in 256-Kword mode (used for concurrent maintenance): If the LOSP channel pair is in 256-Kword mode, data transfers are forced to the upper 256 Kwords of common memory.

Table 16. LOSP Parameters (continued)

Parameter	Description
Mode	Specifies which mode the channel pair is running: External Device indicates that the LOSP channel pair is connected to an external device Loopback Internal indicates that the LOSP channel pair is looped back inside the mainframe chassis (on the module) Loopback External indicates that the channel is looped back through an external cable on the bulkhead: choose the channel to which the current LOSP channel is looped back. Open indicates that a channel is open: For example, if channel 100 is looped back to channel 103, you should set channel pair 102/103 to open because channel 102 is not connected.
Support Path	Specifies the CP module through which the support channel data is routed (Valid for SLOSP channels only)

HISP Channel Configuration Parameters

Click on Channel Type: HISP to access the HISP channel configuration parameters. The SCE T90: Channel Configuration window displays the HISP parameters:

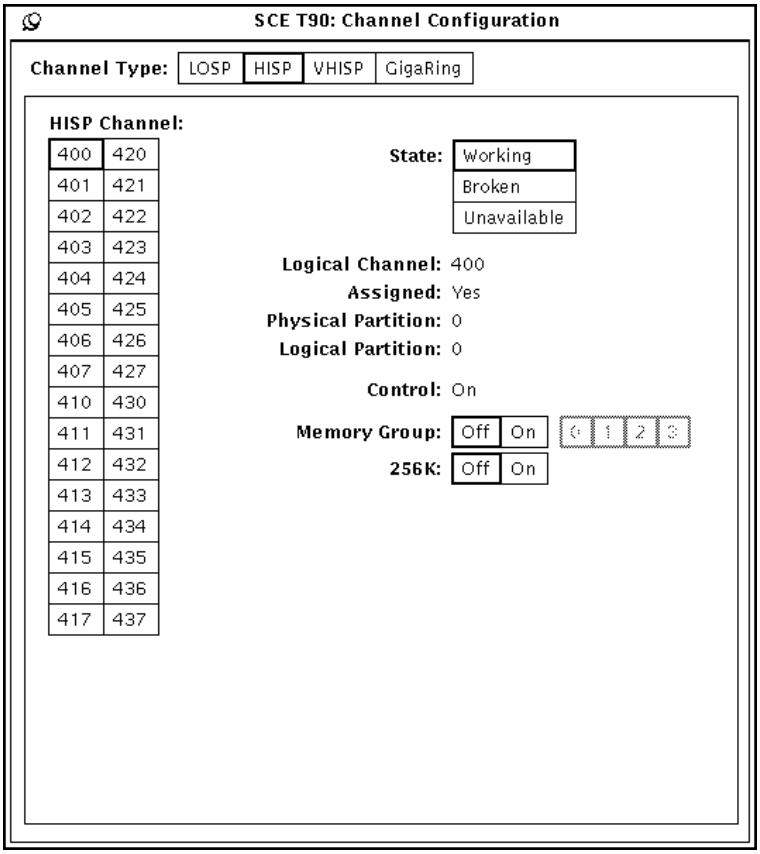


Table 17 describes the HISP channel configuration parameters.

Table 17. HISP Parameters

Parameter	Description
HISP Channel	Selects the HISP channel for which you want to modify parameters
State	Specifies whether the HISP channel is working or broken
Logical Channel	Displays the logical channel number that SCE assigns to the HISP channel
Assigned	Indicates whether or not the HISP channel is assigned to a physical partition and logical partition

Table 17. HISP Parameters (continued)

Parameter	Description
Physical Partition	Indicates the physical partition to which the HISP channel is assigned
Logical Partition	Indicates the logical partition to which the HISP channel is assigned
Control	Indicates whether the selected HISP channel is On or Off: The channel is logically turned off if you do not include it in a configuration (when you do not select it in the SCE base window). The channel is logically turned on if you include it in a configuration (when you select it in the SCE base window).
Memory Group	Specifies the memory group to which the HISP channel is assigned
256K	Specifies whether or not the HISP channel is in 256-Kword mode (used for concurrent maintenance): If the HISP channel is in 256-Kword mode, data transfers are forced to the upper 256 Kwords of common memory.

VHISP Channel Configuration Parameters

Click on Channel Type: VHISP to access the VHISP channel configuration parameters. The SCE T90: Channel Configuration window displays the VHISP parameters:

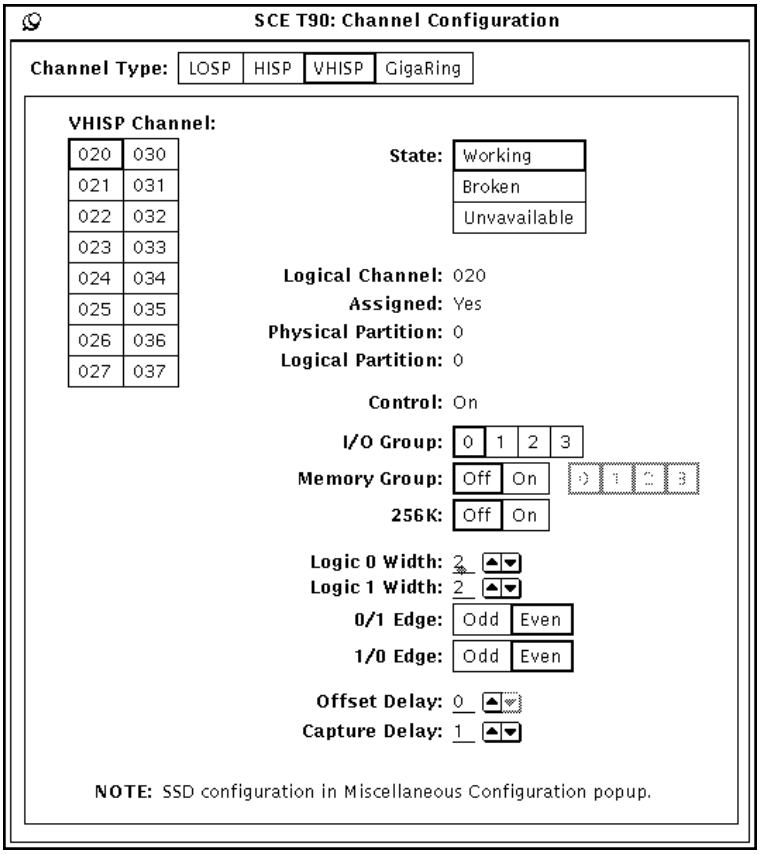


Table 18 describes the VHISP channel configuration parameters.

Table 18. VHISP Parameters

Parameter	Description
VHISP Channel	Selects the VHISP channel for which you want to modify parameters
State	Specifies whether or not the VHISP channel is working or broken
Logical Channel	Displays the logical channel number that SCE assigns to the VHISP channel
Assigned	Indicates whether or not the VHISP channel is assigned to a physical partition and a logical partition

Table 18. VHISP Parameters (continued)

Parameter	Description
Physical Partition	Indicates the physical partition to which the VHISP channel is assigned
Logical Partition	Indicates the logical partition to which the VHISP channel is assigned
Control	Indicates whether the selected VHISP channel is On or Off: The channel is logically turned off if you do not include it in a configuration (when you do not select it in the SCE base window). The channel is logically turned on if you include it in a configuration (when you select it in the SCE base window).
I/O Group	Specifies the I/O group to which the VHISP channel is assigned
Memory Group	Specifies the memory group to which the VHISP channel is assigned
256K	Specifies whether or not the VHISP channel is in 256-Kword mode (used for concurrent maintenance): If the VHISP channel is in 256-Kword mode, data transfers are forced to the upper 256 Kwords of common memory.
Logic 0 Width	Specifies the number of clock periods the VHISP clock is 0 **Do not change this parameter. If you change this parameter, the mainframe could become unusable.**
Logic 1 Width	Specifies the number of clock periods the VHISP clock is 1 **Do not change this parameter. If you change this parameter, the mainframe could become unusable.**
0/1 Edge	Specifies when the 0/1 transition in the generated wave occurs: If this parameter is set to odd, the 0/1 transition in the generated wave occurs on the 0/1 edge of the mainframe clock. If the parameter is set to even, the transition occurs 1/2-clock period earlier. **Do not change this parameter. If you change this parameter, the mainframe could become unusable.**
1/0 Edge	Specifies when the 1/0 transition in the generated wave occurs: If this parameter is set to odd, the 1/0 transition in the generated wave occurs on the 0/1 edge of the mainframe clock. If the parameter is set to even, the transition occurs 1/2-clock period earlier. **Do not change this parameter. If you change this parameter, the mainframe could become unusable.**

Table 18. VHISP Parameters (continued)

Parameter	Description
Offset Delay	Specifies a delay, in clock periods, for output data and control signals to be valid after the leading edge of the generated VHISP clock: This value is within a modulus of the generated VHISP clock period. **Do not change this parameter. If you change this parameter, the mainframe could become unusable.**
Capture Delay	Specifies a delay, in clock periods, after the leading edge of the input data ready strobe before data is captured in the channel input register: This delay is added to 4 clock periods. **Do not change this parameter. If you change this parameter, the mainframe could become unusable.**

GigaRing Channel Parameters

Click on Channel Type: GigaRing to access the GigaRing channel configuration parameters. The SCE T90: Channel Configuration window displays the GigaRing parameters:

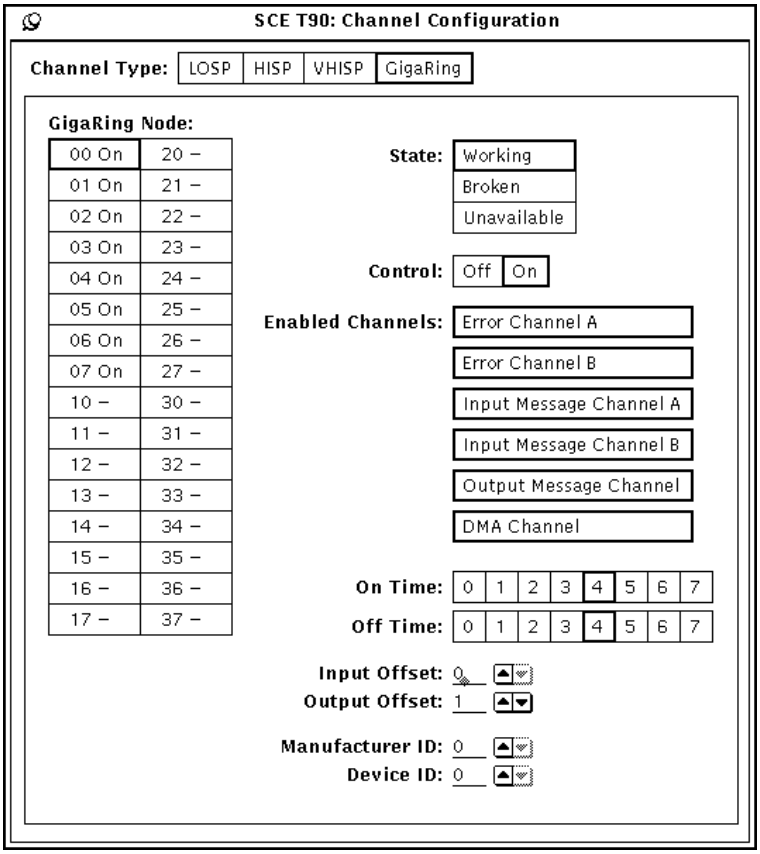


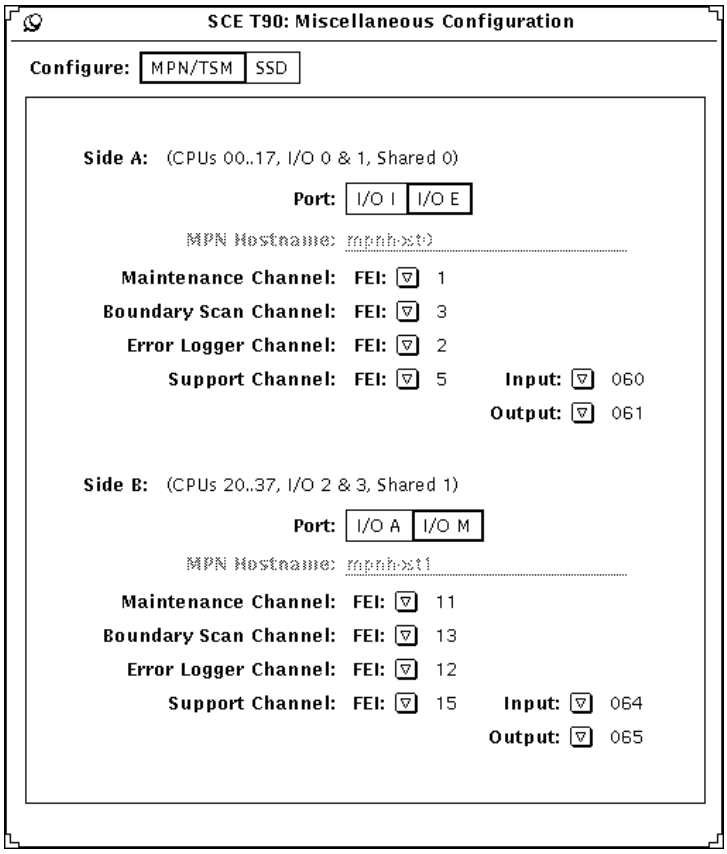
Table 19 describes the GigaRing channel configuration parameters.

Table 19. GigaRing Parameters

Parameter	Description
GigaRing Node	Selects the GigaRing node for which you want to modify parameters **NOTE:** The text that SCE displays in the GigaRing Node settings changes depending on the state of the node. SCE displays the following symbols in the GigaRing Node settings: **Symbol:** **Description**: On The node/channel is on. Off The node/channel is off. – The node/channel is not available.
State	Specifies that the GigaRing node is working, broken, or unavailable
Control	Specifies whether the GigaRing node is On or Off
Enabled Channels	Specifies which of the following channels are enabled (for diagnostic configuration): error channel A, error channel B, input message channel A, input message channel B, the output message channel, and the DMA Channel These channels are GigaRing subchannels that are used for diagnostic testing. By default, SCE enables these channels.
On Time	Specifies the number of phases that the GigaRing channel is on
Off Time	Specifies the number of phases that the GigaRing channel is off
Input Offset	Sets the input data offset register
Output Offset	Sets the output data offset register
Manufacturer ID	Sets the manufacturer ID register
Device ID	Sets the device ID register

View –> Miscellaneous

The View –> Miscellaneous command, as shown at the left, enables you to set miscellaneous parameters. This command displays the SCE T90: Miscellaneous Configuration window:



This window contains two sets of parameters: the CRAY T90 series support multiplexer (TSM) channel parameters and the SSD parameters. By default, this window displays the TSM channel parameters. Table 20 describes the TSM channel parameters.

NOTE: The Side A parameters are available for all mainframe configurations. The Side B parameters are available only for CRAY T932 mainframe configurations that include two physical partitions.

Table 20. TSM Channel Parameters

Parameter	Description
MPN Hostname	Specifies the hostname of the multipurpose node to which the SWS is connected in a GigaRing system **NOTE:** This parameter is valid only for systems that use IO02 modules.
Maintenance Channel †	Front-end interface (FEI) channel and maintenance port to which the maintenance channel is connected Choose the port from the corresponding Port menu. **NOTE:** This parameter is valid only for systems that use IO01 modules.
Boundary Scan Channel †	FEI channel and port to which the boundary scan channel is connected Choose the port from the corresponding Port menu. **NOTE:** This parameter is valid only for systems that use IO01 modules.
Error Logger Channel †	FEI channel to which the error logger channel is connected **NOTE:** This parameter is valid only for systems that use IO01 modules.
Support Channel †	FEI channel to which the support channel is connected and the channels used as input and output for the support channel **NOTE:** This parameter is valid only for systems that use IO01 modules.

† The `xcfg` program configures this channel. You should set this parameter to the value specified in `xcfg`. SCE provides this information to other software applications, so you must set this parameter correctly. If you need to change the configuration information for this channel, update this parameter and the corresponding parameter in `xcfg`.

Click on Configure: SSD to access the SSD parameters. The window changes to display the SSD parameters, as shown in the following snap.

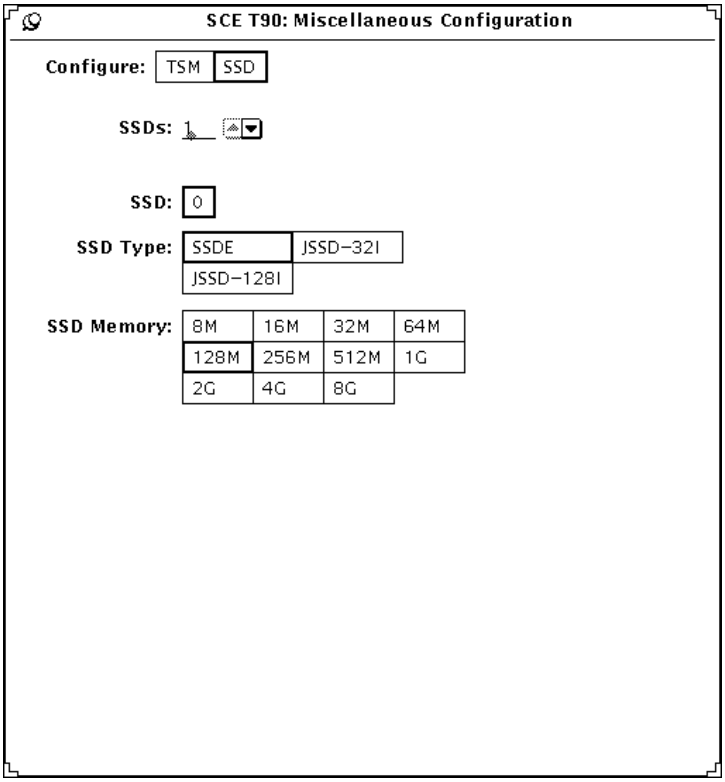


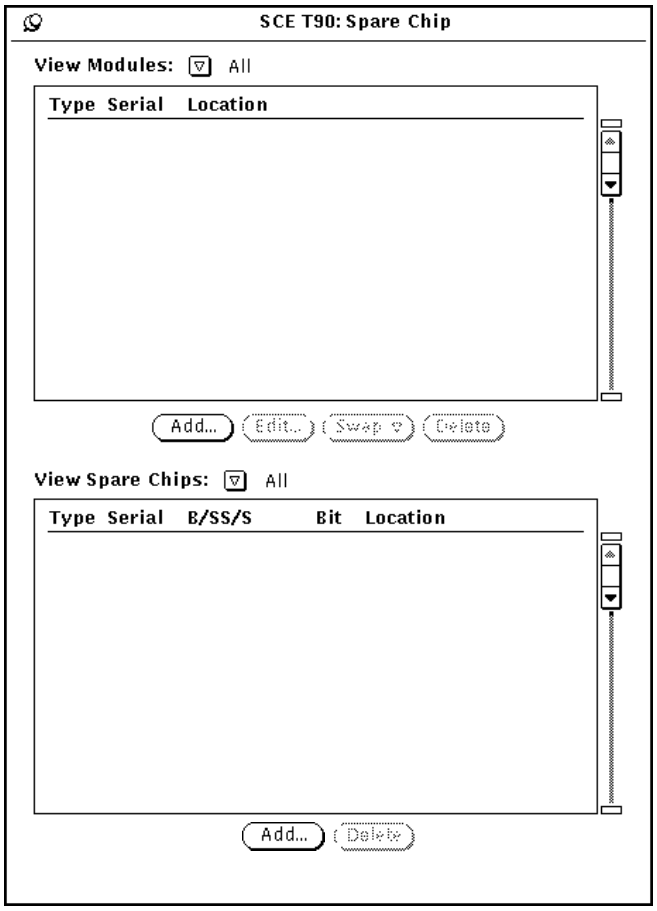
Table 21 describes the SSD parameters.

Table 21. SSD Parameters

Parameter	Description
Configure	Selects the miscellaneous parameters to configure: Currently, SSD parameters are the only miscellaneous parameters available.
SSDs	Specifies the number of SSDs connected to the mainframe: Currently, you can set this parameter to 0 or 1.
SSD	Specifies the SSD for which you want to change the parameters: Click on the number of the SSD for which you want to change the parameters. Currently, you can change parameters for SSD number 0 only (when the SSDs parameter is set to 1).
SSD Type	Specifies the type of SSD
SSD Memory	Specifies the memory size of the SSD

View –> Spare Chip

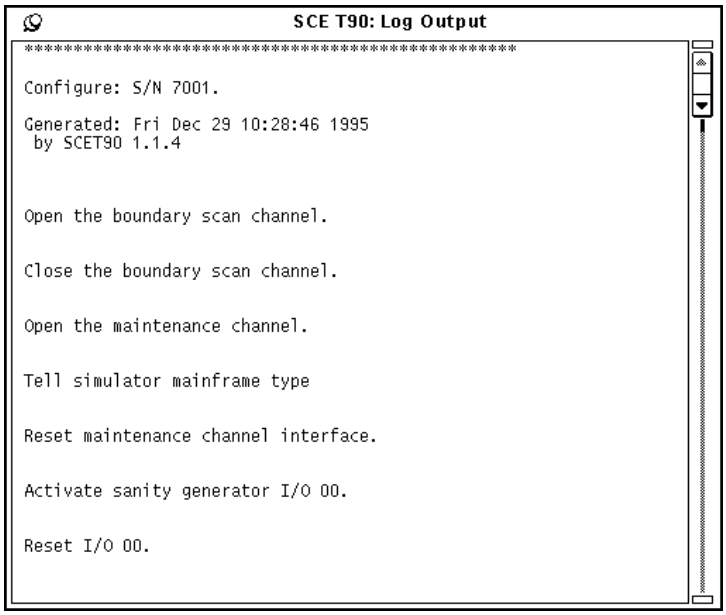
The View –> Spare Chip command, as shown at the left, enables you to control the spare chip functionality of the CRAY T90 series mainframe. This command displays the SCE T90: Spare Chip window:



For more information about using SCE to control the spare-chip functionality, refer to the *SCE User Guide*, publication number HDM-069-C.

View –> Log

The View –> Log command, as shown at the left, enables you to view a log from the last application of a configuration. This command displays the SCE T90: Log Output window:

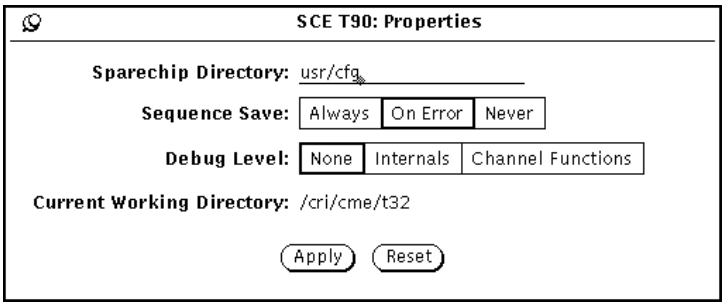


Edit –> Reset Configuration

The Edit –> Reset Configuration command, as shown at the left, resets all parameters to the last applied configuration.

Edit –> Properties

The Edit –> Properties command, as shown at the left, enables you to modify the way that SCE works. This command displays the SCE T90: Properties window:



The following subsections describe the properties that you can modify. Click on the Apply button to apply the new properties that you set. Click on the Reset button to reset the properties to the default values.

Sparechip Directory Field

In the Sparechip Directory field, enter the directory in which you want to store the spare-chip data.

Sequence Save Settings

Use the Sequence Save settings to enable the automatic save configuration function, which automatically saves the current sequence of maintenance channel functions in the `usr/seq/FASTT.`*serial#*`.Z` file. Then, you can use compose mode in MME environment 0 to view the sequence.

Click on Always to save the sequence every time SCE builds the sequence while asserting a configuration. Click on On Error to save the sequence only when SCE detects errors in the sequence while asserting the configuration. Click on Never to never save the sequence.

Debug Level Settings

Use the Debug Level settings to specify the type of information that SCE should display in the standard output window.

Click on [None] to indicate that SCE should not display information about the actions that it performs.

Click on [Internals] to have SCE display spare-chip information, client connections and disconnections, and information about other SCE internal functions.

NOTE: When you are using spare memory chips, you should set the Debug Level setting to [Internals]. This causes SCE to display the flaw map in the standard output window when you assert a configuration. By viewing the flaw map during an assertion, you will see any errors related to the spare chip assignment. For example, if you enter 2 flaws in the same stack (which invalidates the first flaw), SCE will not display an error until you assert the configuration.

Click on [Channel Functions] to have SCE display the functions that are sent to the mainframe and the information displayed for the [Internals] setting.

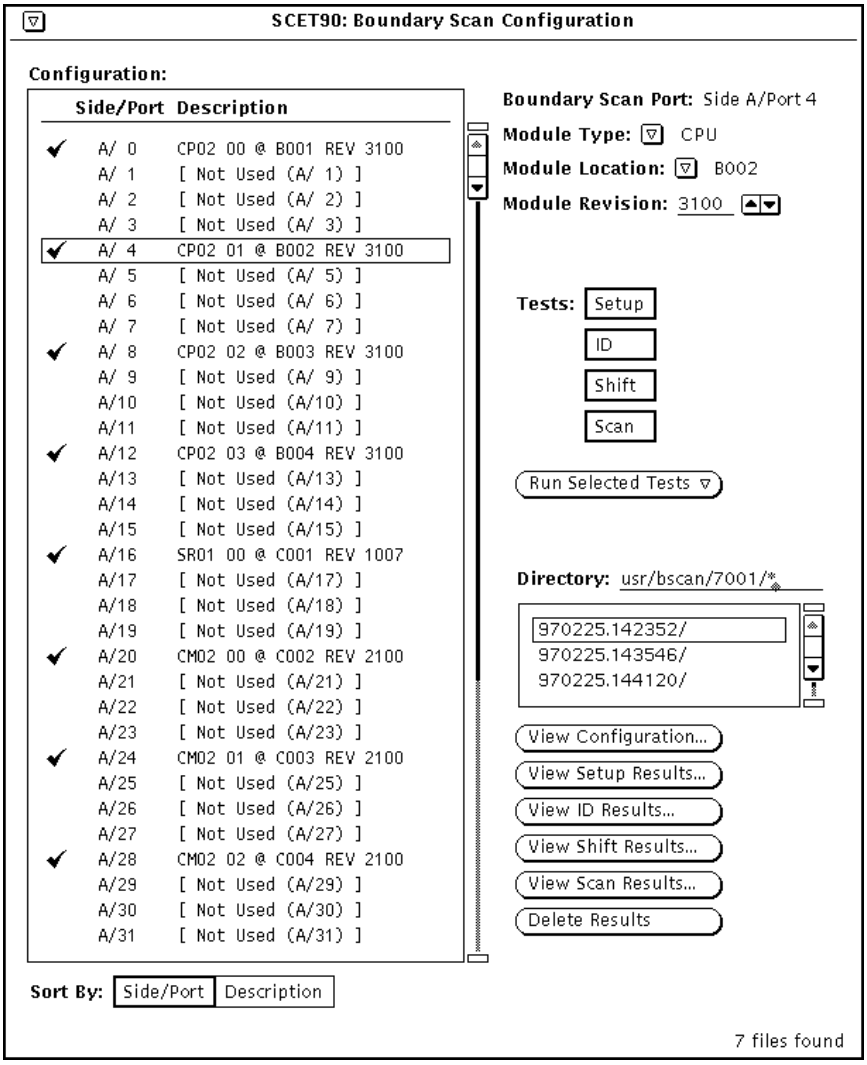
Current Working Directory

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

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

Utilities –> Boundary Scan

The Utilities –> Boundary Scan command, as shown at the left, provides a graphical user interface (GUI) that you can use to run the boundary scan system test. This command displays the SCET90: Boundary Scan Configuration window:



Perform the following procedure to run the boundary scan system test from this window:

1. In the scroll box on the left side of the window, select the modules that you want to test. A check mark (✓) next to an entry indicates that the module is selected. Click the ADJUST mouse button on an entry to select or deselect the entry.

   When you click the SELECT mouse button on an entry, the window shows the Boundary Scan Port, Module Type, Module Number, and Module Revision data for the entry. You can modify the Module Type, Module Number, and Module Revision data.

   NOTE: Use the Sort By settings (Side/Port and Description) to change the order in which the scroll box displays the module information.

2. Click on Tests: Setup, ID, Shift, or Scan to specify the tests that you want to run.

   Refer to the *Boundary Scan System Test* document, publication number HDM-117-B, for more information about the tests.

3. Choose **Run Selected Tests –> Physical Partition 0**, **Run Selected Tests –> Physical Partition 1**, or **Run Selected Tests –> Both Partitions** to run the tests.

   When you run a test, SCE creates a new directory in the `usr/bscan` directory structure to store the configuration file and the results from the test. The directory name includes the mainframe serial number and the date and time that you ran the test.

4. View the results. Table 22 describes the buttons that you can use to view the results.

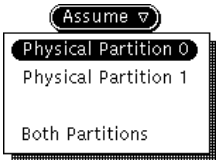
Table 22. Buttons That Display Boundary Scan Test Results

Button	Description
View Configuration...	Displays the configuration file that SCE used to perform the selected tests
View Setup Results...	Displays the results of a setup test
View ID Results...	Displays the results of an ID test
View Shift Results...	Displays the results of a shift test
View Scan Results...	Displays the results of a scan test

You can view the results from a previous boundary scan system test by clicking on the directory name in the scroll box and then clicking on one of the buttons that Table 22 describes.

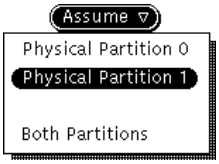
To delete the boundary scan test files that you no longer need, click on the directory name in the scroll box and then click on the Delete Results button.

Assume –> Physical Partition 0



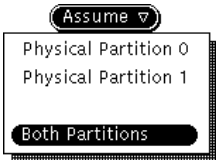
The Assume –> Physical Partition 0 command, as shown at the left, sends the current configuration data for physical partition 0 to all clients without updating the sanity tree.

Assume –> Physical Partition 1



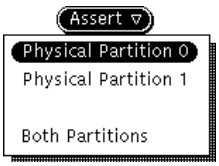
The Assume –> Physical Partition 1 command, as shown at the left, sends the current configuration data for physical partition 1 to all clients without updating the sanity tree. This command is available only when SCE contains a configuration for a CRAY T932 mainframe with two physical partitions.

Assume –> Both Partitions



The Assume –> Both Partitions command, as shown at the left, sends the current configuration data for both physical partitions to all clients without updating the sanity tree. This command is available only when SCE contains a configuration for a CRAY T932 mainframe with two physical partitions.

Assert –> Physical Partition 0



The Assert –> Physical Partition 0 command, as shown at the left, generates a new sanity tree for physical partition 0 and sends the configuration data to all clients.

SCE performs the following functions in physical partition 0 to assert the configuration:

1. SCE opens the boundary scan channel, performs a soft master clear on the boundary scan channel, and closes the boundary scan channel.

2. SCE turns on the sanity code generator on the IO module and verifies that the generator is on by using the logic monitor of the IO module to check test points. Then, SCE resets the IO configuration codes.

3. SCE turns on the sanity code from the IO module to the shared module and verifies the sanity code by checking test points on the IO module.

4. SCE configures the shared module. The shared module does not have configuration test points, so verification is not possible.

5. SCE turns on the sanity codes from the shared module to each of the CP modules configured in the system and verifies the sanity codes by checking sanity test points on the shared module.

6. SCE configures the CP modules and verifies the configurations by checking test points. SCE configures memory as part of the CP module configuration process.

7. SCE configures the shared ports.

8. SCE turns on the sanity code from each CP module to the IO module and verifies the sanity code by checking test points on the IO module.

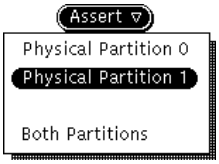
9. SCE configures the IO module and verifies the configuration by checking test points on the IO module.

10. SCE configures the LOSP, HISP, and VHISP channels and verifies the configurations by checking test points on the IO module.

NOTE: If SCE detects errors while attempting to verify a configuration, the window shown in Figure 4 appears. Click on View Log to view a log of the detected errors. Click on Continue to continue.

Figure 4. Configuration Verification Errors Detected

Assert –> Physical Partition 1



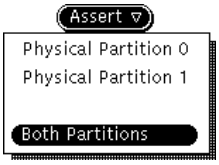
The Assert –> Physical Partition 1 command, as shown at the left, generates a new sanity tree for physical partition 1 and sends the configuration data to all clients. This command is available only when SCE contains a configuration for a CRAY T932 mainframe with two physical partitions.

SCE performs the following functions in physical partition 1 to assert the configuration:

1. SCE opens the boundary scan channel, performs a soft master clear on the boundary scan channel, and closes the boundary scan channel.
2. SCE turns on the sanity code generator on the IO module and verifies that the generator is on by using the logic monitor of the IO module to check test points. Then, SCE resets the IO configuration codes.
3. SCE turns on the sanity code from the IO module to the shared module and verifies the sanity code by checking test points on the IO module.
4. SCE configures the shared module. The shared module does not have configuration test points, so verification is not possible.
5. SCE turns on the sanity codes from the shared module to each of the CP modules configured in the system and verifies the sanity codes by checking sanity test points on the shared module.
6. SCE configures the CP modules and verifies the configurations by checking test points. SCE configures memory as part of the CP module configuration process.
7. SCE configures the shared ports.
8. SCE turns on the sanity code from each CP module to the IO module and verifies the sanity code by checking test points on the IO module.
9. SCE configures the IO module and verifies the configuration by checking test points on the IO module.
10. SCE configures the LOSP, HISP, and VHISP channels and verifies the configurations by checking test points on the IO module.

NOTE: If SCE detects errors while attempting to verify a configuration, the window shown in Figure 4 on page 66 appears. Click on View Log to view a log of the detected errors. Click on Continue to continue.

Assert –> Both Partitions



The Assert –> Both Partitions command, as shown at the left, generates a new sanity tree for each physical partition and sends the configuration data to all clients. This command is available only when SCE contains a configuration for a CRAY T932 mainframe with two physical partitions.

SCE performs the following functions in each physical partition to assert the configuration:

1. SCE opens the boundary scan channel, performs a soft master clear on the boundary scan channel, and closes the boundary scan channel.
2. SCE turns on the sanity code generator on the IO module and verifies that the generator is on by using the logic monitor of the IO module to check test points. Then, SCE resets the IO configuration codes.
3. SCE turns on the sanity code from the IO module to the shared module and verifies the sanity code by checking test points on the IO module.
4. SCE configures the shared module. The shared module does not have configuration test points, so verification is not possible.
5. SCE turns on the sanity codes from the shared module to each of the CP modules configured in the system and verifies the sanity codes by checking sanity test points on the shared module.
6. SCE configures the CP modules and verifies the configurations by checking test points. SCE configures memory as part of the CP module configuration process.
7. SCE configures the shared ports.
8. SCE turns on the sanity code from each CP module to the IO module and verifies the sanity code by checking test points on the IO module.
9. SCE configures the IO module and verifies the configuration by checking test points on the IO module.

10. SCE configures the LOSP, HISP, and VHISP channels and verifies the configurations by checking test points on the IO module.

NOTE: If SCE detects errors while attempting to verify a configuration, the window shown in Figure 4 on page 66 appears. Click on View Log to view a log of the detected errors. Click on Continue to continue.

Reset –> Maintenance Channel –> Physical Partition 0

The Reset –> Maintenance Channel –> Physical Partition 0 command, as shown at the left, resets the maintenance channel for physical partition 0 by resetting the front-end interface (FEI) for the channel.

Reset –> Maintenance Channel –> Physical Partition 1

The Reset –> Maintenance Channel –> Physical Partition 1 command, as shown at the left, resets the maintenance channel for physical partition 1 by resetting the FEI for the channel.

This command is available only when SCE contains a configuration for a CRAY T932 mainframe with two physical partitions.

Reset –> Error Logger Channel –> Physical Partition 0

This command is not implemented yet.

Reset –> Error Logger Channel –> Physical Partition 1

This command is not implemented yet.

Reset –> Boundary Scan Channel –> Physical Partition 0

The Reset –> Boundary Scan Channel –> Physical Partition 0 command, as shown at the left, resets the boundary scan channel for physical partition 0 by resetting the FEI for the channel.

Reset –> Boundary Scan Channel –> Physical Partition 1

The Reset –> Boundary Scan Channel –> Physical Partition 1 command, as shown at the left, resets the boundary scan channel for physical partition 1 by resetting the FEI for the channel.

This command is available only when SCE contains a configuration for a CRAY T932 mainframe with two physical partitions.

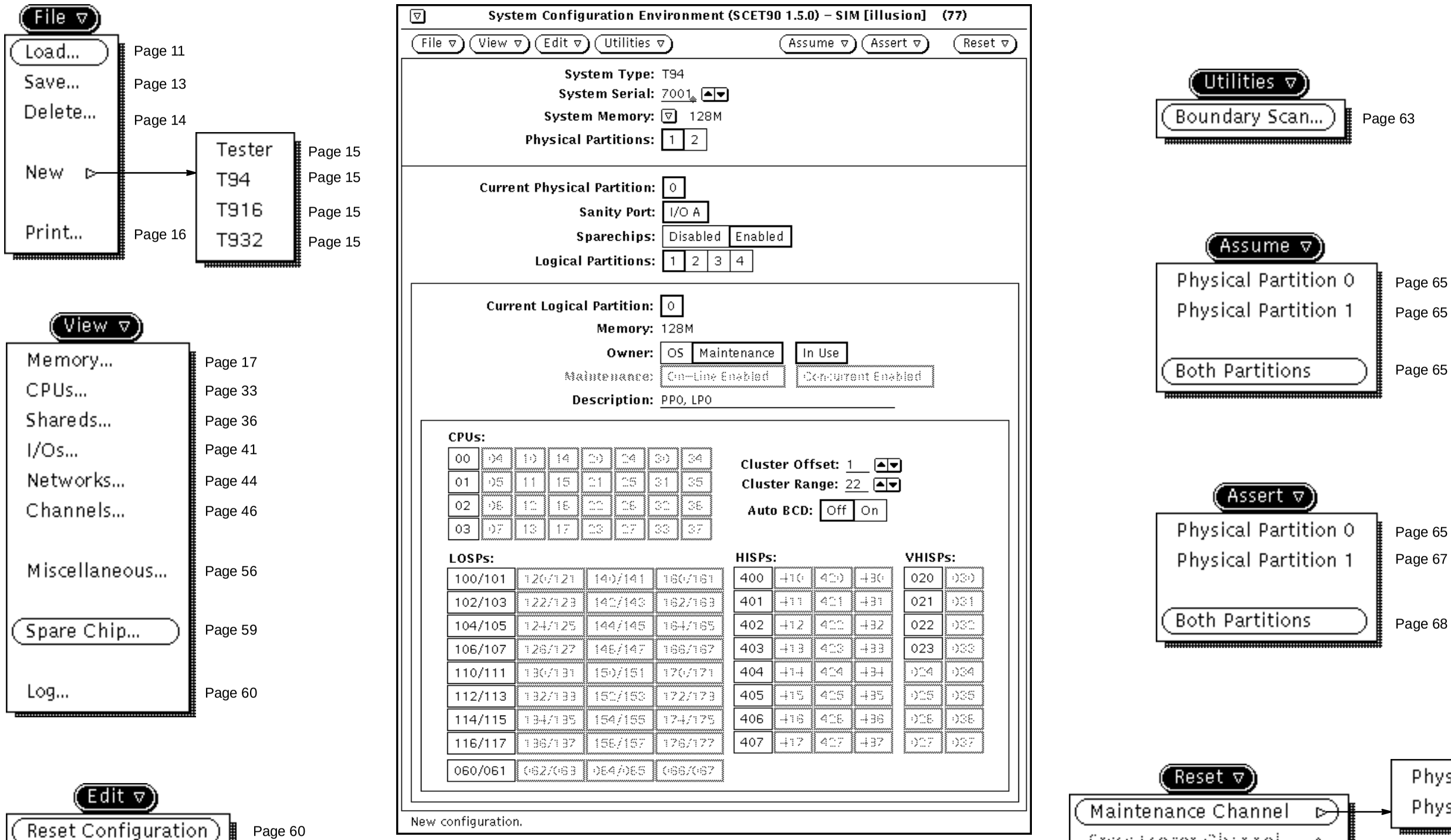


Figure 5. Menu Quick Reference