RS/6000

Diagnostic Information for Multiple Bus Systems

Version 4.3.3

IBM

Eighth Edition (September, 1999)

Contents

About This Book

The diagnostic information contained in this book is common to all multiple bus system units. Any information or diagnostic procedure that is specific to a certain system unit or device is in the service guide for that system unit or device.

Audience Description

This book is used for problem isolation and service procedures by a service representative specifically trained on the system unit being serviced.

How This Book is Organized

This book combines operating instructions for hardware diagnostic programs with Maintenance Analysis Procedures (MAPs), corresponding Service Request Numbers (SRNs) and three-digit display codes. The SRNs are, in turn, keyed to failing function codes (FFCs) and corresponding part numbers for specific machine types.

How to Use This Book

This book has a version number in the title. Always use the book version that is equal to or greater than the first two digits of your diagnostics version level. For example, if your diskette or CD-ROM version is 2.2 or 2.25, use version 2.2 or higher of this diagnostics information manual.

If you are analyzing a system problem, start with the Chapter 2, "Start of Call MAP" on page 2-1.

The SRN lists in Chapter 28, "Diagnostics Numbers and Location Codes" on page 28-1 direct you to the correct failing function code in "Failing Function Code List" on page 35-4. A cross reference by name, (adapter, device, etc.) to Failing Function Code can be found in Chapter 36, "FRU Cross-References" on page 36-1.

Refer to Chapter 24, "Installation Checkout" on page 24-1 if you are checking the system unit or device after installation.

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ISO 9000

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Online Publications

RS/6000 publications are available online. To access the online books, visit our Web site at: http://www.rs6000.ibm.com/resource/hardware_docs/

Related Publications

The following books are used to isolate a problem in the system.

- The *Problem Solving Guide and Reference* should be the first book used by the customer when a problem occurs during normal operation of the system. This book is used to isolate problems with the operating system, the application program, improper operator procedures, and hardware failures.

  If the problem is a hardware failure, the *Problem Solving Guide and Reference* sends the user to the "Hardware Problem Determination Procedure" in the installation and service guide for the system unit.

  The *Problem Solving Guide and Reference* is common to all system units.

- *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems* contains information about common device, adapter and cabling of the system unit.

- *Site and Hardware Planning Information* is a planning and site preparation guide.

- *The AIX Version 4.3 Installation Guide*, contains the instructions for installing the operating system.

- The installation and service guide for the system units or devices contains the installation instructions and the service procedures that are specific to that device or system unit. The service guide contains the following:

  - Reference information such as data flow, cable diagrams, and specifications

  - System unit or device specific Maintenance Analysis Procedures (MAPs) such as the power MAP

  - Removal and replacement procedures

  - The system unit or device installation procedures

  - Parts diagrams and parts lists.

CSU/CE Feature Installation

Attention: The following information indicates which features on various RS/6000 systems/models are intended to be installed by the customer and which features are to be installed by a Customer Engineer/Customer Service Representative (CE/CSR) as part of a Miscellaneous Equipment Specification (MES). This information is for RS/6000 systems/models available as of 09/99.

Notes:

1. The acronym CSU means Customer Set-Up.
2. For description of Feature Codes listed below see page xii.
3. 7013 J30 was announced as CSU. US practice has been for CE install.

Machine Type	Model	System CSU [1]	Features/Options [2]	
			CE Install	**Customer Install**
7006	(All)	Yes	All Features	None
7007	(All)	Yes	All Features	None
7008	(All)	Yes	All Features	None
7009	(All)	Yes	All Features	None
7010	(All)	Yes	All Features	None
7011	(All)	Yes	All Features	None
7012	(All)	Yes	All Features	None
7013	(All) [3]	No	All Features	None
7015	(All)	No	All Features	None
7017	(All)	No	All Features	None
7024	(All)	Yes	FC 6309	All Other Features
7025	(All)	Yes	FC 2856, 6309, 6549	All Other Features
7026	(All)	No	All Other Features	FC 2901, 2911, 2913, 3071, 3072, 3083
7027	(All)	No	All Other Features	FC 2616, 3080, 3083, 3084, 3090, 6142, 6147, 3133, 3134, 3137, 3138, 6153, 6294, 6295
7043	(All)	Yes	FC 2856 & 6309	All Other Features
7046	(All)	Yes	FC 2856 & 6309	All Other Features
7236	(All)	No	All Features	None
7248	(All)	Yes	FC 2856	All Other Features
7317	(All)	No	All Features	None
7318	(All)	No	All Features	None
7319	(All)	No	All Features	None

Feature Code	Feature Code Description
2616	Internal CD-ROM 2/4X/Tray Loading, 600KB/s
2856	PCI/Short/32bit/3.3 or 5V, 7250 Attach Adapter
2901	4.5GB F/W Ultra SCSI DASD Module
2911	9.1GB F/W Ultra SCSI DASD Module
2913	9.1GB F/W Ultra Module, 1" High
3071	4.5GB SSA DASD Module, 1" High
3072	9.1GB SSA DASD Module, 1.6" High
3080	4.5GB F/W SCSI DASD Module
3083	2.2GB F/W SCSI DASD Module
3084	4.5GB F/W SCSI DASD Module
3090	9.1GB F/W SCSI DASD Module
3133	Cable SCSI, 3M, to F/W MC SCSI Adapter (SE OR Diff)
3134	Cable SCSI, 6M, to F/W MC SCSI Adapter (SE OR Diff)
3137	Cable SCSI/DIFF, 12M, to F/W MC SCSI Adapter
3138	Cable SCSI/DIFF, 18M, to F/W MC SCSI Adapter
6142	Internal 4mm 4/8GB Tape
6147	8mm 5/10GB VDAT Tape
6153	4mm Tape Drive + Autoloader, Horrizintal
6294	Optional AC Power Supply for 7027 SCSI Drawers
6295	Optional bifurcated (Y-cable) Power Cord for 7027 SCSI Drawers
6309	Digital Trunk Quad Adapter, PCI/Long/32Bit/5V
6549	Additional Power Supply for 2nd and 3rd 6-Pks on Model F40

Chapter 1. Service Hints

Most hardware errors in the AIX error log contain *sysplanar0* as the resource name. The resource name identifies the resource that detected the error, it does not indicate that the resource is faulty or should be replaced. Use the resource name to determine the appropriate diagnostic to analyze the error.

Using the Maintenance Analysis Procedures

The maintenance analysis procedures (MAPs) provide the service representative a step-by-step procedure to analyze a problem with the system hardware. Hardware procedures are intended for use by a service representative trained on the system unit being serviced.

Some of the devices that are supported by the diagnostic programs also have their own maintenance documentation. You may want to use the maintenance documentation for that device before running the diagnostics for the system. Sometimes the maintenance package for an attached device allows the customer to continue operating the system while that device is being diagnosed. You can use the diagnostic programs to check the adapter to which that device is attached.

All problem analysis should begin with the Chapter 2, "Start of Call MAP" on page 2-1.

These MAPs may direct you to other MAPs or to other service information.

Be prepared to record code numbers and other data while using these MAPs.

SRN and Failing Function Code (FFC) discrepancies

SRNs listed in this book may not list the same FFCs and FRUs as reported by on-screen diagnostics. If the FRUs listed in this book do not solve the problem, check if any other FRUs are listed by on-screen diagnostics, and if so, try them.

Using Online Concurrent Mode Diagnostics

Certain devices can be tested by the diagnostic programs while the AIX® operating system is running. However, the diagnostic programs must have exclusive use of the device to be tested. For example, if a communications adapter is being used by a network program, the diagnostics display a message that the device is busy and cannot be tested until freed. However, error log analysis (ELA) can be performed at any time. ELA is only supported when running the Online Diagnostics and Problem Determination Mode is selected.

To run diagnostics in concurrent mode, take the following steps:

1. Log on as root or superuser (the person responsible for the system must do this).

2. Enter the **diag** command.

   Note: You must have either Root User authority or be a user with an administrative role of RunDiagnostics to run the diagnostics. If you are not a Root User, you must also have System as a primary group and a group set that includes Shutdown. Group Shutdown is necessary to perform the shutdown and reboot operations required for certain diagnostics. Users with the RunDiagnostics role can change the system configuration, update the microcode, and so forth. It is important that users in this role understand the responsibility it requires.

   To setup a non-Root User or a Customer Engineer (CE) or Service Support Representative (SSR) who can run diagnostics, create a unique user name using the System Management Tool (SMIT). The primary group of this user must be System. The user must also have the RunDiagnostics role and a group set that includes Shutdown.

3. Wait for DIAGNOSTIC OPERATING INSTRUCTIONS to be displayed.
   Attention: If concurrent mode diagnostics are being executed against a device, no attempt should be made to switch to another window; to do so causes unpredictable results. If it is necessary to switch to another window, diagnostics should first be exited by using the F3 key.

4. When you have completed testing, use the F3 key to return to DIAGNOSTIC OPERATING INSTRUCTIONS. Then press F3 again to return to the AIX operating system prompt. If you changed the state of any device prior to testing, be sure to return that device to its original state.

5. Press the Ctrl-D key sequence to log off from root or superuser.

Running Diagnostic Programs from CD-ROM

Consider the following when you run diagnostic programs from the CD-ROM disc:

- The diagnostic disc must remain in the CD-ROM drive for the entire time diagnostics are executing.

- The diagnostic CD-ROM disc cannot be ejected from the CD-ROM drive once the diagnostic programs have loaded. The disc can only be ejected after the system has been turned off and then turned on (standalone mode) or after the diagnostics program has terminated (concurrent mode). The disc must be ejected prior the system attempting to load the diagnostic programs again.

- The CD-ROM drive from which diagnostics were loaded cannot be tested.

- The SCSI adapter (or circuitry) controlling the CD-ROM drive from which diagnostics were loaded cannot be tested.

- Diagnostics from CD-ROM are not supported on systems with less than 16MB of installed memory.

To run diagnostics from a CD-ROM drive, do the following:

1. Remove any diskette from the diskette drive.

2. Turn on the CD-ROM drive if it is an externally attached device.

3. Load the diagnostic disc into the CD-ROM drive.

4. If you have a graphics adapter installed in the system that is supported only on a supplemental diagnostic diskette, insert that diskette into the diskette drive.

5. Set the key mode switch to the Service position.

6. Turn on the system unit.

Multiple SRN or Error Code Reporting and Handling

The AIX Diagnostics can generate SRNs using hardware tests or from error log analysis. The diagnostics also report platform-unique 8-digit error codes detected and logged during POST, and device-unique error codes generated by the device diagnostics.

When you run the diagnostics, more than one SRN or error code may be reported. This may occur when there are multiple entries in the error log or when the diagnostic tests detect multiple hardware problems.

The SRNs are normally displayed in the order that the devices are tested and the error log entries analyzed. Error log entries logged against a single device type are displayed in descending order with the newest entry first.

SRNs with a source code of F do not provide maximum isolation. Online diagnostics must be run in Advanced and Problem Determination Mode to obtain maximum isolation. SRNs with a source code of G are the result of an error log entry.

Handle multiple SRNs and error codes in the following order:

1. Multiple 8-digit error codes may not be listed in the proper order. See the "Error Code to FRU Index" in the system service guide to identify those error codes requiring special handling.
2. SRNs in the range of A01-xxx to A1D-xxx.
3. SRNs with a source code other than F or G.

4. SRNs with a source code of F. Online diagnostics must be run in Advanced and Problem Determination Mode to obtain maximum isolation.
5. SRNs with a source code of G.
6. Device SRNs and error codes (5-digit SRNs).

If there are multiple SRNs within a group, it does not matter which SRN is handled first.

Chapter 2. Start of Call MAP

This MAP is the starting point for a service call.

If you are servicing a SP system, go to the Start of Call MAP 100 in the *SP Maintenance Information Manual*.

Note: Do not run the diagnostics until instructed.

The Fast Path MAP in Chapter 3 is provided to help you quickly resolve a problem. Use the Fast Path MAP when you know or have been provided a symptom.

Use the following table to help determine your next step.

Symptom	Action
You do not have a problem or symptom.	Go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 in this manual.
You have been provided a problem or symptom.	Go to the Chapter 3, "Fast Path MAP" on page 3-1 in this manual.

Note: Some of the devices that are supported by the diagnostic programs also have their own maintenance documentation. You may want to use the maintenance documentation for that device before running the diagnostics for the system. Sometimes the maintenance package for the attached device allows the customer to continue operating the system while that device is being diagnosed. You can use the diagnostic programs to check the adapter to which that device is attached.

Chapter 3. Fast Path MAP

In most cases these procedures directs you to run the Online Diagnostics. If the Online Diagnostics are not installed, the Standalone Diagnostic should be used.

Notes:

1. If the actions listed for a specific symptom do not lead to a problem resolution, refer to MAP 0020.

2. If you replace a part, use Chapter 22, "MAP 0410: Repair Checkout" on page 22-1 to verify the fix.

3. If you are directed to the system units service guide use the MAPs in the service guide to complete the repair. If none of the MAPs in the service guide have you verify the fix return to this book and use Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

4. If you are servicing a SP system, go to the Start of Call MAP 100 in the *SP Maintenance Information Manual*.

When possible run the Online Diagnostics in Service Mode unless directed otherwise.

Fast Path MAP Table of Contents

Fast Path Table

Symptoms	What You Should Do
Eight-Digit Error Codes	
You have an eight-digit error code.	Go to the "Error Code to FRU Index" in the service guide, read the notes on the first page, and do the listed action for the eight-digit error code.
Six-Digit Error Codes Containing No Dash (-)	
You have a six-digit error code (like an SRN) containing no dash (-) between the third and fourth digit.	Go to the "Error Code to FRU Index" in the service guide, read the notes at the beginning of this section, and do the listed action for the six-digit error code.
Flashing 888 in Operator Panel Display	
A flashing 888 in the operator panel display.	Go to MAP 0070.
The System Stops or Hangs With a Value(s) Displayed in the Operator Panel Display	
The operator panel display alternates between two codes that begin with the letter E.	Go to the Entry MAP in the service guide.
The system stopped with a 4-digit code that begins with a digit other than 0 (zero) displayed in the operator panel display.	Go to the Entry MAP in the service guide.
The system stopped with a 4-digit code that begins with 0 (zero) displayed in the operator panel display.	Record SRN 101-xxx (where xxx is the last three digits of the 4-digit code displayed). The physical location code, AIX location code, or device name displays on system units with a multiple-line operator panel display if AIX 4.3.3 or later is installed. If a physical location code or an AIX location code is displayed, record it, then find the SRN in the SRN List and do the indicated action.
The system stopped with a 3-digit code that begins with either A or F displayed in the operator panel display.	Go to the Entry MAP in the service guide.
The system stopped with a 3-digit code that begins with a digit or character other than A or F in the operator panel display.	Record SRN 101-xxx (where xxx is the three digits of the code displayed). Find the SRN in the SRN List and do the indicated action.

Symptoms	What You Should Do
Diagnostic SRNs	
An SRN is displayed when running diagnostics.	1. Record the SRN and location code.
	2. Look up the SRN in the SRN Listing and do the listed action.
You have an SRN.	Look up the SRN in the SRN Listing and do the listed action.
	Note: Customer provided SRNs should be verified. This can be done by using the Display Previous Results Service Aid or by running the diagnostics again.
System Automatically Reboots	
System automatically reboots.	1. Turn the system unit's power off.
	2. Turn the system unit's power on and boot from a removable media, disk, or LAN in service mode.
	3. Run the Base System or the System Planar diagnostics in Problem Determination Mode.
	4. Run System Checkout or select the All Resources option from the Resource Selection menu to test all resources.
	5. If an SRN is not displayed, suspect a power supply or power source problem.
System does not Reboot When Reset Button is Pushed	
System does not reboot (reset) when the reset button is pushed.	Record SRN 111-999. Find the SRN in the SRN listing and do the indicated action.
ASYNC Communication Problems	
You suspect an Async communication problem.	1. Run the Advanced Async Diagnostics on the ports you are having problems with. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action.
	2. If you suspect a problem with the Async Concentrator, Remote Async Node, etc. refer to the documentation in *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems* on these devices and perform any tests or checks listed.

Symptoms	What You Should Do
SCSI Adapter Problems	
You suspect a SCSI adapter problem. SCSI Adapter Diagnostics can only be run on a SCSI adapter that was not used for booting. The POST tests any SCSI Adapter before attempting to use it for booting. If the system was able to boot using a SCSI adapter, then the adapter is most likely good. SCSI adapters problems are also logged into the error log and are analyzed when the Online SCSI Diagnostics are run in Problem Determination Mode. Problems are reported if the number of errors are above defined thresholds.	1. Run the Online SCSI Adapter Diagnostic in Problem Determination Mode. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action. 2. Use Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1. **Note:** If you cannot load diagnostics (standalone or online) go to MAP 1540 in the service guide.
SCSI Bus Problems	
You suspect a SCSI bus problem.	1. Use Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1. 2. Use the SCSI Bus Service Aid to exercise and test the SCSI Bus.

Symptoms	What You Should Do
Tape Drive Problems	
You suspect a tape drive problem.	1. Refer to the tape drive documentation and clean the tape drive.
	2. Refer to the tape documentation and do any listed problem determination procedures.
	3. Run the Online Advanced Tape Diagnostics in Problem Determination Mode. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action.
	4. Use the Backup/Restore Media Service Aid to exercise and test the drive and media.
	5. Use Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
	6. Use the SCSI Bus Service Aid to exercise and test the SCSI bus.
	7. Refer to the device section of *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems* for additional information and Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 of this manual for problem determination procedures.
	Note: Tape cleaning and tape problem determination is normally either in the tape drive operator guide or the system operator guide.

Symptoms	What You Should Do
CD-ROM Drive Problems	
You suspect a CD-ROM drive problem.	1. Refer to the CD-ROM documentation and do any listed problem determination procedures. 2. Run the Online Advanced CD-ROM Diagnostics in Problem Determination Mode. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action. 3. Use Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1. 4. Use the SCSI Bus Service Aid to exercise and test the SCSI Bus. 5. Refer to the device section of *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems* for additional information and Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 of this manual for problem determination procedures. **Note:** CD-ROM problem determination is usually in the CD-ROM drive operator guide or the system operator guide.
SCSI Disk Drive Problems	
You suspect a disk drive problem. Disk problems are logged in the error log and are analyzed when the Online Disk Diagnostics are run in Problem Determination Mode. Problems are reported if the number of errors are above defined thresholds. If the diagnostics are booted from a disk, then the diagnostics can only be run on those drives that are not part of the root volume group. However, error log analysis is run if these drives are selected. To run the disk diagnostic tests on disks that are part of the root volume group, the Standalone Diagnostics must be used.	1. Run the Online Advanced Disk Diagnostics in Problem Determination Mode. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action. 2. Run Standalone Disk Diagnostics. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action. 3. Use the Certify Disk Service Aid to verify that the disk can be read. 4. Use Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1. 5. Use the SCSI Bus Service Aid to exercise and test the SCSI Bus. 6. Refer to the device section of *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems* for additional information and Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 of this manual for problem determination procedures.

Symptoms	What You Should Do
Diskette Drive Problems	
You suspect a diskette drive problem.	1. Run the diskette drive diagnostics. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action. 2. Use the Diskette Media Service Aid to test the diskette media. 3. Use the Backup/Restore Media Service Aid to exercise and test the drive and media.
Token-Ring Problems	
You suspect a Token-Ring Adapter or network problem.	1. Run the Online Advanced Token-Ring Diagnostics in Problem Determination Mode. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action. 2. Use the ping command to exercise and test the network. 3. Refer to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 for additional information and problem determination procedures.
Ethernet Problems	
You suspect an Ethernet Adapter or network problem.	1. Run the Online Advanced Ethernet Diagnostics in Problem Determination Mode. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action. 2. Use the ping command to exercise and test the network. 3. Refer to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 for additional information and problem determination procedures.
Display Problems	
You suspect a graphics display problem.	1. Go to the Problem Determination Procedures for the display. 2. Run diagnostics on the adapter that the display is attached. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action. 3. Refer to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 for additional information and problem determination procedures.

Symptoms	What You Should Do
Keyboard or Mouse	
You suspect a keyboard or mouse problem.	Run the device diagnostics. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action.
	If you are unable to run diagnostics because the system does not respond to the keyboard, replace the keyboard or system planar.
	Note: If the problem is with the keyboard it could be caused by the mouse device. To check, unplug the mouse and then recheck the keyboard. If the keyboard works, replace the mouse.
Printer and TTY Problems	
You suspect a TTY terminal or printer problem.	1. Go to problem determination procedures for the printer or terminal.
	2. Check the port that the device is attached to by running diagnostics on the port. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action.
	3. Use the "Testing the Line Printer" procedure in Chapter 25, "General Diagnostic Information" on page 25-1 to test the connection to the printer. If a problem exists replace the following in the order listed:
	a. Device cable
	b. Port the printer or terminal is connected to.
Other Adapter Problems	
You suspect a problem on another adapter that is not listed above.	1. Run the Online Advanced Diagnostics in Problem Determination on the adapter you suspect. If an SRN is displayed, look up the SRN in the SRN Listing and do the listed action.
	2. Refer to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 for additional information and problem determination procedures.

Symptoms	What You Should Do
System Messages	
A System Message is displayed.	1. Some messages give instructions on how to resolve the problem. If the message describes the cause of the problem, attempt to correct it. If you are not given enough information to correct the problem, refer to the Message Index to determine the nature and scope of the message. 2. Look for another symptom to use.
Processor and Memory Problems	
You suspect a memory problem. Processor and memory tests are only done during POST. Only problems that prevent the system from booting are reported during POST. All other problems are logged and analyzed when either the Base System Diagnostics or the System Planar Diagnostics are run. System Crashes are logged in the AIX Error Log. The Base System Diagnostic or the System Planar Diagnostics must be run in Problem Determination Mode to analyze the error.	1. Power off the system. 2. Turn the system unit's power on, load the Online Diagnostics in Service Mode. 3. Run either the Base System Diagnostic or the memory and System Planar diagnostics in Problem Determination Mode. 4. If an SRN is displayed, record the SRN and location code. 5. Look up the SRN in the SRN Listing and do the listed action.
Service Processor Problems	
• Modem does not dial out or answer calls using Service Processor functions. • Service Processor menus do not display or display incorrectly on a TTY terminal. • Cannot input to the Service Processor menus using a TTY keyboard.	Remove the Service Processor and then run advanced diagnostics on the built-in serial ports. If an SRN is reported, lookup the SRN and do the indicated action. If no SRN is reported, replace the Service Processor. If the problem remains after replacing the Service Processor replace the system planar.

Symptoms	What You Should Do
Degraded Performance and/or Installed Memory Mismatch	
Degraded Performance and/or Installed Memory Mismatch	Degraded Performance can be caused by memory problems that cause a reduction in the size of available memory. To verify that the system detected the full complement of installed memory use one of the following methods based on the level of AIX being used. • AIX 4.2.1 and Higher From the Task Selection Menu select the 'Display Resource Attribute'. From the Resource Selection menu select one of the listed memory resources. Verify the amount of memory listed matches the amount actually installed. • All Other AIX Versions Use the Display or Change Configuration Service Aid to verify that all installed memory is being detected. The Display Vital Product Data (VPD) option shows the amount of memory that is installed. If an installed memory module or card does not appear or appears as the wrong size, replace it. If the problem is not corrected, replace the card or board that contains the missing memory.
Missing Resources	
Missing Resources	**Note:** ISA resources must be configured before they appear in the configuration. The ISA Adapter Configuration Service Aid is used to configure ISA adapter for Standalone Diagnostics. SMIT can be used to configure during Online Diagnostics. Use the 'Display or Change Configuration or Vital Product Data (VPD) Service Aid' to verify that the resource was configured. If an installed resource does not appear, check that it is installed correctly. If you do not find a problem go to MAP 0020.

Symptoms	What You Should Do
System Hangs or Loops When Running the OS or Diagnostics	
The system hangs in the same application.	Suspect the application. To check the system: 1. Power off the system. 2. Turn the system unit's power on, load the Online Diagnostics in Service Mode. 3. Run the Base System or the System Planar diagnostics in Problem Determination Mode. 4. Run System Checkout or select the All Resources option from the Resource Selection menu to test all resources. 5. If an SRN is displayed at anytime, record the SRN and location code. 6. Look up the SRN in the SRN Listing and do the listed action.
The system hangs in different applications.	1. Power off the system. 2. Turn the system unit's power on, load the Online Diagnostics in Service Mode. 3. Run the Base System or the System Planar diagnostics in Problem Determination Mode. 4. Run System Checkout or select the All Resources option from the Resource Selection menu to test all resources. 5. If an SRN is displayed at anytime, record the SRN and location code. 6. Look up the SRN in the SRN Listing and do the listed action.
The system hangs when running diagnostics.	Replace the resource that is being tested.
You Cannot Find the Symptom in This Table	
All other problems.	Go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1.
Exchanged FRUs Did Not Fix the Problem	
A FRU or FRUs you exchanged did not fix the problem.	Go to Chapter 5, "MAP 0030: Additional Problem Determination" on page 5-1
RAID Problems	
You suspect a problem with a RAID.	Refer to the service guide for the RAID.

Symptoms	What You Should Do
System Date and Time Problems	
• The system does not retain the calendar date after the system has been booted. • The system does not retain the time of day after the system has been booted. **Note:** It is normal for the system time of day to gain or lose a few seconds each month.	1. Run the Base System or System Planar diagnostics in Problem Determination mode. If an SRN is reported, record the SRN and location code information and do the indicated action for the SRN. 2. Replace the TOD (MVRAM) battery. If this does not fix the problem replace the system planar.
SSA Problems	
You suspect a SSA problem.	A potential problem with a SSA adapter exists. If the system has external SSA drives refer to the *SSA Adapters User's Guide and Maintenance Information* or the service guide for your disk subsystem. If the system has internal SSA drives, go to the SSA MAP in either the system unit's service guide or user's guide.
Power Indicator Light is Not On	
A drawer power indicator is not on.	Refer to the Entry MAP section of the Maintenance Analysis Procedures (MAPs) chapter of the S70 service manual.
System Power Problem	
The system does not power on.	Go to the Entry MAP in the service guide.
The system powers on when it should not.	Go to the Entry MAP in the service guide.

Chapter 4. MAP 0020: Problem Determination Procedure

Purpose of This MAP

Use this MAP to get a service request number (SRN) if you were not provided with one by the customer or when directed by the MAPs.

If you are unable to power the system on, refer to the MAP 1520 in the system's service guide.

Note: If this system is connected to another system, refer to Chapter 26, "Using the Standalone and Online Diagnostics" on page 26-1 for pertinent information before proceeding further. If you have not done so already, read the section "Diagnostic Version 4.x.x Considerations" in Chapter 26, "Using the Standalone and Online Diagnostics" on page 26-1 before proceeding.

Step 0020-1

Visually check the system for obvious problems such as unplugged power cables or external devices powered off.

Did you find an obvious problem?

NO Go to "Step 0020-2."

YES Fix the problem; then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0020-2

Are the Online Diagnostics installed?

Note: If you are uncertain how to answer the above question, answer it yes.

NO If the operating system is running, perform the operating system's shutdown procedure (get help if needed). Go to "Step 0020-4" on page 4-3.

YES Go to "Step 0020-3" on page 4-2.

Step 0020-3

Note: When possible, run Online Diagnostics in Service Mode. Online diagnostics perform additional functions, compared to Standalone Diagnostics.

If you are not able to run Online Diagnostics go to "Step 0020-4" on page 4-3. Unless the system (client) is set up to boot from a server over a network, the server cannot be used to load Online Diagnostics on the system (client).

Online Diagnostics in Concurrent Mode should only be run when the customer does not let you power off the system unit. To run Online Diagnostics in Service Mode go to substep 5, otherwise do substeps 1 through 4.

1. Log on as root or superuser. (Ask the customer for the password if needed.)

2. Enter the **diag -a** command to check the system for missing resources. Follow any instructions that may be displayed. If an SRN is displayed record it and go to "Step 0020-12" on page 4-9. If no instructions display it means that no missing resources were detected. Proceed to the next substep to run concurrent diagnostics.

3. Enter the **diag** command.

4. Go to "Step 0020-5" on page 4-3.

5. If the operating system is running, perform the operating system's shutdown procedure (get help if needed).

6. Turn the system's power off and wait 45 seconds before proceeding.

7. Turn the system's power on.

8. Load the Online Diagnostics in Service Mode (if needed, refer to the service guide).

9. Wait until the Diagnostic Operating Instructions display or the system appears to have stopped.

Are the Diagnostic Operating Instructions Displayed?

NO   Go to "Step 0020-13" on page 4-10.

YES   Go to "Step 0020-5" on page 4-3.

Step 0020-4

1. Turn the system's power off, and wait 45 seconds before proceeding.

2. Turn the system's power on.

3. Load the Standalone Diagnostics in Service Mode (refer to the system unit service guide if needed).

4. Wait until the Diagnostic Operating Instructions are displayed or the system appears to have stopped.

Are the Diagnostic Operating Instructions Displayed?

NO   Go to "Step 0020-13" on page 4-10.

YES   Go to "Step 0020-5."

Step 0020-5

Are the Diagnostic Operating Instructions Displayed with no obvious problem (for example, blurred or distorted)?

NO   For display problems, go to "Step 0020-9" on page 4-8.

YES   To continue loading diagnostics, go to "Step 0020-6."

Step 0020-6

Press the Enter key.

Is the FUNCTION SELECTION menu displayed?

NO   Go to "Step 0020-10" on page 4-8.

YES   Go to "Step 0020-7" on page 4-4.

Step 0020-7

1. Select the **ADVANCED DIAGNOSTICS ROUTINES** option.

   Note: If the terminal type has not been defined, you need to do so. You are not allowed to proceed until this is done.

2. If the DIAGNOSTIC MODE SELECTION menu displays, select the **PROBLEM DETERMINATION** option.

3. Find your system response in the following table; then follow the instructions in the Action column.

System Response	Action
The RESOURCE SELECTION menu or the ADVANCED DIAGNOSTIC SELECTION menu is displayed.	Go to "Step 0020-8" on page 4-6.
The MISSING RESOURCE menu or the NEW RESOURCE menu is displayed.	Follow the displayed instructions until either the ADVANCED DIAGNOSTIC SELECTION menu or an SRN is displayed. **Note:** Run any supplemental media which may have been supplied with the adapter or device, and then return to substep 1 of "Step 0020-7." If you are running Standalone Diagnostics, be sure that all adapters and SCSI devices are listed on the NEW RESOURCE menu. **Notes:** • Resources attached to serial and parallel ports may not appear in the NEW RESOURCE menu. • ISA adapters cannot be detected by the system. The ISA Adapter Configuration Service Aid in Standalone Diagnostics allows the identification and configuration of ISA adapters. If the ADVANCED DIAGNOSTIC SELECTION menu is displayed, go to "Step 0020-8" on page 4-6. If an 8-digit error code is displayed, go to the system's service guide and find the error in the "Error Code to FRU Index". Perform the listed action. If an SRN is displayed, record it, and go to "Step 0020-12" on page 4-9.

System Response	Action
The message "The system will now continue the boot process" is displayed continuously on the system unit's console.	Go to "Step 0020-4" on page 4-3.
The message "Processing supplemental diagnostic diskette media" is displayed continuously on the system unit's console.	Go to MAP 1540 in the system unit's service guide.
The diagnostics begin testing a resource. **Note:** If the Problem Determination Option was selected from the DIAGNOSTIC MODE SELECTION menu, and if a recent error has been logged in the error log, the diagnostics automatically begins testing the resource.	Follow the displayed instructions. If the No Trouble Found screen is displayed, press Enter. If another resource is tested, repeat this step. If the ADVANCED DIAGNOSTIC SELECTION menu is displayed, go to "Step 0020-8" on page 4-6. If an SRN is displayed, record it, and go to "Step 0020-12" on page 4-9. If an eight digit error code is displayed, record it and go to the system unit's service guide and find the error in the "Error Code to FRU Index". Perform the listed action.
The system did not respond to selecting the Advanced Diagnostics Option.	Go to "Step 0020-10" on page 4-8.
A system unit with a beeper did not beep while booting.	Record SRN 111-947 and then go to "Step 0020-12" on page 4-9.
The system unit emits a continuous sound from the beeper.	Record SRN 111-947 and then go to "Step 0020-12" on page 4-9.
An SRN, six-digit error code containing no dash (-), or an eight-digit error code is displayed.	Record the error code, the FRU names, and the location code for the FRUs. If an SRN is displayed go to "Step 0020-12" on page 4-9. If a six-digit error code containing no dash (-) or an 8-digit error code is displayed, go to either the system's or subsystem's service guide and find the error in the "Error Code to FRU Index". Perform the listed action.
The system stopped with a 3-digit or 4-digit code displayed in the operator panel display.	Record SRN 101-xxx (where xxx is the rightmost three digits of the displayed code). Go to "Step 0020-12" on page 4-9.
An 888 message is displayed in the operator panel display. **Note:** The 888 may or may not be flashing.	Go to Chapter 11, "MAP 0070: Flashing 888 in Operator Panel Display" on page 11-1.

Step 0020-8

Select and run the diagnostic tests on the resources you are having problems with or select All Resources. Find the response in the following table or follow the directions on the test results screen.

Diagnostic Response	Action
An SRN, six-digit error code containing no dash (-), or an eight-digit error code is displayed.	Record the error code, the FRU names, and the location code for the FRUs. If an SRN is displayed go to "Step 0020-12" on page 4-9. If a six-digit error code containing no dash (-) or an 8-digit error code is displayed, go to either the system's or subsystem's service guide and find the error in the "Error Code to FRU Index". Perform the listed action.
The TESTING COMPLETE menu and the No trouble was found message are displayed, and you have not tested all of the resources.	Press Enter and continue testing other resources.
The TESTING COMPLETE menu and the No trouble was found message are displayed, and you have tested all of the resources.	Go to "Step 0020-11" on page 4-9. **Note:** If you have not run the "sysplanar" test, do so before going to "Step 0020-11" on page 4-9.
The system halted while testing a resource.	Record SRN 110-xxx, where xxx is the first three digits of the menu number displayed in the upper-right corner of the diagnostic menu screen. If no menu number is displayed, use the Chapter 36, "FRU Cross-References" on page 36-1 to obtain the failing function code (FFC) for the device. Use the FFC code of the device for xxx. Go to "Step 0020-12" on page 4-9.
When running the Online Diagnostics, an installed device does not appear in the test list. **Note:** If the missing device is an ISA adapter or a device connected to an ISA adapter, the device does not show up until you configure it.	Ensure that the diagnostic support for the device was installed. The Display Configuration service aid can be used to determine whether diagnostic support is installed for the device. Record SRN 110-101. Go to "Step 0020-12" on page 4-9. **Note:** Supplemental diskettes may be required if service aids are run from Standalone Diagnostics.

Diagnostic Response	Action
The IBM ARTIC960 Quad T1/E1 Adapter diagnostics displays a message indicating that the interface board (PMC) is either not installed or is malfunctioning.	Install a PMC board if not already installed. When running Online Diagnostics on any of the IBM ARTIC960 family of adapters and the message indicates that the PMC (daughter board)is not installed, but it is installed, do the following: • Reseat the PMC board, then run diagnostics. • If the response is the same, replace the PMC and then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0020-9

The following step analyzes a console display problem.

Find your type of console display in the following table; then, follow the instructions given in the Action column.

Type of Console Display	Action
tty-type terminal	Be sure the tty terminal attributes are set correctly. See "Running the Diagnostic Programs from a TTY Terminal" in Chapter 26, "Using the Standalone and Online Diagnostics" on page 26-1. If you did not find a problem with the attributes, go to the documentation for this type of tty terminal, and continue problem determination. If you do not find the problem, record SRN 111-259; then go the "Step 0020-12" on page 4-9.
Graphics display	Go to the documentation for this type of graphics display, and continue problem determination. If you do not find the problem, record SRN 111-82c; then go to "Step 0020-12" on page 4-9.

Step 0020-10

There is a problem with the keyboard.

Find the type of keyboard you are using in the following table; then follow the instructions given in the Action column.

Keyboard Type	Action
Type 101 keyboard (U.S.). Identify by the size of the Enter key. The Enter key is in only one horizontal row of keys.	Record SRN 111-736, then go to "Step 0020-12" on page 4-9.
Type 102 keyboard (W.T.). Identify by the size of the Enter key. The Enter key extends into two horizontal rows.	Record SRN 111-922; then go to "Step 0020-12" on page 4-9.
Kanji-type keyboard. (Identify by the Japanese characters.)	Record SRN 111-923; then go to "Step 0020-12" on page 4-9.
tty terminal keyboard	Go to the documentation for this type of tty terminal and continue problem determination.

Step 0020-11

The diagnostics did not detect a problem.

If the problem is related to the system unit or I/O expansion box, refer to the Service Guide for that unit.

If the problem is related to an external resource, use the problem determination procedures, if available, for that resource.

If a problem occurs when running Online Diagnostics but not when running the Standalone Diagnostic, suspect software.

Check for the presence of supplemental diagnostic material such as diskettes or documentation.

The problem may be caused by software or an intermittent hardware problem. If you think you have an intermittent hardware problem, go to Chapter 6, "MAP 0040: Intermittent Problem Isolation" on page 6-1.

Step 0020-12

Take the following actions:

1. Handle multiple SRNs and error codes in the following order:

    a. Multiple 8-digit error codes may not be listed in the proper order. See the "Error Code to FRU Index" in the system service guide to identify those error codes requiring special handling.
    b. SRNs in the range of A01-xxx to A1D-xxx.
    c. SRNs with a source code other than F or G.
    d. SRNs with a source code of F. Online diagnostics must be run in Advanced and Problem Determination Mode to obtain maximum isolation.
    e. SRNs with a source code of G.
    f. Device SRNs and error codes (5-digit SRNs).

    If there are multiple SRNs within a group, it does not matter which SRN is handled first.

2. Find the SRN in Chapter 29, "Using the SRN List" on page 29-1.

    Note: If the SRN is not listed a Service Request Number List, look for it in the following:

- Any supplemental service manual for the device
- The diagnostic problem report screen for additional information
- The "Service Hints" service aid in Chapter 26, "Using the Standalone and Online Diagnostics" on page 26-1.
- The "CEREADME File" on page 25-2 (by using the Service Hints service aid).

3. Perform the action listed.

Step 0020-13

Configuration program indicators are defined in "Configuration Program Indicators" on page 28-1. They are normally 0xxx on CHRP systems and Yxx on RSPC systems (where Y is a digit or character other than A or F).

Is a Configuration Program Indicator Displayed?

NO   Go to the Entry MAP in the service guide.

YES   Record SRN 101-xxx (where xxx is the rightmost three digits or characters of the Configuration Program Indicator). Go to "Step 0020-14."

Step 0020-14

The physical location code, AIX location code, or device name displays on system units with a multiple-line operator panel display if AIX 4.3.3 or later is installed.

Is a physical location code or an AIX location code displayed on the operator panel display?

NO   Go to "Step 0020-12" on page 4-9.

YES   Record the location code, then go to "Step 0020-12" on page 4-9.

Chapter 5. MAP 0030: Additional Problem Determination

Purpose of This MAP

This MAP is used for problems that still occur after all FRUs indicated by the SRN or error code have been exchanged.

Step 0030-1

Some external devices (including rack drawers that contain devices) have their own problem determination procedures. If the problem is related to an external device that has its own problem determination procedure, run those procedures if not already run. If they do not correct the problem, continue with this MAP.

Step 0030-2

The problem may have been caused by a resource that has not been tested. System Checkout tests all resources. If the Online Diagnostics are installed and you are able to load them, then System Checkout should be run. If you get a different SRN, then look up the SRN in the SRN List and do the listed action. If you are unable to run System Checkout or you do not get another SRN when running it, continue with this MAP.

Step 0030-3

If the problem is related to a SCSI device, SCSI bus, or SCSI controller, go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1. If you are unable to isolate the problem with MAP 0050, continue with this MAP.

Step 0030-4

1. Find the resource(s) that are identified by the SRN or error code in the following table.
2. Perform the first action for the resource.
3. If you exchange a FRU or change a switch setting, test the resource again.
4. If the action does not correct the problem, perform the next action until all actions have been tried. If an action says to exchange a FRU that you have already exchanged, go to the next action. If an action corrects the problem, go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.
5. If you perform all of the actions and do not correct the problem, check the Service Hints service aid for information. If the service aid does not help, call your support person.

Failing Resource	Repair Action
SCSI Device	Exchange the SCSI Controller. Replace the power supply.
Pluggable SCSI Controller	Exchange the planar into which the adapter is plugged.
Keyboard, tablet, mouse, dials, LPFK, diskette drive	Check the cable attaching the device to its adapter. If you do not find a problem, exchange the device's adapter.
Pluggable adapters, CPU cards, and controllers	Determine whether the adapter contains any attached FRUs such as fuses, DRAMs, and crossover cables. **Note:** To check for other FRUs, find the resource in Chapter 36, "FRU Cross-References" on page 36-1; then go to the FFC listed. 1. Check or exchange any attached FRU on the resource. 2. If the adapter is plugged into a riser card, check or exchange the riser card. 3. Exchange the planar into which the adapter is plugged.
System and I/O planars	Use MAP 1540 in the unit's service guide.
Built-In serial ports	Replace the Service Processor if present.
A device attached to the system by a cable and an adapter.	1. Replace the adapter for the device. 2. Replace the cable to the device.

Chapter 6. MAP 0040: Intermittent Problem Isolation

Purpose of This MAP

This MAP provides a structured way of analyzing intermittent problems. This MAP is divided into two tables, the hardware symptoms and the software symptoms.

Since intermittent problems can be caused by software or hardware, you should consider all of the symptoms that may apply to your problem.

How to Use This MAP

This MAP contains information about causes of intermittent symptoms. In the table on the following pages, look at the symptoms that relate to the problem you are checking, and read the list of things to check.

When you exchange a FRU, go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1 to check out the system.

Hardware Symptoms

Symptom of Hardware Problem	Things to Check For
Any hardware log entry in the error log.	Use the Hardware Error Report service aid to view the error log, and check for: • Multiple errors on devices attached to the same SCSI bus. • Multiple errors on devices attached to the same async adapter. • Multiple errors on internally installed devices only. Contact your service support structure for assistance with error report interpretation.
Hardware-caused system crashes	• The connections on the CPU planar or CPU card • Memory modules for correct connections • Connections to the system planar. • Cooling fans operational • The environment for a too high or low operating temperature. • If available, run the system memory test from the System Management Services menu to check for intermittent memory problems.

Symptom of Hardware Problem	Things to Check For
System unit powers Off a few seconds after powering On.	• Fan speed. Some of the fans contain a speed-sensing circuit. If one of these fans does not turn at full speed, the power supply powers the system unit Off. • Correct voltage at the outlet into which the system unit is plugged. • Loose power cables and fan connectors, both internal and external.
System unit powers Off after running for more than a few seconds.	• Excessive temperature in the power supply area. • Loose cable connectors on the power distribution cables. • Fans turning at full speed after the system power has been on for more than a few seconds.
Only internally installed devices are failing.	Check the following items that are common to more than one device: • Ground connections on all of the disk drives and other types of drives installed. • Loose connections on the power cables to the planars, drives, fans, and battery. • System unit cooling. Is the input air temperature within limits? Are all the fans running at full speed? Are any of the vent areas blocked? • Signal cables to the diskette drives, and the power supply. • SCSI device signal cables for loose connectors and terminators. • Loose SCSI device address jumpers. • Possible contamination of any device that has a cleaning procedure. See the operator guide for cleaning instructions. • Excessive static electricity. • Correct voltage at the system unit power outlet

Symptom of Hardware Problem	Things to Check For
Only externally attached devices are failing.	Check the following items that are common to more than one device. • Check the SCSI signal cables to the devices for loose connectors and terminators. • Check devices that use jumpers to set the SCSI address for loose jumpers. • Check any device that has a cleaning procedure for contamination. See the operator guide for cleaning instructions. • Check for excessive static electricity. • Check the outlet the device is plugged into for proper voltage. • Check the error log for entries for the adapter driving the failing devices. • Check the temperature of the devices. Are the cooling vents blocked? Are the fans running? • Check for other devices near the failing device that may be radiating noise (displays, printers, and such).

Software Symptoms

Symptom of Software Problem	Things to Check For
Any symptom you suspect is related to software.	Use the *Problem Solving Guide and Reference* to analyze software problems. Be sure to check RETAIN® for known problems with your type of system unit or software.
Software-caused system crashes	Check the following software items: • Is the problem only with one application program? • Is the problem only with one device? • Does the problem occur on a recently installed program? • Was the program recently patched or modified in any way? • Is the problem associated with any communication lines? • Check for static discharge occurring at the time of the failure.

Chapter 7. MAP 0050: SCSI Problems Isolation Procedure

Purpose of This MAP

This MAP is intended to be used as a pointer. Use it after determining whether the SCSI adapter in question is single-ended, differential, or low-voltage differential.

For additional information about this adapter, see the *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems*.

Step 0050-1

If you have an SRN indicating a defective SCSI adapter, find the adapter in the following table and do the action listed. Otherwise, go to the next step.

Description	Action
SCSI-2 Single-ended Adapter	Go to Chapter 8, "MAP 0051: SCSI-2 Single-Ended (SE) Adapter Problem" on page 8-1
SCSI-2 Differential Adapter	Go to Chapter 9, "MAP 0052: SCSI-2 Differential (DE) Adapter Problems" on page 9-1
Ultra2 Low-Voltage Differential Adapter	Go to Chapter 10, "MAP 0053: Dual-Channel Ultra2 SCSI Adapter Problem" on page 10-1

Step 0050-2

System Hangs on LED 292: If your system hangs on LED 292 follow this procedure, otherwise, continue to "Step 0050-3" on page 7-3.

The LED 292 appears during the SCSI, SSA, Serial, or other bootable adapter's POST. At this time IPL ROS test routine starts the POST test sequence on each SCSI, SSA, Serial, or other bootable adapter and/or integrated controller in the system. If there is a configuration problem that prevents the adapter from completing its POST, or if there is another problem with the adapter or with the system I/O planar, the IPL process does not proceed and the system hangs with the LED 292 display. The following procedure helps you determine the source of the problem.

Note: The procedure is written for SCSI problems, but can be used to help determine SSA, Serial, or other bootable adapter problems.

1. Disconnect the SCSI bus from one adapter at a time by removing the SCSI cable attached to the adapter. Power on the system, if the IPL is successful, the failure is on the bus. Probable causes are loose or damaged cables, loose or defective terminators, defective devices, or a differential device on a single-ended bus.

   - If the adapter/controller is SCSI-1, SCSI-2, or SCSI-2 Fast, you must attach the appropriate terminator to the adapter's connector after removing the cable. Refer to SCSI Cabling in the *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems* for the appropriate part numbers.

   - If the adapter/controller is SCSI-2 Fast/Wide, Ultra, or Ultra2 (SE, DE, Enhanced DE, or LVD) there is no need to attach a terminator to the connector after removing the SCSI cable, unless the adapter is being used in a HA configuration.

2. If the 292 hang does not go away and you have disconnected all of the SCSI cables, suspect a bad adapter or I/O planar component. Remove all installed adapters one at a time, rebooting after each adapter has been removed. If a faulty component is found, then replace the component and go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1. If the problem still persists, suspect a system I/O planar problem and contact your service support structure for assistance.

   - If you have multiple SCSI adapters, note that the LED 292 display flashes briefly in the interval between testing each adapter. By counting the number of times the 292 display flashes, you can determine which adapter is causing the problem. If a faulty adapter card is found, then replace the card and go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

- If your system has the SCSI-2 F/W adapters installed, notice the small orange LED on the top of the adapter card that stays lit from the time the system unit's power has been turned on until after the POST has completed. If your system has several of these adapters, and some do not have the LED lit while others do have the LED lit, suspect the adapter with the LED lit in the lowest card slot as being bad. If a faulty component is found, replace the component and go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

- Once the failing adapter has been removed the hardfiles containing the rootvg must be reattached in order to have a successful IPL. However, if the hardfiles are not reattached the system passes the LED 292 phase, hanging instead at 223 - 229. At this time you can reattach the SCSI cables and the system should then IPL.

- If a faulty component is found, then replace it and go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0050-3

If the system error log contains SCSI errors but diagnostics does not detect any problem do the following:

1. Verify that all SCSI devices on the SCSI bus have a unique address.

2. Verify that all cables are connected securely and that there is proper termination at both ends of the SCSI bus.

3. Verify that the cabling configuration does not exceed the maximum cable length for the adapter in use. Refer to Chapter 4 of *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems* for more details on SCSI cabling.

4. Verify that the adapters and devices which you are working with are at the appropriate microcode levels for the customer situation. Contact your service support if you need assistance with microcode issues.

5. If there are multiple SCSI adapters on the SCSI bus, verify that the customer is using the appropriate software (such as HACMP, or HA-NFS) to support such an arrangement. If the proper software is not in use, some SCSI errors should be expected when multiple adapters attempt to access the same SCSI device. Also, each adapter should have a unique address. Go to the next step for further problem determination.

Step 0050-4

If you have a high-availability configuration, or if more than one system is attached to the same SCSI bus, do the following:

1. Verify that the adapters and devices have unique SCSI addresses. The default SCSI adapter address is always 7. If you have more than one adapter on the bus you need to change the address of at least one adapter. This can be done by using SMIT (SMIT Devices, SCSI Adapter, Change/Show characteristics of an adapter). You must make the changes to the database only, then reboot the system in order for the change to take effect.

   Note: Diagnostics defaults to using ID 7 (it is recommended that this ID not be used in HA configurations).

2. If RAID devices such as the 7135 or 7137 are attached, be sure to run the proper diagnostics for the device. If problems occur, contact your service support structure for assistance. Improper execution of the diagnostics on these devices can result in misleading SRNs.

3. Diagnostics can not be run against OEM devices; to do so results in misleading SRNs.

4. Verify that all cables are connected securely and that there is proper termination at both ends of the SCSI bus.

5. Verify that the cabling configuration does not exceed the maximum cable length for the adapter in use. Refer to the SCSI Cabling section in the *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems*. for more details on SCSI cabling issues.

6. Verify that adapter and devices are at the appropriate microcode levels for the customer situation. Contact your service support structure if you need assistance with microcode issues.

Chapter 8. MAP 0051: SCSI-2 Single-Ended (SE) Adapter Problem

Purpose of This MAP

Use this MAP for the single-ended versions of the SCSI-2 Fast/Wide or Ultra adapters. Use this MAP after the diagnostics have been run on the adapter and further isolation is needed for failing FRU identification and replacement.

Note: Use this MAP with adapters configured with both internal and external devices.

For additional information about this adapter, see the *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems*.

Implementation Considerations

- The system does not allow Online or Standalone Diagnostics to be run on an adapter associated with a device in the root volume group (such as paging space) or the device which the diagnostics were loaded from. If there is another SCSI adapter in the system that can be used to load diagnostic, then load diagnostics using that adapter.

- The system must be powered OFF before performing any connecting and disconnecting of cables or devices to prevent any damage to hardware or erroneous diagnostic results.

- Also, use this procedure for PCI SCSI-2 single-ended adapters built into the system or I/O boards. Replace the system or I/O board when the procedure calls for replacing the adapter.

Use the following steps to isolate the defective FRU in the SCSI subsystem.

Step 0051-1

This step determines the error that led to this procedure.

Error Description	SRN	Action
Terminator power failure (PTC error)	746-240, 746-800, 840-240, 840-800	Go to "Step 0051-2."
SCSI bus error	746-232, 746-301, 746-802, 840-232, 840-242, 840-301, 840-802	Go to "Step 0051-3" on page 8-3.
Any other SCSI error	All other SRNs	Go to "Step 0051-8" on page 8-6.

Step 0051-2

This step determines the component causing the PTC failure. For details on probable causes and a more thorough procedure, refer to "SCSI-2 Single-Ended Adapter PTC Failure Isolation Procedure" on page 8-9. If diagnostics indicated a terminator power failure (PTC error) then perform the following:

1. Turn the system off allowing the PTC to cool (five minutes is recommended).

2. While waiting for the PTC to cool,check that SCSI cables and terminators on the external bus are properly connected. Inspect for bent pins and obvious cable damage. To review other probable causes, refer to "SCSI-2 Single-Ended Adapter PTC Failure Isolation Procedure" on page 8-9.

3. Rerun diagnostics for the adapter.

   - If this same error persists, refer to "SCSI-2 Single-Ended Adapter PTC Failure Isolation Procedure" on page 8-9.

   - If no errors are indicated, the problem may be intermittent, or was corrected by adjusting the cables. If any damage was noted in the cables or terminators, suspect the damaged component as being the source of the intermittent problems. For further analysis refer to "SCSI-2 Single-Ended Adapter PTC Failure Isolation Procedure" on page 8-9.

4. If errors are still occurring and the PTC Isolation Procedure has been followed, continue isolating the problem and move on to "Step 0051-3" on page 8-3.

Step 0051-3

This step determines if an external device may be causing this failure.

If there are also internal devices attached to this bus there may be a chance that the adapter termination jumper settings are incorrect. Power down the system and inspect Jumper J7. Refer to the "SCSI Cabling" section of *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems* for the correct jumper settings.

If the jumper settings were incorrect, correct, re-install the adapter and all cables and rerun this procedure from "Step 0051-1" on page 8-2, by running diagnostics. Otherwise continue.

Turn off the power to all external devices and rerun diagnostics for the adapter. (If there is an external cable attached, but no devices, go directly to "Step 0051-5" on page 8-4.)

- If diagnostics fails with the same error, go to "Step 0051-5" on page 8-4.
- If no failures occurred, go to "Step 0051-4."
- If any other error occurred, follow the instructions for the error indicated.

Step 0051-4

This step determines if a particular device can be identified as the source of the problem.

Notes:

- If you arrived at this step as a result of getting SRN xxx-802, you have a problem on the SCSI bus that is preventing one of your SCSI devices from being detected and configured. If no changes have been made to the SCSI bus configuration, make sure the SCSI cabling attached to the missing resource is secure and that the device has power. Refer to the appropriate service guide for your SCSI device if you discover a power related problem.
- If changes have been made to the SCSI bus configuration, check for address conflicts between devices and for cabling problems, such as configurations that exceed maximum cabling lengths, missing termination, or excessive termination. Refer to the Adapters, Devices, and Cable Information manual for more details on supported SCSI cabling information.

- If the diagnostics fail to identify a failing component and all cabling and power connections are correct, replace the components in the following order; then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1:

  a. Device
  b. Cable
  c. Adapter
  d. DASD docking card
  e. I/O expansion unit

  If however, there is only one device on the bus and it is not configuring, suspect the cable, then the adapter before the device.

Turn on the external SCSI devices one at a time. After turning on each device, follow this procedure:

- Rerun diagnostics for the adapter.

- If there is any failure, the problem should be with the last device turned back on. Follow the problem determination procedure for that device.

- If no errors occurred, the problem could be intermittent. Make a record of the problem. Running diagnostics for each of the devices on the bus may provide more information.

Step 0051-5

Steps from this point on isolate the problem to the adapter, cables, or devices by bringing the system down to a minimum configuration and methodically building it back to the original configuration.

The first step determines if the problem is on the external or internal SCSI bus.

Disconnect the SCSI cable from the adapter on the external bus. Rerun diagnostics for the adapter.

- If diagnostics passes the problem is on the external bus. Go to "Step 0051-6" on page 8-5.

- If the error persists then the problem may be on the internal bus.

Disconnect the SCSI cable from the adapter on the internal bus. Rerun diagnostics for the adapter.

- If diagnostics passes the problem is on the internal bus. Do not reconnect the external cable. Go to "Step 0051-6" on page 8-5.

- If there is any failure replace the adapter; then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Reminder: No terminator needs to be attached to the open connector on the adapter for this step because the adapter has built-in terminators.

Step 0051-6

This step continues to build up from a minimum configuration to determine if a cable, terminator, or device is the cause of the error. This step concentrates on the cable and terminator.

Reconnect the SCSI cable which is the apparent cause of the error, but without any devices attached.

For the external bus, only attach the first section of cable. If the appropriate terminator is not available for the end of the cable, reconnect the SCSI cable with one device attached so that the bus can be properly terminated through the device connector. The device should be turned off.

Rerun diagnostics for the adapter.
- If there is any failure, replace components in the following order; then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1:
  - Cable
  - Terminator
  - Device (if attached)
  - DASD docking card
  - I/O expansion unit
- Rerun diagnostics.
- If no errors occurred, go to "Step 0051-7."

Step 0051-7

This step determines whether a particular section of cable or a device may be causing a problem. This step differs from "Step 0051-4" on page 8-3 because, the devices are detached from the bus, not just turned off. Make sure all cables, terminators, and devices are reconnected before leaving this step.

Reconnect the SCSI devices one at a time, making sure that the bus remains appropriately terminated. (A new section of cable is added with each device on an external bus). After connecting each device and turning it on, follow the procedure below:

- Rerun diagnostics.
- If there is any failure, the problem should be that device or cable. Replace the components in following order; then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.
  - Cable
  - Device
- If no errors occurred, the problem could be intermittent. The problem is most likely cabling or a device. Contact the next level of support if this problem continues to occur.
- Reconnect all devices and cables on all SCSI buses.

This is the end of this part of the procedure. Go to "Step 0051-9" on page 8-8.

Step 0051-8

This step determines if the error is caused by the adapter or by a device on the internal or external bus.

Refer to the "Adapter Information" section of *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems* for jumper settings. Once you are sure the jumper settings are correct, do the following procedure:

1. Disconnect all cables (internal and external), and rerun diagnostics for the adapter. If there is any failure, replace adapter; then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

   Note: In the following step, if there are both external and internal buses, then reconnect one bus at a time starting with the internal bus.

2. If no errors were indicated in Step 1, reconnect the cables to the devices on the internal bus and rerun diagnostics.

   If the internal bus has no errors, then reconnect the external bus and run diagnostics.

3. If there is any failure in the previous step, go to "Step 0051-6" on page 8-5, noting if the failure was on the internal or external bus.

4. If no failure occurs, there may be intermittent or transient errors. The problem is most likely the cabling or a device. If the problem continues contact the next level of support.

Step 0051-9

This step finds out if there are operational errors that can be determined by actually transferring data on the SCSI bus.

If possible run the SCSI bus service aid to issue an inquiry command to a device on the bus. The command completion status returned by the adapter indicates if a failure occurred, and whether the failure was due to a device error. If a device error occurred, diagnostics for that device should be performed. If it fails with other errors, replace components in the following order and then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1:

- Cable
- Adapter
- Devices

SCSI-2 Single-Ended Adapter PTC Failure Isolation Procedure

Use the following procedures if diagnostics testing indicates a potential positive temperature coefficient (PTC) resistor fault and you are diagnosing a single-ended adapter. If you are diagnosing a Differential Adapter use the Chapter 9, "MAP 0052: SCSI-2 Differential (DE) Adapter Problems" on page 9-1.

This procedure is used for SRNs xxx-240 and xxx-800 on SCSI-2 Single-Ended Adapters.

Identify the adapter by it's label. The single-ended adapter is labeled 4-A or 4-K on the external bracket plate.

Before replacing a SCSI-2 single-ended adapter, use these procedures to determine if a short-circuit condition exists on the SCSI bus. The same PTC is used for both the internal and external buses. The PTC protects the SCSI bus from high currents due to shorts on the cable, terminator, or device. It is unlikely that the PTC can be tripped by a defective adapter. Unless instructed to do so by these procedures, do not replace the adapter because of a tripped PTC resistor.

A fault (short-circuit) causes an increase in PTC resistance and temperature. The increase in resistance causes the PTC to halt current flow. The PTC returns to a low resistive and low temperature state when the fault is removed from the SCSI bus or when the system is turned off. Wait 5 minutes for the PTC resistor to fully cool, then retest.

These procedures determine if the PTC resistor is still tripped and then determine if there is a short somewhere on the SCSI bus.

Determining where to start

Determine the adapter configuration and select the proper procedure.

- If there are external cables attached to the adapter start with the "External Bus PTC Isolation Procedure" below.

- If there are no external cables attached start with the "Internal Bus PTC Isolation Procedure" on page 8-12.

- If there is a combination of external and internal cables start with the "External Bus PTC Isolation Procedure". If this procedure doesn't resolve the problem continue on to the "Internal Bus PTC Isolation Procedure" on page 8-12.

- If this is a Differential adapter go to the Chapter 9, "MAP 0052: SCSI-2 Differential (DE) Adapter Problems" on page 9-1.

External Bus PTC Isolation Procedure

Isolate the external SCSI bus PTC fault with the following procedure.

Note: The external bus is of single-ended design.

1. Ensure the system power and all externally attached device power is turned off. All testing is accomplished with the power off.

2. Disconnect any internal and external cables from the adapter and remove the adapter from the system.

3. Verify with a digital Ohmmeter that the internal PTC resistor, labeled Z1, (refer to the illustration on page 8-12) is cool and in a low resistance state, typically less than 1/2 Ohm. Measuring across, be sure to probe both sides of the PTC where the solder joints and board come together. The polarity of the test leads is not important. If necessary, allow the PTC resistor to cool and remeasure.

   The next step determines if there is a short on the adapter.

4. Locate Capacitor C1 and measure the resistance across it using the following procedure:

   a. Connect the positive lead to the side of the capacitor where the + is indicated on the board near C1. Be sure to probe at the solder joint where the capacitor and board come together.

   b. Connect the negative lead to the opposite side of the capacitor marked "GND". Be sure to probe at the solder joint where the capacitor and board come together.

   c. If there is no short present, then the resistance reading is high, typically hundreds of Ohms.

   Note: Because this is a measurement across un-powered silicon devices the reading is a function of the Ohmmeter used.

   - If there is a fault, the resistance reading is low, typically below 10 Ohms. Because there are no cables attached, the fault is on the adapter. The adapter should be replaced.

     Note: Some multi-function meters, label the leads specifically for voltage measurements. When using this type of meter to measure resistance the plus lead and negative lead my not be labeled correctly. If you are not sure that you meter leads accurately reflect the polarity for measuring resistance, repeat this step with the leads reversed. If the short circuit is not indicated with the leads reversed the SCSI bus is not faulted (shorted).

   - If the resistance measured was high proceed to the next step.

5. Reattach the external cable to the adapter, then:

   a. Remeasure across C1 as previously described.

   b. If the resistance is still high, in this case above 10 Ohms, then there is no apparent cause for a PTC failure from this bus. If there are internal cables attached continue on to the "Internal Bus PTC Isolation Procedure" on page 8-12.

   c. If the resistance is less than 10 Ohms, there is a possibility of a fault on the external SCSI bus. Troubleshoot the external SCSI bus by disconnecting devices and terminators. Measure across C1 to determine if the fault has been removed.

Probable Tripped PTC Causes

- A shorted terminator or cable. Check for bent pins on each connector and removable terminator.

- Intermittent PTC failures can be caused by improperly seated cable connectors. Reseat the connector and flex the cable in an attempt to duplicate the fault condition across C1.

- Plugging or unplugging a cable or terminator while the system is turned on (hot plugging).

- A shorted device.

- Differential devices or terminators are attached to the single-ended SCSI bus.

   Note: The SCSI-2 Fast/Wide and Ultra PCI Adapters use an onboard electronic terminator on the external SCSI bus. When power is removed from the adapter, as in the case of this procedure, the terminator goes to a high impedance state and the resistance measured cannot be verified, other than it is high. Some external terminators use an electronic terminator which also goes to a high impedance state when power is removed. Therefore, this procedure is designed to find a short or low resistance fault as opposed to the presence of a terminator or a missing terminator.

Internal Bus PTC Isolation Procedure

Isolate the internal SCSI bus PTC resistor fault with the following procedure.

Note: The internal bus is single-ended.

1. Ensure that system power and all externally attached device power is turned off.

2. Disconnect any internal and external cables from the adapter then remove the adapter from the system.

3. Verify with a digital Ohmmeter, that the internal PTC resistor, labeled Z1, is cool and in a low resistance state, typically less than 1/2 Ohm. Measuring across, be sure to probe both sides of the PTC where the solder joints and board come together. The polarity of the test leads is not important. If necessary, allow the PTC to cool and remeasure. Refer to the illustration on page 8-12.

   The next step determines if there is a short on the adapter.

SCSI-2 Fast/Wide PCI Single-Ended Adapter

Note: Only the probe tips are touching the solder joints. Do not allow the probes to touch any other part of the component.

4. Locate capacitor C1 and measure the resistance across it using the following procedure:

   a. Connect the positive lead to the side of the capacitor where the + is indicated. Be sure to probe at the solder joint where the capacitor and board come together.

   b. Connect the negative lead to the opposite side of the capacitor. Be sure to probe at the solder joint where the capacitor and board come together.

   c. If there is no short present, the resistance reading is high, typically hundreds of Ohms.

   Note: Because this is a measurement across un-powered silicon devices the reading is a function of the Ohmmeter used.

   - If there is a fault, the resistance reading is low, typically below 10 Ohms. Because there are no cables attached, the fault is on the adapter. The adapter should be replaced.

     Note: Some multi-function meters, label the leads specifically for voltage measurements. When using this type of meter to measure resistance the plus lead and negative lead my not be labeled correctly. If you are not sure that your meter leads accurately reflect the polarity for measuring resistance, repeat this step with the leads reversed. Polarity is important in this measurement to prevent forward biasing diodes which leads to a false low resistance reading. If the short circuit is not indicated with the leads reversed the SCSI bus is not faulted (shorted).

   - If the resistance is high and there is no internal cable to reattach, there is no apparent cause for the PTC resistor diagnostic failure.

   - If the resistance is high and there is an internal cable to reattach, proceed to the next step.

5. Reattach the internal cable to the adapter then:

   a. Remeasure across C1 as described above.

   b. If the resistance is still high, above 25 Ohms, there is no apparent cause for a PTC failure.

   c. If the resistance is less than 10 Ohms, there is a possibility of a fault on the internal SCSI bus. Troubleshoot the internal SCSI bus by disconnecting devices and terminators. Measure across C1 to determine if the fault has been removed.

      Note: Some internal cables have non-removable terminators.

Probable Tripped PTC Resistor Causes

- A shorted terminator or cable. Check for bent pins on each connector and removable terminator.

- Intermittent PTC failures can be caused by improperly seated cable connectors. Reseat the connector and flex the cable in an attempt to duplicate the fault condition across C1.

- A shorted device.

- On some systems, the terminator is fixed to the internal cable and cannot be removed. If all devices are removed from the cable and the resistance is still low, then the cable should be replaced.

  Note: The SCSI-2 Fast/Wide and Ultra PCI adapters use an onboard electronic terminator on the internal SCSI bus. When power is removed from the adapter, as in the case of this procedure, the terminator goes to a high impedance state and the resistance measured can not be verified, other than it is high. Some internal terminators use an electronic terminator which also goes to a high impedance state when power is removed. Therefore, this procedure is designed to find a short or low resistance fault as opposed to the presence of a terminator or a missing terminator.

Chapter 9. MAP 0052: SCSI-2 Differential (DE) Adapter Problems

Purpose of This MAP

Use this MAP for SCSI-2 differential adapter. Use it after diagnostics have been run on the adapter and further isolation is needed for appropriate FRU identification and replacement.

For additional information about this adapter, see the *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems*.

Implementation Considerations

- The system does not allow Online or Standalone Diagnostics to be run on an adapter associated with a device in the root volume group (such as paging space) or the device which the diagnostics were loaded from. If there is another SCSI adapter in the system that can be used to load diagnostic, then load diagnostics using that adapter.

- The system must be powered OFF before performing any connecting and disconnecting of cables or devices to prevent any damage to hardware or erroneous diagnostic results.

- The differential version of the adapter has socket type terminators to support high-availability. If the adapter being diagnosed is configured this way, the terminators would have been removed from the adapter. Steps in this MAP that require the removal of the cable from the adapter cannot be used because the adapter with its terminators removed always fail diagnostics. To perform diagnostics properly in this case, the terminators must be replaced. Or if a Y-cable is in use for the configuration, leave it and the appropriate terminator attached to the adapter. Or place an external differential terminator on the external port. Refer to the illustration on page 9-9 for location of terminators RN1, RN2, and RN3.

The following steps should be followed for determining the defective FRU's in the SCSI system.

Step 0052-1

This step determines the error that led to this procedure.

Error Description	SRN	Action
Terminator power failure (PTC error)	747-240, 747-800, 2E6-240, 2E6-800	Go to "Step 0052-2."
SCSI bus error	747-232, 747-301, 747-802, 2E6-232, 2E6-301, 2E6-802	Go to "Step 0052-3" on page 9-3.
Any other SCSI error	All other SRNs	Go to "Step 0052-8" on page 9-6.

Step 0052-2

This step determines the component causing the PTC failure. For details on probable causes and a more thorough procedure, refer to "SCSI-2 Differential Adapter PTC Failure Isolation Procedure" on page 9-8. If diagnostics indicated a terminator power failure (PTC error) then perform the following:

1. Turn the system off allowing the PTC to cool (five minutes is recommended).

2. While waiting for the PTC to cool,check that SCSI cables and terminators on the external bus are properly connected. Inspect for bent pins and obvious cable damage. To review other probable causes, refer to "SCSI-2 Differential Adapter PTC Failure Isolation Procedure" on page 9-8.

3. Rerun diagnostics for the adapter.

   - If this same error persists, refer to "SCSI-2 Differential Adapter PTC Failure Isolation Procedure" on page 9-8.

   - If no errors are indicated, the problem may be intermittent, or was corrected by adjusting the cables. If any damage was noted in the cables or terminators, suspect the damaged component as being the source of the intermittent problems. For further analysis refer to "SCSI-2 Differential Adapter PTC Failure Isolation Procedure" on page 9-8.

4. If errors are still occurring and the PTC Isolation Procedure has been followed, continue isolating the problem and move on to "Step 0052-3" on page 9-3.

Step 0052-3

This step determines if an external device may be causing this failure.

Turn off the power to all external devices and rerun diagnostics for the adapter. (If there is an external cable attached, but no devices, go directly to "Step 0052-5" on page 9-4.)

- If diagnostics fails with the same error, go to "Step 0052-5" on page 9-4.

- If no failures occurred, go to "Step 0052-4."

- If any other error occurred, follow the instructions for the error indicated.

Step 0052-4

This step determines if a particular device can be identified as the source of the problem.

Notes:

- If you arrived at this step as a result of getting SRN xxx-802, you have a problem on the SCSI bus that is preventing one of your SCSI devices from being detected and configured. If no changes have been made to the SCSI bus configuration, make sure the SCSI cabling attached to the missing resource is secure and that the device has power. Refer to the appropriate service guide for your SCSI device if you discover a power related problem.

- If changes have been made to the SCSI bus configuration, check for address conflicts between devices and for cabling problems, such as configurations that exceed maximum cabling lengths, missing termination, or excessive termination. Refer to the Adapters, Devices, and Cable Information manual for more details on supported SCSI cabling information.

- If the diagnostics fail to identify a failing component and all cabling and power connections are correct, replace the components in the following order:

  a. Device

  b. Cable

  c. Adapter

  If however, there is only one device on the bus and it is not configuring, suspect the cable, then the adapter before the device.

Turn on the external SCSI devices one at a time. After turning on each device, follow this procedure:

- Rerun diagnostics for the adapter.

- If there is any failure, the problem should be with the last device turned back on. Follow the problem determination procedure for that device.

- If no errors occurred, the problem could be intermittent. Make a record of the problem. Running diagnostics for each of the devices on the bus may provide more information.

Step 0052-5

Steps from this point on isolate the problem to the adapter, cables, or devices by bringing the system down to a minimum configuration and methodically building it back to the original configuration.

Disconnect the SCSI cable from the adapter on the external bus.

Rerun diagnostics for the adapter.

- If the diagnostics run with no errors, the problem is on the external bus. Go to "Step 0052-6" on page 9-5.

- If the error persists then the problem may be on the adapter.

Notes:

Be sure the differential adapter has RN1, RN2, and RN3 populated.

- If RN1, RN2, and RN3 are populated, then replace the adapter.

- If RN1, RN2, and RN3 are not populated, place an external terminator on the adapter and re-run diagnostics. If the diagnostics still fail then replace the differential adapter.

- If any component is replaced, go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0052-6

This step continues to build up from a minimum configuration to determine if a cable, terminator, or device is the cause of the error. This step concentrates on the cable and terminator.

On the external bus, only attach the first section of cable. If the appropriate terminator is not available for the end of the cable, reconnect the SCSI cable with one device attached so that the bus can be properly terminated through the device connector. The device should be turned off.

Rerun diagnostics for the adapter.

- If no errors occurred, go to "Step 0052-7" on page 9-6.
- If there is any failure, replace components in the following order:
  - Cable
  - Terminator
  - Device (if attached)
- Rerun diagnostics
- If any component is replaced, go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0052-7

This step determines whether a particular section of cable or a device may be causing a problem. This step differs from "Step 0052-4" on page 9-3 because, the devices are detached from the bus, not just turned off. Make sure all cables, terminators, and devices are reconnected before leaving this step.

Reconnect the SCSI devices one at a time, making sure that the bus remains appropriately terminated. (A new section of cable is added with each device on an external bus). After connecting each device and turning it on, follow the procedure below:

- Rerun diagnostics.
- If there is any failure, the problem should be that device or cable. Replace the components in following order:
  - Cable
  - Device
- If no errors occurred, the problem could be intermittent. The problem is most likely cabling or a device. Contact the next level of support if this problem continues to occur.
- Reconnect all devices and cables on all SCSI buses.
- If any component is replaced, go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

This is the end of this part of the procedure. Go to "Step 0052-9" on page 9-7.

Step 0052-8

This step determines if the error is caused by the adapter.

Disconnect all cables, and rerun diagnostics for the adapter. For differential adapters see "Implementation Considerations" on page 9-1.

- If there is any failure, replace adapter.
- If no errors were indicated, reconnect the cable with the devices and rerun diagnostics.
  - If there is any failure, go to "Step 0052-6" on page 9-5.

– If no failure occurs, there may be intermittent or transient errors. The problem is most likely the cabling or a device. If the problem continues contact the next level of support.

– If any component is replaced, go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0052-9

This step finds out if there are operational errors that can be determined by actually transferring data on the SCSI bus.

If possible run the SCSI bus service aid to issue an inquiry command to a device on the bus. The command completion status returned by adapter indicates if a failure occurred, and whether the failure was due to a device error. If a device error occurred, diagnostics for that device should be performed. If it fails with other errors, replace components in the following order, then proceed to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

- Cable
- Adapter
- Devices

SCSI-2 Differential Adapter PTC Failure Isolation Procedure

Use this procedure when SRN xxx-240 or xxx-800 has been indicated.

The differential adapter can be identified by the 4-B or 4-L on the external bracket plate.

Before replacing a SCSI-2 differential adapter, use these procedures to determine if a short-circuit condition exists on the SCSI Bus. The PTC protects the SCSI bus from high currents due to shorts on the cable, terminator, or device. It is unlikely that the PTC can be tripped by a defective adapter. Unless instructed to do so by these procedures, do not replace the adapter because of a tripped PTC resistor.

A fault (short-circuit) causes an increase in PTC resistance and temperature. The increase in resistance causes the PTC to halt current flow. The PTC returns to a low resistive and low temperature state when the fault is removed from the SCSI bus or when the system is turned off. Wait 5 minutes for the PTC resistor to fully cool, then retest.

These procedures determine if the PTC resistor is still tripped and then determine if there is a short somewhere on the SCSI bus.

External Bus PTC Isolation Procedure

SCSI-2 Differential Adapters Test Locations

SCSI-2 Differential Fast/Wide PCI Adapter
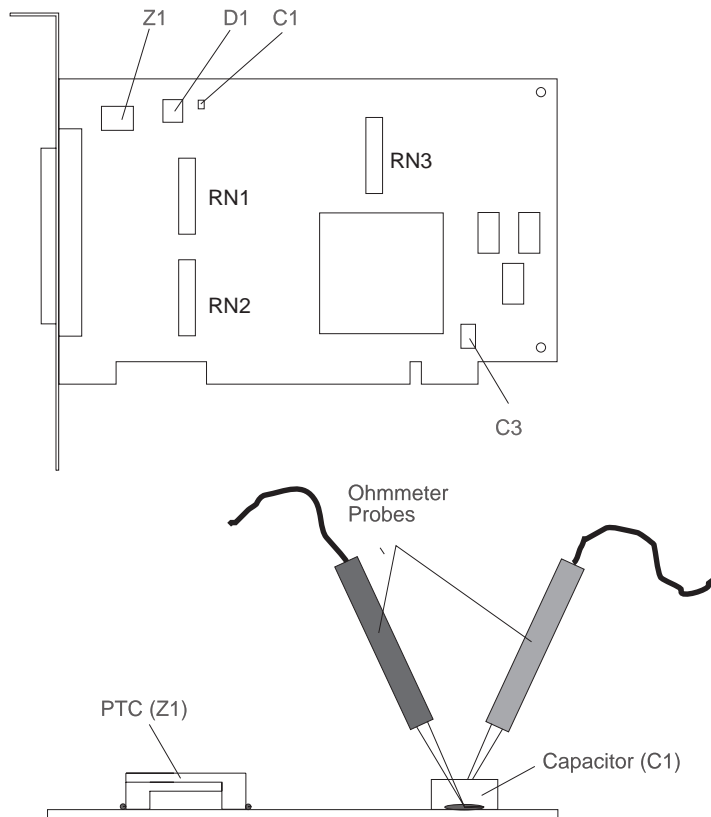
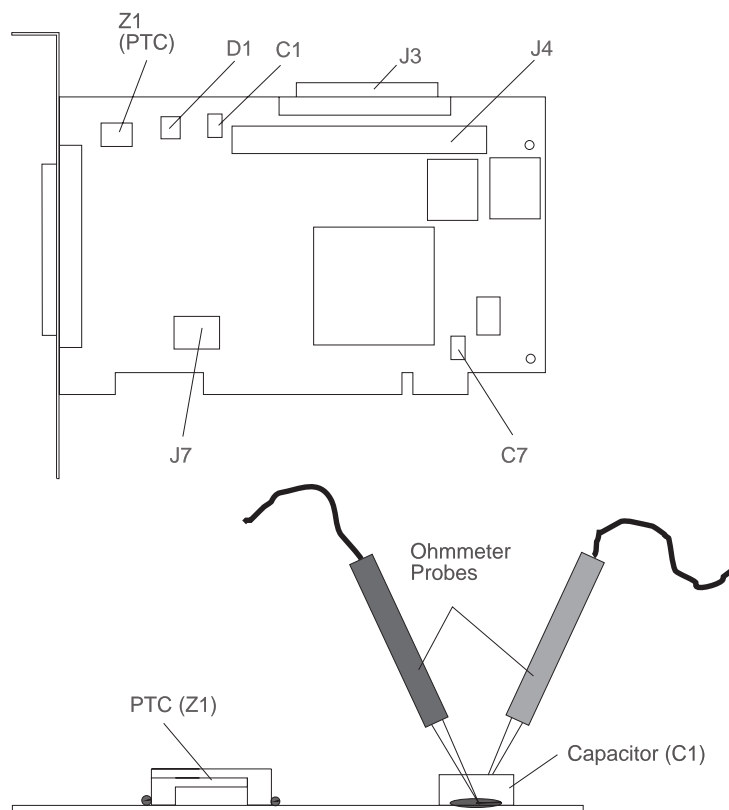**Note:** Only the probe tips are touching the solder joints. Do not allow the probes to touch any other part of the component.

Isolate the external SCSI bus PTC fault with the following procedure.

Note: The external bus is differential.

1. Ensure that system power and all externally attached device power is turned off.

2. Check to ensure all devices are marked SCSI Differential and that the terminator on the end of the SCSI bus is also marked differential. If not, you may have a single-ended SCSI device or terminator on the differential SCSI bus. Single-ended devices do not work on a differential SCSI bus and may cause a

PTC type error to be reported. The entire SCSI bus may appear to be intermittent. After ensuring the system is completely differential, continue.

3. Disconnect the external cables from the adapter and remove the adapter from the system.

4. Verify with a digital Ohmmeter, that the internal PTC resistor, labeled Z1, (refer to the illustration on page 9-9) is cool and in a low resistance state, typically less than 1/2 Ohm. Measuring across, be sure to probe both sides of the PTC resistor where the solder joints and board come together. The polarity of the test leads is not important. If necessary, allow the PTC resistor to cool and remeasure.

   The next step determines if there is a short on the adapter.

5. Locate capacitor C1 and measure the resistance across it using the following procedure:

   a. Connect the negative lead to the side of the capacitor marked "GND". Be sure to probe at the solder joint where the capacitor and board come together.

   b. Connect the positive lead to the side of the capacitor marked "Cathode D1" on the board near C1. Be sure to probe at the solder joint where the capacitor and board come together.

      - If there is no fault present, then the resistance reading is 25 to 35 Ohms. The adapter is not faulty. Continue to the next step.

      - If the resistance measured is higher than 35 Ohms, check to see if RN1, RN2, and RN3 are plugged into their sockets. If these sockets are empty, you are working with a Multi-Initiators or High-Availability system. With these sockets empty, a resistive reading across C1 cannot be verified other than it measures a high resistance (not a short). If the resistance measurement is not low enough to be suspected as a fault (lower than 10 Ohms), continue to the next step.

      - If the resistance is high and there is no external cable to reattach, there is no apparent cause for the PTC diagnostic failure.

      - If the resistance reading is low, typically below 10 Ohms, there is a fault. Because there are no cables attached, the fault is on the adapter. The adapter should be replaced.

      - If the resistance measured was high and there is an external cable to reattach proceed to the next step.

6. Reattach the external cable to the adapter.

   a. Remeasure across C1 as previously described.

b. If the resistance is between 10 to 20 Ohms, there is no apparent cause for a PTC resistor failure.

c. If the resistance is less than 10 Ohms, there is a possibility of a fault on the external SCSI bus. Troubleshoot the external SCSI bus by disconnecting devices and terminators. Measure across C1 to determine if the fault has been removed.

Probable Tripped PTC Causes

- A shorted terminator or cable. Check for bent pins on each connector and removable terminator.

- Intermittent PTC failures can be caused by improperly seated cable connectors. Reseat the connector and flex the cable in an attempt to duplicate the fault condition across C1.

- Plugging or unplugging a cable or terminator while the system is turned on (hot plugging).

- A shorted device.

- Single-ended devices are attached to the differential SCSI bus.

Chapter 10. MAP 0053: Dual-Channel Ultra2 SCSI Adapter Problem

Purpose of This MAP

Use this MAP for single-ended or low-voltage differential versions of the Ultra2 SCSI adapter. Use it after diagnostics have been run on the adapter and further isolation is needed for appropriate FRU identification and replacement.

Note: Use this MAP with ultra2 SCSI adapters configured with either internal or external devices attached. This adapter has two independent channels (A and B). Each channel has an external and an internal connector. Only one connector on each channel (the internal or the external) can have devices attached.

For additional information about this adapter, see the *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems*.

Implementation Considerations: Observe the following considerations:

- The system does not allow Online or Standalone Diagnostics to be run on an adapter associated with a device in the root volume group (such as paging space) or the device which the diagnostics were loaded from. If there is another SCSI adapter in the system that can be used to load diagnostic, then load diagnostics using that adapter.

- The system must be powered OFF before performing any connecting and disconnecting of cables or devices to prevent any damage to hardware or erroneous diagnostic results.

Use the following steps to isolate the defective FRU in the SCSI subsystem.

Step 0053-1

This step determines the error that led to this procedure.

Error Description	SRN	Action
Terminator power failure (PTC error)	637-240, 637-800	Go to "Step 0053-2."
SCSI bus error	637-232, 637-301, 637-802	Go to "Step 0053-3" on page 10-3.
Any other SCSI error	All other SRNs	Go to "Step 0053-8" on page 10-8.

Step 0053-2

This step determines the component causing the PTC failure. If the diagnostics indicated a terminator power failure (PTC error), then perform the following:

1. Turn the system off allowing the PTC to cool (five minutes is recommended).

2. While waiting for the PTC to cool, check for the following probable causes for a tripped PTC resistor.

   - A shorted terminator or cable. Check for bent pins on each connector and removable terminator.
   - Intermittent PTC failures can be caused by improperly seated cable connectors. Reseat the connector and flex the cable in an attempt to duplicate the fault condition across C1.
   - A shorted device.
   - On some systems, the terminator is fixed to the internal cable and cannot be removed. If all devices are removed from the cable and the resistance is still low, then the cable should be replaced.

3. Rerun diagnostics for the adapter.

   - If this same error persists, refer to "PTC Failure Isolation Procedure" on page 10-10.
   - If no errors are indicated, the problem may be intermittent, or was corrected by adjusting the cables. If any damage was noted in the cables or terminators, suspect the damaged component as being the source of the intermittent problems.

4. If errors are still occurring, continue isolating the problem, go to "Step 0053-3" on page 10-3.

Step 0053-3

This step determines if a device may be causing this failure. Devices can only be attached to one connector on each channel.

Note: Devices can be attached to an internal or an external connector on each channel, but not to both connectors on the same channel.

Check the SCSI bus configuration, reconfigure the SCSI buses so that only one cable is attached to the ultra2 SCSI adapter (either internal or external). Repeat this procedure starting at "Step 0053-1" on page 10-2. If you get here again, continue with this procedure.

Turn off the power to all attached devices or subsystems and rerun diagnostics for the adapter. If there is an external cable attached, but no devices, go directly to "Step 0053-5" on page 10-5, otherwise:

- If diagnostics fails with the same error, go to "Step 0053-5" on page 10-5.
- If no failures occurred, go to "Step 0053-4" on page 10-4.
- If any other error occurred, follow the instructions for the error indicated.

Step 0053-4

This step determines if a particular device can be identified as the source of the problem.

Notes:

1. If you arrived at this step as a result of getting SRN 637-802, you have a problem on the SCSI bus that is preventing one of your SCSI devices from being detected and configured. If no changes have been made to the SCSI bus configuration, make sure the SCSI cabling attached to the missing resource is secure and that the device has power. Refer to the appropriate service guide for your SCSI device if you discover a power related problem.

2. If changes have been made to the SCSI bus configuration, check for address conflicts between devices and for cabling problems, such as configurations that exceed maximum cabling lengths, missing termination, or excessive termination. Refer to the Adapters, Devices, and Cable Information manual for more details on supported SCSI cabling information.

3. If the diagnostics fail to identify a failing component and all cabling and power connections are correct, replace the components in the following order:

   a. Device
   b. Cable
   c. Adapter

   If however, there is only one device on the bus and it is not configuring, suspect the cable, then the adapter before the device.

Turn on the external SCSI devices one at a time. After turning on each device, follow this procedure:

1. Rerun diagnostics for the adapter.
2. If there is any failure, the problem should be with the last device turned back on. Follow the problem determination procedure for that device.
3. If no errors occurred, the problem could be intermittent. Make a record of the problem. Running diagnostics for each of the devices on the bus may provide more information.

Step 0053-5

Steps from this point on isolate the problem to the adapter, cables, or devices by bringing the system down to a minimum configuration and methodically building it back to the original configuration.

The first step determines if the problem is on the internal or the external SCSI bus.

Disconnect the SCSI cable from the adapter (there should be only one cable attached now), then do the following:

Reminder: This adapter has built-in terminators, so you do not have to attach an external terminator to an open connector.

- Rerun diagnostics for the adapter. If the diagnostics run with no errors, the problem is on the disconnected bus. Go to "Step 0053-6" on page 10-6.
- If there is a failure, replace the adapter, then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0053-6

This step continues to build up from a minimum configuration to determine if a cable, terminator, or device is the cause of the error. This step concentrates on the cable and terminator.

Reconnect the SCSI cable which is the apparent cause of the error, but without any devices attached.

On the external bus, only attach the first section of cable. If the appropriate terminator is not available for the end of the cable, reconnect the SCSI cable with one device attached so that the bus can be properly terminated through the device connector. The device should be turned off.

Rerun diagnostics for the adapter.

- If there is any failure, replace components in the following order; then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.
    1. Cable
    2. Terminator
    3. Device (if attached)
- Rerun diagnostics
- If no errors occurred, go to "Step 0053-7" on page 10-7.

Step 0053-7

This step determines whether a particular section of cable or a device may be causing a problem. This step differs from "Step 0053-4" on page 10-4 because, the devices are detached from the bus, not just turned off. Make sure all cables, terminators, and devices are reconnected before leaving this step.

Reconnect the SCSI devices one at a time, making sure that the bus remains appropriately terminated. (A new section of cable is added with each device on an external bus). After connecting each device and turning it on, do the following:

1. Rerun diagnostics.
2. If there is any failure, the problem should be that device or cable. Replace the components in following order:
   a. Cable
   b. Device
3. If no errors occurred, the problem could be intermittent. The problem is most likely cabling or a device. Contact the next level of support if this problem continues to occur.
4. Reconnect all devices and cables on all SCSI buses.

This is the end of this part of the procedure. Go to "Step 0053-9" on page 10-9.

Step 0053-8

This step determines if the error is caused by the adapter or by a device on the internal or external bus.

Refer to the "Adapter Information" chapter in the *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems* for valid configuration information and device jumper settings. Once you are sure the configuration is correct, do the following:

1. Disconnect all cables (internal or external), and rerun diagnostics for the adapter. If there is any failure, replace adapter; then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

   Note: In the following step, connect the cable to the internal or external connector for the channel being tested.

2. If no errors were indicated, reconnect the cables with the devices on the bus and rerun diagnostics.

3. If there is any failure in the previous step, go to "Step 0053-6" on page 10-6 noting if the failure was on the internal or on the external bus.

4. If no failure occurs, there may be intermittent or transient errors. The problem is most likely the cabling or a device. If the problem continues contact the next level of support.

Step 0053-9

This step finds out if there are operational errors that can be determined by actually transferring data on the SCSI bus.

If possible run the SCSI bus service aid to issue an inquiry command to a device on the bus. The command completion status returned by adapter indicates if a failure occurred, and whether the failure was due to a device error. If a device error occurred, diagnostics for that device should be performed. If it fails with other errors, replace components in the following order; then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

1. Cable
2. Adapter
3. Devices

PTC Failure Isolation Procedure

Use the following procedures if diagnostics testing indicates a potential positive temperature coefficient (PTC) resistor fault.

This procedure is used for SRNs 637-240 and 637-800 on the Dual-Channel Ultra2 SCSI Adapter.

Identify the adapter by it's label of 4-R on the external bracket. Then, determine if the failure is on channel A or channel B.

The same PTC is used for both the internal and external buses. The PTC protects the SCSI bus from high currents due to shorts on the cable, terminator, or device. It is unlikely that the PTC can be tripped by a defective adapter. A fault (short-circuit) causes an increase in PTC resistance and temperature. The increase in resistance causes the PTC to halt current flow. The PTC returns to a low resistive and low temperature state when the fault is removed from the SCSI bus or when the system is turned off. Wait 5 minutes for the PTC resistor to fully cool, then retest.

If this same error persists, replace the components of the failing channel in the following order:

- If the failure is on the external cable, replace the:

    1. Cable
    2. Device
    3. Attached subsystem
    4. Adapter

- If the failure is on the internal cable, replace the:

    1. Cable
    2. Device
    3. Backplane
    4. Adapter

- If the failure persists, verify that the parts exchanged are in the correct channel (internal or external, A or B).

    If the errors are still occurring, continue isolating the problem by going to "Step 0053-3" on page 10-3.

Chapter 11. MAP 0070: Flashing 888 in Operator Panel Display

Purpose of This MAP

A flashing 888 number suggests that either a hardware or software problem has been detected and a diagnostic message is ready to be read.

Note: If the 888 is not flashing treat it as though it is flashing in the steps below.

Step 0070-1

Perform the following steps to record the information contained in the flashing 888 message.

1. Wait until the flashing 888 is displayed.

2. Record in sequence each code that is displayed after the flashing 888 goes away. Stop recording when the flashing 888 reappears. Separate each code recorded with a blank space.

3. Go to "Step 0070-2."

Step 0070-2

Using the first code recorded use the following list to determine the next step to use.

Type 102 Go to "Step 0070-3."

Type 103 Go to "Step 0070-4" on page 11-3.

Step 0070-3

A Type 102 message is generated when a software or hardware error occurs during system execution of an application. Use the following steps and information to determine the content of the type 102 message. Crash and dump status codes are listed later in this section.

102 = Message type RRR = Crash code (the three-digit code that immediately follows the 102) SSS = Dump status code (the three-digit code that immediately follows the Crash code)

Record the Crash code and the Dump Status from the message you recorded.

Are there additional codes following the Dump Status?

No   Go to "Step 0070-5" on page 11-4.

YES   The message also has a type 103 message included in it. Go to "Step
            0070-4" on page 11-3 to decipher the SRN and FRU information in the
            Type 103 message.

Note: There are no SRNs associated with message Type 102.

Crash Codes

The following crash codes are part of a Type 102 message.

000   Unexpected system interrupt.
200   Machine check because of a memory bus error.
201   Machine check because of a memory timeout.
202   Machine check because of a memory card failure.
203   Machine check because of a out of range address.
204   Machine check because of an attempt to write to ROS.
205   Machine check because of an uncorrectable address parity.
206   Machine check because of an uncorrectable ECC error.
207   Machine check because of an unidentified error.
208   Machine check due to an L2 uncorrectable ECC.
300   Data storage interrupt from the processor.
32x   Data storage interrupt because of an I/O exception from IOCC.
38x   Data storage interrupt because of an I/O exception from SLA.
400   Instruction storage interrupt.
500   External interrupt because of a scrub memory bus error.
501   External interrupt because of an unidentified error.
51x   External interrupt because of a DMA memory bus error.
52x   External interrupt because of an IOCC channel check.
53x   External interrupt from an IOCC bus timeout; x represents the IOCC number.
54x   External interrupt because of an IOCC keyboard check.
558   There is not enough memory to continue the IPL.
700   Program interrupt.
800   Floating point is not available.

Dump Progress Indicators (Dump Status Codes)

The following dump progress indicators, or dump status codes, are part of a Type 102 message.

Note: When a lowercase c is listed, it displays in the lower half of the seven-segment character position. The leftmost position is blank on the following codes.

0c0 The dump completed successfully.
0c1 The dump failed due to an I/O error.
0c2 A dump, requested by the user, is started.
0c3 The dump is inhibited.
0c4 The dump device is not large enough.
0c5 The dump did not start, or the dump crashed.
0c6 Dumping to a secondary dump device.
0c7 Reserved.
0c8 The dump function is disabled.
0c9 A dump is in progress.
0cc Unknown dump failure

Step 0070-4

A Type 103 message is generated when a hardware error is detected. Use the following steps and information to determine the content of the Type 103 message.

103 = Message type xxx yyy = SRN (where xxx = the three-digit code following the 103 and yyy is the three-digit code following the xxx three-digit code).

 1. Record the SRN and FRU location codes from the recorded message.

 2. Find the SRN in the Service Request Number List and do the indicated action.

    Note: The only way to recover from an 888 type of halt is to turn the system unit off.

Step 0070-5

Perform the following steps:

1. Turn the system units' power off.

2. Turn on the system units' power and load the online diagnostics in service mode.

3. Wait until one of the following conditions occurs and then answer the question below.

   - You are able to load the diagnostics to the point where the Diagnostic Mode Selection menu is displayed.

   - The system stops with a flashing 888

   - The system appears hung

Is the Diagnostic Mode Selection menu displayed?

No   Go to MAP 1540 in the system unit service guide.

Yes   Go to "Step 0070-6."

Step 0070-6

Run the Base System or System Planar diagnostics in Problem Determination Mode.

Was an SRN reported by the diagnostics?

No   The flashing 888 may have been caused by a software problem. Follow the procedure for reporting a software problem.

Yes   Record the SRN and location code information. Find the SRN in the SRN Listing and do the indicated action.

Chapter 12. MAP 0080 System Bus Problem Isolation

Purpose of This MAP

This MAP is used to analyze a bus problem that does not prevent the system from booting.

Note: Some devices installed in the system may require supplemental diskettes to be loaded for diagnostic support.

Step 0080-1

1. Perform a system shutdown and then if necessary turn the system unit's power off

2. Locate the diagnostic CD ROM disc.

3. Turn the system unit's power on and then load the diagnostic CD ROM disc into the CD ROM drive.

4. Load the Standalone Diagnostics.

5. Wait until the "Please define the System Console" screen is displayed or all system activity appears to have stopped, then answer the following question.

Is the "Please Define the System Console" screen displayed?

No   The symptom has changed. Use MAP 1540 in the system unit's service guide.

Yes   Go to "Step 0080-2."

Step 0080-2

Follow the displayed instructions until the Installed Resources menu is displayed then answer the question.

Are all the installed PCI bus type adapters listed on the Installed Resources menu?

No   Go to "Step 0080-3" on page 12-2 and make a note of all PCI adapters not listed and their locations.

Yes   You may have an intermittent problem. If you think you have an intermittent problem go to Chapter 6, "MAP 0040: Intermittent Problem Isolation" on page 6-1.

Step 0080-3

1. Perform a system shutdown, and then if necessary turn the system unit's power off.

2. Remove all but one of the PCI bus type adapters that was not listed on the Installed Resources menu.

   Note: If only one adapter is present, do not remove it.

3. Turn the system unit's power on and load standalone diagnostics from the CD ROM.

4. Wait until the "Please define the System Console" screen is displayed or all system activity appears to have stopped, then answer the following question.

Is the "Please Define the System Console" screen displayed?

No   The symptom has changed. Use MAP 1540 in the system unit's service guide.

Yes   Go to "Step 0080-4."

Step 0080-4

Follow the displayed instructions until the Installed Resources menu is displayed then answer the question.

Is the adapter that you did not remove shown as an installed resource?

No   Record SRN 111-78C and make a note of the adapter you just installed. Look up the SRN in the SRN listings and perform the indicated action.

Yes   Go to "Step 0080-5."

Step 0080-5

Have you installed all of the removed adapters?

No   Go to "Step 0080-6" on page 12-3.

Yes   Call your support person.

Step 0080-6

1. Perform a system shutdown and then if necessary turn the system unit's power off.

2. Install one of the remaining removed adapters into it's original location.

3. Turn the system unit's power on and load Standalone Diagnostics from the CD ROM.

4. Wait until the "Please Define the System Console" screen is displayed or all system activity appears to stop then answer the following question.

Is the "Please Define the System Console" screen displayed?

No   The symptom has changed. Use MAP 1540 in the system unit's service guide.

Yes   Go to "Step 0080-7."

Step 0080-7

Follow the displayed instructions until the Installed Resources menu is displayed then answer the following question.

Is the adapter that you just installed shown as an installed resource?

No   Record SRN 111-78C and make a note of the adapter you just installed. Look up the SRN in the SRN listings and perform the indicated action.

Yes   Go to "Step 0080-5" on page 12-2.

Chapter 13. MAP 0210: General Problem Resolution

Purpose of This MAP

Use this MAP to exchange the FRUs in the order of their failure probability.

Step 0210-1

Read the following information before proceeding.

- Version 4.3.3 and later diagnostics display the part number and physical location code, if available, on the Problem Report screen. The parts are listed in their probability-of-failure order.

- Part numbers display if they are available from VPD. If the part number displays, use it in place of the part number in the FFC List. However, in some cases the part number provided by the VPD may be incorrect, in that case use the FFC List part number.

- When identifying the location of a planar or a plug-in card, the physical location code used to identify the failing FRU may contain extended location information. For additional information about physical location codes and how the AIX Diagnostics use them, see "Location Codes for RSPC Model Architecture System Units" on page 28-12.

Go to "Step 0210-2."

Step 0210-2

Find the failing function codes in the "Failing Function Code List" on page 35-4, and record the FRU part number and description of each FRU.

Do you want to exchange this FRU as a hot-plug FRU?

NO   Go to "Step 0210-3" on page 13-2.

YES   Go to Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.

Step 0210-3

1. Refer to "Service Request Number Listing" on page 29-2, record the SRN source code, and the failing function codes in the order of their listing.

2. Find the failing function codes in the "Failing Function Code List", refer to Chapter 35, "Failing Function Codes (FFCs)" on page 35-1, and record the part number and description for each FRU.

3. If the operating system is running, perform the operating system's shutdown procedure (get help if needed).

4. Turn the system's power off.

Exchange one of the FRUs (normally the first one listed).

To verify the repair, find the SRN source code you recorded in the following table; then go to the step indicated in the Action column.

SRN Source Code	Action
A	Go to "Step 0210-8" on page 13-5.
B	Go to "Step 0210-8" on page 13-5.
C	Go to "Step 0210-4" on page 13-3.
D	Go to "Step 0210-8" on page 13-5.
E	Go to "Step 0210-8" on page 13-5.
F	Go to "Step 0210-8" on page 13-5.
G	Go to "Step 0210-14" on page 13-8.

Step 0210-4

The following steps handle the problems when the system does not detect a resource.

Note: The following substeps are to be used with SRNs having source code C. In addition, Online Diagnostics must be used.

1. Turn the system's power on.
2. Load the Online Diagnostics in Service Mode (refer to the system's service guide if needed).
3. Wait until the diagnostics are loaded or the system appears to stop.

Were you able to load the diagnostics?

NO   The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to the system unit's service guide.

YES   Go to "Step 0210-5."

Step 0210-5

1. Press the Enter key.

2. Select the Advanced Diagnostics option.

   Note: If the terminal type is not defined, you are prompted to define it. You are not allowed to continue until this is done.

3. When the DIAGNOSTIC MODE SELECTION menu displays, select System Verification.

Is the MISSING RESOURCE menu displayed?

NO   This completes the repair. Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

YES   Go to "Step 0210-6" on page 13-4.

Step 0210-6

Look at the failing function codes and the FRU part numbers you recorded for this SRN.

Have you exchanged all the FRUs that correspond to the failing function codes?

NO   Go to "Step 0210-7."

YES   The SRN did not identify the failing FRU. Go to Chapter 5, "MAP 0030: Additional Problem Determination" on page 5-1.

Step 0210-7

1. After performing a shutdown of the operating system, turn the system unit power off.

2. Remove the new FRU and install the original FRU.

3. Exchange the next FRU in the list.

4. Turn the system unit power on.

5. Load the Online Diagnostics in Service Mode (refer to the system unit service guide if needed).

6. Wait until the diagnostics are loaded or the system appears to stop.

Were you able to load the diagnostics?

NO   The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to the system's service guide.

YES   Go to "Step 0210-5" on page 13-3, and repeat the steps.

Step 0210-8

Note: Run Online Diagnostics, if possible. If the system planar or battery has been replaced and you are loading diagnostics from a server over a network, it may be necessary for the customer to set the network boot information for this system before diagnostics can be loaded. The system time and date information should also be set when the repair is completed.

1. Turn the system's power on.

2. Load either the Online or Standalone Diagnostics in Service Mode (refer to the system's service guide if needed).

3. Wait until the diagnostics are loaded or the system appears to stop.

Were you able to load the diagnostics?

NO   The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 and get a new SRN.

YES   Go to "Step 0210-9."

Step 0210-9

1. Press the Enter key.

2. Select the Advanced Diagnostics Routines option.

3. If the MISSING RESOURCES menu displays, answer the question below now. If it does not display, proceed to the next substep.

4. When the DIAGNOSTIC MODE SELECTION menu displays, select the System Verification option, then answer the question below.

Note: If the terminal type is not defined, you are prompted to define it. You are not allowed to continue until this is done.

Is the ADVANCED DIAGNOSTIC SELECTION menu displayed?

NO   Go to "Step 0210-15" on page 13-8.

YES   Go to "Step 0210-10" on page 13-6.

Step 0210-10

Select and run the diagnostics for the FRU you exchanged. If the FRU you
exchanged does not appear on the resource selection screen, select `sysplanar0`.

Note: The RESOURCE REPAIR ACTION menu allows a repair action to be logged
for the resource being tested. This prevents Error Log Analysis from reporting
problems on FRUs that have been replaced. If the RESOURCE REPAIR ACTION
menu displays, perform the following:

 1. Select the resource that has been replaced from the menu.

 2. Once all selections have been made, select `Commit` (F7 key).

Did the FRU pass the test?

NO   Go to "Step 0210-11."

YES   This completes the repair. Go to Chapter 22, "MAP 0410: Repair
            Checkout" on page 22-1.

Step 0210-11

Look at the failing function codes and FRU part numbers you recorded for this SRN.

**Have you exchanged all the FRUs that correspond to the failing function
codes?**

NO   Go to "Step 0210-12" on page 13-7.

YES   The SRN did not identify the failing FRU. Go to Chapter 5, "MAP 0030:
            Additional Problem Determination" on page 5-1.

Step 0210-12

1. After performing a shutdown of the operating system, turn the system unit power off.

2. Remove the new FRU and install the original FRU.

3. Exchange the next FRU in list.

4. Turn the system unit power on.

5. Load either the Online or Standalone Diagnostics in Service Mode (refer to the system's service guide if needed).

6. Wait until the diagnostics are loaded or the system appears to stop.

Were you able to load the diagnostics?

NO   The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to the system's service guide.

YES   Go to "Step 0210-13."

Step 0210-13

1. Press the Enter key.

2. Select the Advanced Diagnostics Routines option.

3. If the MISSING RESOURCES menu displays, answer the question below now. If it does not display, proceed to the next substep.

4. When the DIAGNOSTIC MODE SELECTION menu displays, select the System Verification option.

Note: If the terminal type is not defined, you are prompted to define it. You are not allowed to continue until this is done.

Is the ADVANCED DIAGNOSTIC SELECTION menu displayed?

NO

YES

Step 0210-14

Each time the Problem Determination option is selected from the Diagnostics Mode Selection menu, the error log for the preceding time period is analyzed, and problems are assigned SRN source G. Although a FRU may have already been replaced based on that error log analysis, repeated selection of the Problem Determination option continues to reflect the same error for a period of time. The System Verification option does not perform error analysis. Ensure that the indicated failing FRU has not been replaced in the previous week.

Has the FRU called out by this SRN been replaced in the week prior to this repair action?

NO   Go to "Step 0210-8" on page 13-5.

YES   Disregard this SRN. If the Problem Determination option needs to be run, use the AIX operating system **errclear** command (refer to the AIX operating system Commands Reference) to delete the error log entry for the replaced resource. Go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1.

Step 0210-15

Is the Missing Resource menu displayed?

NO   The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to the Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 and get a new SRN.

YES   Go to "Step 0210-16" on page 13-9.

Step 0210-16

Follow the displayed instructions. When you finish processing the missing resources, answer the following question.

Did you get an SRN?

NO   Go to "Step 0210-18."

YES   Go to "Step 0210-17."

Step 0210-17

Is the SRN the Same as the Original SRN?

NO   The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to the Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 and get a new SRN.

YES   Go to "Step 0210-18."

Step 0210-18

1. Exit the Missing Resources menu.

2. When the DIAGNOSTIC MODE SELECTION menu displays, select the System Verification option.

3. Go to "Step 0210-10" on page 13-6.

Chapter 14. MAP 0220 Hot-Swap FRU Problem Resolution

Purpose of This MAP

Use this MAP to exchange FRUs that are hot-swappable

Attention: If the FRU is a disk drive or an adapter, ask the system administrator to perform any steps necessary to prepare the device for removal.

Step 0220-1

1. If the system displayed a FRU part number on the screen, use that part number to exchange the FRU.

   If there is no FRU part number displayed on the screen, refer to "Service Request Number List" on page 30-1, record the SRN source code and the failing function codes in the order of their listing.

2. Find the failing function codes in the "Failing Function Code List" on page 35-4, and record the FRU part number and description of each FRU.

3. Refer to the removal and replacements procedures in your system's service guide to determine if the FRU is hot-swappable. If the FRU is determined to be hot-swappable, return to MAP 0220 Step 0220-2. If the FRU is determined not to be hot-swappable go to MAP 0210.

Does this system unit support hot-swapping of the first FRU listed?

NO   Go to Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.

YES   Go to "Step 0220-2" on page 14-2.

Step 0220-2

Note: Refer to the system unit's service guide for removal and replacement procedures.

1. Remove the old FRU.

2. Install the new FRU.

3. Enter superuser mode then enter the **diag** command to run Online Concurrent diagnostics. Get assistance if needed.

4. Run the diagnostic test that reported the SRN then answer the following question.

Note: If you are uncertain as to which test to run, select the "All Resources" option.

Is the original problem still being reported?

NO   This completes the repair. If steps were performed to make the device ready for removal, inform the system administrator to perform the steps necessary to return the device to the original state. The system can then be returned to the customer.

YES   Go to "Step 0220-3."

Step 0220-3

Have you exchanged all the FRUs that correspond to the failing function codes?

NO   Go to "Step 0220-4" on page 14-3.

YES   The SRN did not identify the failing FRU. Schedule a time to run diagnostics in service mode. If the same SRN is reported in service mode go to Chapter 5, "MAP 0030: Additional Problem Determination" on page 5-1.

Step 0220-4

Note: Before proceeding, remove the FRU you just replaced and install the original FRU in it's place.

Does this system unit support hot-swapping of the next FRU listed?

NO   Go to Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.

YES   Go to "Step 0220-2" on page 14-2.

Chapter 15. MAP 0230 Platform Error Problem Resolution

Purpose of This MAP

Use this MAP to resolve problems reported by SRNs A00-000 to A1F-FFF.

Step 0230-1

1. The last character of the SRN is bit encoded as follows:

```
8 4 2 1
│ │ │ └ Replace all FRUs listed
│ │ └── Hot-swap supported
│ └──── Software or Firmware could be the cause
└────── Reserved
```
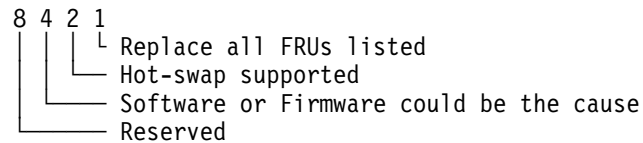
2. Refer to the last character in the SRN. A 4, 5, 6, or 7 indicates a possible software or firmware problem.

Does the last character indicate a possible software or firmware problem?

NO   Go to "Step 0230-4" on page 15-2.

YES   Go to "Step 0230-2."

Step 0230-2

Ask the customer if any software or firmware has been installed recently.

Has any software or firmware been installed recently?

NO   Go to "Step 0230-4" on page 15-2.

YES   Go to "Step 0230-3" on page 15-2.

Step 0230-3

Suspect the new software or firmware.

Check with your support center for any known problems with the new software or firmware.

Are there any known problems with the software or firmware?

NO   Go to "Step 0230-4."

YES   Obtain and follow the procedure to correct the software problem. This completes the repair.

Step 0230-4

1. Obtain the list of physical location codes and FRU numbers that were listed on the problem report screen. The list can be obtained by running the `sysplanar0` diagnostics or using the Display Previous Diagnostic Results task.

2. Record the physical location codes and FRU numbers.

3. Refer to the last character in the SRN. A 2, 3, 6, or 7 indicates that hot-swap is possible.

Does the last character indicate that hot-swap is possible?

NO   Go to "Step 0230-5" on page 15-3.

YES   Go to "Step 0230-9" on page 15-6.

Step 0230-5

1. If the operating system is running, perform the operating system's shutdown procedure.

2. Turn off power to the system.

3. Refer to the last character in the SRN. A 1, 3, 5, or 7 indicates that all FRUs listed on the **Problem Report Screen** need to be replaced. For SRNs ending with any other character, exchange one FRU at a time, in the order listed.

4. Turn on power to the system.

5. Load Online Diagnostics in service mode (see the system's service guide if needed).

   Note: If the **Diagnostics Operating Instructions** do not display or you are unable to select the **Task Selection** option, check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 and get a new SRN.

6. Wait until the **Diagnostics Operating Instructions** are displayed or the system appears to stop.

7. Press the **Enter** key.

8. Select the **Task Selection** option.

9. Select the **Log Repair Action** option and log a repair action for each replaced resource.

10. Return to the **Task Selection Menu**.

11. Select **Run Exercisers** and run the short exercisers on all the resources.

12. After the exercisers are complete return to the **Task Selection** menu.

13. Select **Run Error Log Analysis** and run analysis on all the resources.

Was a problem reported?

NO   The repair is complete. Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

YES   Go to "Step 0230-6" on page 15-4.

Step 0230-6

Is the problem the same as the original problem?

NO   The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 and get a new SRN.

YES   Go to "Step 0230-7."

Step 0230-7

Look at the physical location codes and FRU part numbers you recorded.

Have you exchanged all the FRUs that were listed?

NO   Go to "Step 0230-8" on page 15-5.

YES   The SRN did not identify the failing FRU. Call your support person for assistance.

Step 0230-8

1. After performing a shutdown of the operating system, turn off power to the system.

2. Remove the new FRU and install the original FRU.

3. Exchange the next FRU in list.

4. Turn on power to the system.

5. Load **Online Diagnostics** in service mode (see the system's service guide if needed).

   Note: If the **Diagnostics Operating Instructions** do not display or you are unable to select the **Task Selection** option, check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 and get a new SRN.

6. Wait until the **Diagnostics Operating Instructions** are displayed or the system appears to stop.

7. Press the **Enter** key.

8. Select the **Task Selection** option.

9. Select the **Log Repair Action** option and log a repair action for each replaced resource.

10. Return to the **Task Selection Menu**.

11. Select **Run Exercisers** and run the short exerciser on all the resources.

12. After the exercisers are complete return to the **Task Selection Menu**.

13. Select **Run Error Log Analysis** and run analysis on all the resources.

Was a problem reported?

NO　　　The repair is complete. Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

YES　　　Go to "Step 0230-6" on page 15-4.

Step 0230-9

The FRUs can be hot-swapped. If you do not want to use the hot-swap, go to "Step 0230-5" on page 15-3.

Note: See the hot-swap procedures in the removal and replacement section of your system unit's service guide.

1. Refer to the last character in the SRN. A 1, 3, 5, or 7 indicates that all FRUs listed on the **Problem Report Screen** need to be replaced. For SRNs ending with any other character, exchange one FRU at a time, in the order listed.

2. If available use the **CE Login** and enter the **diag** command.

   Note: If **CE Login** is not available have the system administrator enter superuser mode and then enter the **diag** command.

3. After the **Diagnostics Operating Instructions** display, press **Enter**.

4. Select the **Task Selection** option.

5. Select the **Log Repair Action** option and log a repair action for each replaced resource.

6. Return to the **Task Selection** menu.

7. Select **Run Exercisers** and run the short exerciser on the resources you exchanged.

8. After the exercisers are complete return to the **Task Selection Menu**.

9. Select **Run Error Log Analysis** and run analysis on all the replaced resources.

Was a problem reported?

NO   The repair is completed. Return the system to the customer.

YES   Go to "Step 0230-10" on page 15-7.

Step 0230-10

Is the problem the same as the original problem?

NO   The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 and get a new SRN.

YES   Go to "Step 0230-11."

Step 0230-11

Look at the physical location codes and FRU part numbers you recorded.

Have you exchanged all the FRUs that were listed?

NO   Go to "Step 0230-12."

YES   The SRN did not identify the failing FRU. Call your support person for assistance.

Step 0230-12

1. Remove the new FRU and install the original FRU.

2. Exchange the next FRU in the list.

3. Return to the **Task Selection Menu**.

4. Select the **Log Repair Action** option and log a repair action for each replaced resource.

5. Return to the **Task Selection Menu**.

6. Select **Run Exercisers** and run the short exercisers on the exchanged exercisers.

7. After the exercisers are complete return to the **Task Selection Menu**.

8. Select **Run Error Log Analysis** and run analysis on all exchanged resources.

Was a problem reported?

NO   The repair is complete. Return the system to the customer.

YES   Go to "Step 0230-10."

Chapter 16. MAP 0240: Memory Problem Resolution

Purpose of This MAP

This MAP handles memory problems.

Step 0240-1

1. If the system displayed a FRU part number on the screen, use that part number to exchange the FRU.

   If there was no FRU part number displayed on the screen, find your SRN in the "Service Request Number List" on page 30-1.

2. Record the SRN source code, and the failing function codes in the order of their listing.

3. Find the function codes in the "Failing Function Code List" on page 35-4 and record the part number and description for each FRU.

4. If the operating system is running, perform the operating system's shutdown procedure (get help if needed).

5. Turn the system's power off.

Exchange the first FRU listed.

Notes:

- If more than one memory module is listed, replace all the listed memory modules simultaneously.

- If the SRN table lists multiple FRUs, (other than memory modules) exchange the FRUs one at a time based on the order listed. If an exchanged FRU does not fix the problem, reinstall the original FRU, and then replace the next FRU listed when directed by the MAPs.

Step 0240-2

1. Turn the system's power on.

2. Load either the Online or Standalone Diagnostics in Service Mode (refer to the system's service guide if needed).

3. Wait until the diagnostics are loaded or the system appears to stop.

Were you able to load the diagnostics?

NO   The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to the system unit's service guide.

YES   Go to "Step 0240-3."

Step 0240-3

1. Press the Enter key.

2. When the FUNCTION SELECTION menu is displayed, select the Advanced Diagnostics option.

   Note: If the terminal type is not defined, you are prompted to define it. You are not allowed to continue until this is done.

3. When the DIAGNOSTIC MODE SELECTION menu is displayed, select the System Verification option.

4. If the ADVANCED DIAGNOSTIC SELECTION menu is displayed, select the Base System option. If the RESOURCE SELECTION MENU is displayed, select the Memory test.

Did the test pass?

NO   Go to "Step 0240-4" on page 16-3.

YES   This completes the repair. Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0240-4

Have you exchanged all the FRUs that correspond to the failing function codes?

NO   Go to "Step 0240-5."

YES   Go to "Step 0240-7" on page 16-4.

Step 0240-5

1. After performing a system shutdown, turn the system's power off.

2. Remove the new FRU and install the original FRU.

3. Exchange the next FRU in the list. If more than one memory module is listed, replace all of the memory modules simultaneously.

4. Turn the system's power on.

5. Load either the Online or Standalone Diagnostics in Service Mode (refer to the system unit's service guide if needed).

6. Wait until the diagnostics are loaded or the system appears to stop.

Were you able to load the diagnostics?

NO   The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to the system unit's service guide.

YES   Go to "Step 0240-6" on page 16-4.

Step 0240-6

1. Press Enter.

2. When the Function Selection menu is displayed, select the Advanced Diagnostic option.

   Note: If the terminal type is not defined, you are prompted to define it. You are not allowed to continue until this is done.

3. Select the Advanced Diagnostics option.

4. When the DIAGNOSTIC MODE SELECTION menu displays, select the System Verification option.

5. If the ADVANCED DIAGNOSTIC SELECTION menu is displayed, select the Base System option. If the RESOURCE SELECTION MENU is displayed, select the Memory test.

Did the test pass?

NO   Go to "Step 0240-4" on page 16-3, and repeat the steps.

YES   This completes the repair. Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0240-7

Look at the FRU descriptions you recorded for this SRN.

Is the only FRU identified by this SRN a memory module?

NO   The SRN did not identify the failing FRU. Call your support person.

YES   Go to "Step 0240-8" on page 16-5.

Step 0240-8

1. After performing a shutdown, turn the system's power off.

2. Exchange the planar or memory card that contains the memory module.

3. Turn the system's power on.

4. Load either the Online or Standalone Diagnostics in Service Mode (refer to the system unit's service guide if needed).

5. Wait until the diagnostics are loaded or the system appears to stop.

Were you able to load the diagnostics?

NO   The symptom has changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to the system unit's service guide.

YES   Go to "Step 0240-9."

Step 0240-9

1. Press Enter.

2. When the Function Selection menu is displayed, select the Advanced Diagnostic option.

   Note: If the terminal type is not defined, you are prompted to define it. You are not allowed to continue until this is done.

3. When the DIAGNOSTIC MODE SELECTION menu is displayed, select the System Verification option.

4. If the ADVANCED DIAGNOSTIC SELECTION menu is displayed, select the Base System option. If the RESOURCE SELECTION MENU is displayed, select the Memory test.

Did the test pass?

NO   The SRN did not identify the failing FRU. Call your support person.

YES   This completes the repair. Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Chapter 17. MAP 0250: Unexpected System Halts During Diagnostics

Purpose of This MAP

This MAP handles unexpected system halts that occur while running the diagnostic programs. Go to "Step 0250-1."

Step 0250-1

The last three digits of the SRN match a failing function code number.

Look at the "Failing Function Code List" in "Failing Function Code List" on page 35-4 and find the failing function code that matches the last three digits of your SRN. Record the FRU part number and description.

Does this system unit contain only one of this kind of FRU?

NO   Go to "Step 0250-2."

YES   Go to "Step 0250-3" on page 17-2.

Step 0250-2

One of the multiple FRUs of this kind is defective.

Remove this kind of FRUs one at a time. Test the system unit after each FRU is removed. When the test is successful or all FRUs of this kind have been removed, answer the following question.

Were you able to identify a failing FRU?

NO   Go to MAP 1540 in the system unit's service guide.

YES   Go to "Step 0250-3" on page 17-2.

Step 0250-3

1. Set the power switch on the system unit to Off.

2. Exchange the FRU identified in "Step 0250-2" on page 17-1 or the FRU identified by the last three digits of the SRN.

3. Turn the system's power on.

4. Load either the Online or Standalone Diagnostics in Service Mode (refer to the system unit's service guide if needed).

5. Wait until the diagnostics are loaded or the system appears to stop.

Were you able to load the diagnostics?

NO   The symptom changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to the system unit's service guide.

YES   Go to "Step 0250-4."

Step 0250-4

1. Press the Enter key.

2. When the FUNCTION SELECTION menu is displayed, select the Advanced Diagnostics option.

   Note: If the terminal type is not defined, you are prompted to define it. You are not allowed to continue until this is done.

3. When the DIAGNOSTIC MODE SELECTION menu is displayed, select the System Verification option.

Did the ADVANCED DIAGNOSTIC SELECTION menu display?

NO   The symptom changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 and get a new SRN.

YES   Go to "Step 0250-5" on page 17-3.

Step 0250-5

Run diagnostics on the FRU you exchanged.

Did the FRU pass the test?

NO   Contact your support person.

YES   This completes the repair. Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Chapter 18. MAP 0260: System Hangs During Resource Configuration

Purpose of This MAP

This MAP handles problems when the system unit hangs while configuring a resource.

Step 0260-1

The last three digits of the SRN match a failing function code number.

Look at the "Failing Function Code List" on page 35-4 and find the failing function code that matches the last three digits of your SRN. Record the FRU part number and description (use the first FRU part listed when multiple FRUs are listed).

The physical location code, AIX location code, or device name displays on system units with multiple-line LCD operator panel display if AIX 4.3.3 or higher operating system is installed.

Do you have either a physical location code or AIX location code displayed?

NO   Go to "Step 0260-2."

YES   Go to "Step 0260-4" on page 18-3.

Step 0260-2

Does your system unit contain only one of this kind of FRU?

NO   Go to "Step 0260-3" on page 18-2.

YES   Go to "Step 0260-4" on page 18-3.

Step 0260-3

One of the FRUs of this kind is defective.

Remove this kind of FRU one at a time. Test the system unit after each FRU is removed. When the test completes successfully or when you have removed all of the FRUs of this kind, answer the following question.

Were you able to identify a failing FRU?

NO   Go to MAP 1540 in either the service guide or the installation and service guide for this system unit.

YES   Go to "Step 0260-4" on page 18-3.

Step 0260-4

1. Turn off the system unit.

2. Exchange the FRU identified by the location code or "Step 0260-3" on page 18-2.

3. Turn on the system unit.

4. Load the Online Diagnostics in Service Mode (if needed, refer to the *Service Guide*.

5. Wait until the Diagnostic Operating Instructions display or the system appears to have stopped.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO   Go to "Step 0260-5" on page 18-4.

YES   Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0260-5

Look at the operator panel display.

Is the number displayed the same as the last three digits of your SRN?

NO   The symptom changed. Check for loose cards, cables, and obvious problems. If you do not find a problem, go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1 and get a new SRN.

YES   Go to "Step 0260-6."

Step 0260-6

Was the FRU you exchanged an adapter or a planar?

NO   Go to "Step 0260-7."

YES   Go to "Step 0260-9" on page 18-6.

Step 0260-7

Was the FRU you exchanged a device?

NO   Go to MAP 1540 in either the service guide or the installation and service guide for this system unit.

YES   Go to "Step 0260-8" on page 18-5.

Step 0260-8

The adapter for the device may be causing the problem.

1. Turn off the system unit.

2. Exchange the adapter for the device.

    Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.

3. Turn on the system unit. If c31 is displayed, follow the displayed instructions to select a console display.

4. Wait until one of the following conditions occurs; then answer the question.

    - The system unit's power-on light does not come on, or does not stay on.
    - The machine stops for at least three minutes with a steady number in the operator panel display.
    - The operator panel display is blank.
    - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
    - The system stops with two or more numbers between 221 and 296 alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO Go to MAP 1540 in either the service guide or the installation and service guide for this system unit.

YES Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0260-9

The FRU identified by failing function code `E10` may be causing the problem.

1. Turn off the system unit.

2. Find failing function code `E10` in the "Failing Function Code List" on page 35-4.

3. If the FRU identified by failing function code `E10` has not been exchanged, exchange that FRU.

   Note: If the AIX operating system is not used on the system, start diagnostics from an alternate source.

4. Turn on the system unit. If `c31` is displayed, follow the displayed instructions to select a console display.

5. Wait until one of the following conditions occurs; then answer the question.

   - The system unit's power-on light does not come on, or does not stay on.
   - The machine stops for at least three minutes with a steady number in the operator panel display.
   - The operator panel display is blank.
   - The DIAGNOSTIC OPERATING INSTRUCTIONS are displayed.
   - The system stops with two or more numbers between `221` and `296` alternating in the operator panel display.

Are the DIAGNOSTIC OPERATING INSTRUCTIONS displayed?

NO   Go to MAP 1540 in either the service guide or the installation and service guide for this system unit.

YES   Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Chapter 19. MAP 0280: Boot Problem Resolution

Purpose of This MAP

Use this MAP to handle problems caused during booting of the system unit.

Entry Table	
Entry 1	Go to "Step 0280-1."
Entry 2	Go to "Step 0280-2" on page 19-2.
Entry 3	Go to "Step 0280-3" on page 19-2.

Step 0280-1

The system fails to respond to keyboard entries.

This problem is most likely caused by a faulty keyboard, keyboard adapter, or keyboard cable.

Try the FRUs in the order as listed below:

1. Keyboard
2. Keyboard adapter (normally located on the system board)
3. Keyboard cable (if not included with the keyboard)
4. Test the FRU by retrying the failing operation.

Were you able to resolve the problem?

No   Go to Chapter 5, "MAP 0030: Additional Problem Determination" on page 5-1.

Yes   Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0280-2

1. Some systems have a graphic adapter POST. Check your system guide for information about graphic adapter POSTs. If a graphic adapter POST is supported and it indicates a failure, follow the procedures in the system guide to resolve the problem.

2. If a graphic adapter POST is supported and it does not indicate a failure, suspect the display or display cable.

3. If the system does not have a graphic adapter POST, go to the display problem determination procedures. If you don't find a problem, replace the graphics adapter.

Were you able to resolve the problem?

No   Go to Chapter 5, "MAP 0030: Additional Problem Determination" on page 5-1.

Yes   Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0280-3

Go to the problem determination procedure for the terminal. If you do not find a problem, suspect the serial port adapter or terminal cable.

Were you able to resolve the problem?

No   Call your support person.

Yes   Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Chapter 20. MAP 0290: Missing Resource Problem Resolution

Purpose of This MAP

Use this MAP to handle problems when a resource is not detected by the diagnostics.

Step 0290-1

Use the "Display Configuration and Resource List" on page 27-16 to display the resources that were sensed by the configuration program when the diagnostic programs were loaded; then go to "Step 0290-2."

Notes:

- Supplemental diskettes may be required for specific adapters and devices if service aids are run from Standalone Diagnostics.

- ISA adapters cannot be detected by the system. The ISA Adapter Configuration Service Aid in Standalone Diagnostics allows the identification and configuration of ISA adapters, based on user input.

- A resource's software must be installed on AIX before a resource can be detected by the Online Diagnostics.

Step 0290-2

Is the undetected resource a SCSI device installed in an externally attached enclosure for a SCSI device(s)?

NO   Go to "Step 0290-4" on page 20-2.

YES   Go to "Step 0290-3" on page 20-2.

Step 0290-3

Go to the documentation for SCSI devices installed in an externally attached enclosure for a SCSI device(s), and check the device(s) for proper power, cabling, fans running, and any other checks available. Return here after you check the device.

Did you find a problem?

NO   Go to "Step 0290-4."

YES   Correct the problem; then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0290-4

Are you running Standalone Diagnostics?

NO   Go to "Step 0290-7" on page 20-3.

YES   Go to "Step 0290-5."

Step 0290-5

Are multiple devices missing that are connected to the same adapter?

NO   Go to "Step 0290-7" on page 20-3.

YES   Suspect a problem with the device adapter. Run diagnostics on the device adapter then go to "Step 0290-6" on page 20-3.

Step 0290-6

Did the diagnostics detect a problem with the adapter?

NO   Go to "Step 0290-8."

YES   Record the SRN then find the SRN in the SRN List and do the listed action.

Step 0290-7

Take the following steps:

1. Exchange the undetected resource.

2. Use the "Display Configuration and Resource List" on page 27-16 to display the resources sensed by the configuration program.

Is the resource listed?

NO   Go to Chapter 5, "MAP 0030: Additional Problem Determination" on page 5-1.

YES   Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0290-8
Are the missing devices attached to a backplane?

NO   Go to "Step 0290-7."

YES   Exchange the backplane then go to "Step 0290-9" on page 20-4.

             Note: Before exchanging the backplane check that all cables connected to the backplane are properly seated and that all cables and connectors are in good working condition. If a problem is found, correct it and then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0290-9

Load the standalone diagnostics then determine if the devices are still missing.

Are the missing devices listed in the New Resource List?

NO   Go to "Step 0290-7" on page 20-3.

YES   Go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Chapter 21. MAP 0291: Missing Device Problem Resolution

Purpose of This MAP

Use this MAP when a device such as a disk drive is reported as a missing resource by the diagnostics.

Step 0291-1

Inspect the cables (signal and power) of the missing device. Be sure all connections are in place and power is present. Use the system or enclosure documentation to locate specific cables, determine the cable numbering, and check for a problem determination procedure.

Power problems can sometimes be identified by checking other devices that use the same power source (such as a diskette drive and a SCSI tape drive that have the same power source even though they have different controllers). If other devices that share a power source are reported as missing devices, suspect the power source as the problem.

Note: If the missing device is installed in an enclosure that has a separate problem determination procedure, use that procedure first, then return here after you complete that procedure.

Did you find a problem?

NO   Go to "Step 0291-2."

YES   Correct the problem, then go to Chapter 22, "MAP 0410: Repair Checkout" on page 22-1.

Step 0291-2

Is the missing device a SCSI device installed in a SCSI Enclosure Services (AIX resource SES<u>x</u>) **device?**

NO   Go to "Step 0210-1" on page 13-1.

YES   Go to "Step 0291-3" on page 21-2.

Step 0291-3

Note: If the SCSI Enclosure Services device appears on the Missing Resource list along with the other resources, select it first.

Run the Advanced Diagnostics in Problem Determination mode on the SCSI Enclosure Services device.

Did you get a different SRN than when you ran the diagnostics previously?

NO Go to "Step 0210-1" on page 13-1.

YES Take the following action:

1. Find the SRN in Chapter 29, "Using the SRN List" on page 29-1.

   Note: If the SRN is not listed a Service Request Number Lists, look for additional information in the following:
   - Any supplemental service manual for the device.
   - The diagnostic Problem Report screen.
   - The "Service Hints" service aid in Chapter 26, "Using the Standalone and Online Diagnostics" on page 26-1.
2. Perform the action listed.

Chapter 22. MAP 0410: Repair Checkout

Purpose of This MAP

This MAP is used to check out the system after a repair is completed.

If you are servicing a SP system, go to the End of Call MAP in the *SP Maintenance Information Manual*.

Step 0410-1

Note: If the system planar or battery has been replaced and you are loading diagnostics from a server over a network, it may be necessary for the customer to set the network boot information for this system before diagnostics can be loaded. The system time and date information should also be set when the repair is completed.

1. After performing a system shutdown, turn the system's power off and unplug all power cords (cables) from electrical outlets.

2. Install all of the cards, adapters, cables, devices, and any other FRUs that were removed during problem analysis.

3. Turn the system's power on.

4. Load either the Online or Standalone diagnostics in Service Mode (refer to the system unit's service guide if needed).

5. Wait until the diagnostics are loaded or the system appears to stop.

Were you able to load the diagnostics?

NO   There is a problem. Go to the system unit's service guide.

YES   Go to "Step 0410-2" on page 22-2

Step 0410-2

1. Press the Enter key.

2. Select the Advanced Diagnostics option.

   Note: If the terminal type is not defined. You are prompted to define it. You are not allowed to continue until this is done.

3. When the DIAGNOSTIC MODE SELECTION menu is displayed, select System Verification.

4. When the ADVANCED DIAGNOSTIC SELECTION menu displays, select the System Checkout option or test the FRUs you exchanged by selecting the test(s) for the FRU(s). If the RESOURCE SELECTION menu is displayed select the All Resources option or test the FRUs you exchanged by selecting the diagnostics for the FRU(s).

Did the RESOURCE REPAIR ACTION menu (801015) display?

NO   Go to "Step 0410-3."

YES   Go to "Step 0410-4" on page 22-3.

Step 0410-3

Did the TESTING COMPLETE, no trouble was found menu (801010) display?

NO   There is still a problem. Go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1.

YES   This completes the repair. Return the system to the customer.

Step 0410-4

When a test is run on a resource in System Verification mode, and that resource has an entry in the AIX error log, if the test on the resource was good the RESOURCE REPAIR ACTION menu displays.

After replacing a FRU, you must select the resource for that FRU from the RESOURCE REPAIR ACTION menu. This updates the error log to indicate that a system-detectable FRU has been replaced.

Perform the following:

1. Select the resource that has been replaced from the menu. If the resource is not in the menu, select `sysplanar0` if listed.
2. Press **Commit** once all selections have been made.

   Note: To exit out of the menu without selecting a resource, press **Exit**.
3. The No Trouble Found menu is displayed.

This completes the repair. Return the system to the customer.

Chapter 23. MAP 0420: System Checkout

Purpose of This MAP

Use this MAP to verify that the system is working properly.

Step 0420-1

1. If the operating system is running, perform the operating system's shutdown procedure (get help if needed).

2. Turn the system's power off.

3. Turn the system's power on.

4. Load either the Online or Standalone Diagnostics in Service Mode (refer to the system unit's service guide if necessary).

5. Wait until the diagnostics are loaded or the system appears to stop.

Were you able to load the diagnostics?

NO There is a problem. Go to the system unit's service guide.

YES Go to "Step 0420-2" on page 23-2.

Step 0420-2

1. Press the Enter key.

2. When the FUNCTION SELECTION menu displays, select Advanced Diagnostics.

3. When the DIAGNOSTIC MODE SELECTION menu displays, select the System Verification option.

   Note: If the terminal type is not defined, you are prompted to define it. You are not allowed to continue until this is done.

4. If the NEW RESOURCE menu is displayed, be sure that all resources listed are installed; then follow the instructions.

   Note: ISA adapters cannot be detected by the system. The ISA Adapter Configuration Service Aid allows the identification and configuration of ISA adapters.

5. The MISSING RESOURCE menu should only be displayed if a resource was removed or moved. If the MISSING RESOURCE menu is displayed, follow the instructions.

6. If the ADVANCED DIAGNOSTIC SELECTION menu displays, select the System Checkout option to test the system or select the Checkout option to test the system or select the individual tests you want to run. If the RESOURCE SELECTION menu is displayed select the All Resources option to test the system or select each test you want to run.

Did the test pass?

NO There is a problem. Go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1.

YES This completes the system checkout.

Chapter 24. Installation Checkout

The installation checkout is used by the service representative to verify system quality after initial installation or after an MES or EC has been installed.

Installation Checkout Procedure

To start the checkout, go to "Step 1. Doing a Visual Check."

Step 1. Doing a Visual Check

Perform the following actions after initial system installation or system alteration:

1. Be sure the system unit power switch is set to Off.

2. Be sure the power switches on all of the attached devices are set to Off.

3. Visually check the system unit and attached devices for:

   - All power cables are securely attached to the system unit or devices

   - All signal cables are connected at both ends

   - All power cables are plugged into the customer's outlet

   - All covers are installed and the vent openings are not obstructed

   - All ribbons, guides, and other attachments are in place.

4. Go to "Step 2. Checking the TTY Terminal Attributes" on page 24-2.

Step 2. Checking the TTY Terminal Attributes

Checking the TTY Terminal Attributes usually needs to be accomplished only during the initial installation.

If you have trouble selecting the console display and you are using an attached terminal, check the TTY Terminal Attributes again.

When you run the diagnostic programs from an attached tty terminal, the attributes for the terminal must be set to match the defaults of the diagnostic programs. The tty terminal must be attached to the S1 port on the system unit.

This step is continued on the next page.

Are you going to run this procedure on an attached tty terminal?

NO   Go to "Step 3. Loading the Diagnostics" on page 24-3.

YES   Go to "Running the Diagnostics from a tty Terminal" on page 26-3, and check the terminal attributes. Return to Step 3 when you finish checking the attributes.

Step 3. Loading the Diagnostics

The diagnostics can be run from a CD-ROM disc, from a locally attached disk, or from a server if the AIX operating system is installed on the system. If you are not sure whether the AIX operating system is installed, you can check by turning the system unit on. If the System Management Service menu displays, the AIX operating system is not installed.

If the AIX operating system is installed, the diagnostic programs should load from a locally attached disk or from a server. If the AIX operating system is not used, diagnostics can be loaded from the diagnostic CD-ROM disc.

The following procedure attempts to load the diagnostics from a disk or from a server. If they cannot be loaded from a disk or server, the diagnostic CD-ROM disc is used to load and run the checkout.

1. Set the power switches on all of the attached devices to On.

2. Set the power switch on the system unit to On.

   Note: After the first ICON is displayed on the system console press the F6 key if using a direct attached console, or the 6 key on a tty console.

3. If the System Management Services menu displays, the AIX operating system is not installed. Do the following:

   a. Insert the diagnostic CD-ROM disc into the CD-ROM drive.

   b. Power off the system unit, wait 45 seconds and then power on the system unit.

      Note: After the first ICON is displayed on the system console press the F6 key if using a direct attached console, or the 6 key on a tty console.

   c. If the system stops with an eight-digit error code displayed or stops with an ICON or ICONs displayed, a problem was detected.

      Check for loose cables or cards. If you do not find a problem, go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1.

4. When the diagnostic programs load correctly the DIAGNOSTIC OPERATING INSTRUCTIONS display.

Did the DIAGNOSTIC OPERATING INSTRUCTIONS display?

NO   Go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1.

YES   Go to "Step 4. Checking for the Correct Resources."

Step 4. Checking for the Correct Resources

Use the "Display or Change System Configuration or VPD" service aid to check the resources that are present (memory, SCSI devices, adapters, diskette drives, disk drives, and input devices).

Notes:

    a. If the terminal type has not been defined, it needs to be defined before you can select the service aids. Use the Initialize Terminal option on the FUNCTION SELECTION menu to define the terminal.

    b. If the Dials and LPFK are attached to serial ports S1 or S2, they are not listed by the service aid unless they have been configured by the user. Refer to AIX operating system documentation to configure these devices.

Were all the resources listed by the service aid?

NO   Check for loose cables or cards. If you do not find a problem, go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1.

YES   Go to "Step 5. Checking the Hardware" on page 24-5.

Step 5. Checking the Hardware

If you are running Online diagnostics from disk, the system can be checked by one of the following methods depending on the version of the diagnostic programs you are using:

1. Select Advanced Diagnostics on the FUNCTION SELECTION menu.

2. Select System Verification on the DIAGNOSTIC MODE SELECTION menu.

   All resources can be checked out by selecting System Checkout on the ADVANCED DIAGNOSTIC SELECTION menu, or you can select each resource individually.

3. Check each resource.

Did all of resources check out good?

NO   Record the SRN; then go to Chapter 3, "Fast Path MAP" on page 3-1.

YES   Go to "Step 6. Completing the Installation" on page 24-6.

Step 6. Completing the Installation

Some of the following steps only apply to an initial installation. These steps are provided as reminders in completing the installation or finishing a MES or EC activity.

1. If present, remove the CD-ROM diagnostic disc from the appropriate drive, and store it in the binder with the operator guides.

2. Give the keys to the customer and explain the importance of keeping the reorder tag for the keys in a safe place.

3. File a copy of the following items in the Account Management Planning Guide, form number Z229-0417.

   * SCSI Address Record from Appendix A of the User's Guide.

   * Machine History card for each system unit and device.

   * Microcode must be installed during system installation or after the AIX operating system is installed. If the system is using the AIX operating system, all microcode is preinstalled on the boot disk for all adapters and devices that were shipped with the system.

     Microcode is shipped on microcode diskettes, option diskettes and on the boot disk. For the AIX operating system, runtime microcode maintenance can be selected from the SMIT INSTALLATION AND MAINTENANCE MENU or from the Diagnostic Service Aid. The **adfutil -m** (command and flag) is normally used to install microcode shipped on option diskettes.

     If the system is using another type of operating system, that operating system should include microcode installation instructions.

     If you have the X.25 Interface Co-Processor, the microcode for them is normally not shipped with the AIX operating system. The microcode for these adapters must be installed before the adapters can be used. The X.25 Interface Co-Processor microcode is shipped on an option diskette.

   * Contact the person that is going to install the software or turn the system over to the customer.

     If needed, go to the AIX operating system Installation Kit to install and configure the AIX operating system.

Chapter 25. General Diagnostic Information

Information in this section is common to all system units. Any service information or diagnostic procedure that is specific to a certain system unit or device is in the operator guide or service guide for that system unit or device.

AIX Operating System Message Files

English is the default language displayed by the diagnostic programs when run from disk. If you want to run the diagnostic programs in a language other than English you must install on the system the AIX operating system message locale fileset for the desired language you want displayed.

Microcode

There are two types of hardware microcode used in system units. The first type is the microcode stored on disk and used by the built-in disk drive controller. The second type is the microcode used by an adapter.

The first type of microcode is written on the disk before the original or replacement disk drive is shipped. This type of microcode only needs updating when there is an applicable Engineering Change (EC) or Miscellaneous Equipment Specification (MES). Use the "Download Microcode" on page 27-22 to load this type of microcode from diskettes to disk.

The second type of microcode is stored on the disk by the operating system during installation of the operating system. This type of microcode loads to the adapter during the system IPL and must be installed before the diagnostics can be run from disk.

If you are using the AIX operating system, the **installp** and **adfutil** commands are used to load any microcode not shipped on the disk with the AIX operating system. All of the microcode stored on the disk for use with the AIX operating system is in either the `/etc/microcode` or the `/usr/lib/microcode` directory.

If you are using another operating system, refer to the documentation for that operating system to install microcode.

The CD-ROM diagnostic disc contain all of the required microcode for diagnostic purposes.

CEREADME File

There is a CEREADME (CE read me) file available on all diagnostic media. This file contains diagnostic and system unit errata not covered in the publications.

The CEREADME file can be displayed by using the Service Hints service aid after the diagnostics are loaded. Also, the file can be read directly from the disk using the AIX **pg** command to display `/usr/lpp/diagnostics/CEREADME`. The CEREADME file can be copied or printed using the normal commands. For information about using the service hints refer to "Display Service Hints" on page 27-19.

Printing the CEREADME File from Disk

The CEREADME file that is on disk may be printed using the **cat** command. The path to this file is as follows:

`/usr/lpp/diagnostics/CEREADME`

A copy of this file should be printed and stored with the Service Information. lp0 is normally the printer attached to the parallel port. If a printer is attached to the parallel port and is considered as lp0, the command for printing the file is as follows:

`cat /usr/lpp/diagnostics/CEREADME  >  /dev/lp0`

Printing the CEREADME File from a Source other than Disk

The CEREADME file cannot be printed while diagnostics are being executed from a source other than from the disk. The file can be printed on a system when the AIX operating system is running in a normal user environment. The procedure involves copying the file from the diagnostic media to a temporary file on disk, printing the file and then deleting the file from disk. Check for directory `/tmp/diag`. To determine if this directory already exists, enter:

`cd /tmp/diag`

If the directory does not exist, the message `/tmp/diag: not found` displays, do NOT attempt to print the CEREADME file if this message is not displayed. To print the CEREADME file choose the appropriate section below and follow the steps listed.

Printing the CEREADME File from CD-ROM

Insert the diagnostic CD-ROM disc into the CD-ROM drive and then enter the following commands:

```
mkdir /tmp/diag
mount -o ro -v cdrfs /dev/cd0  /tmp/diag
cd /tmp/diag/usr/lpp/diagnostics
cat CEREADME > /dev/lp0
cd /tmp
unmount /dev/cd0
```

The CEREADME file prints on **lp0**, which is the printer normally attached to the parallel port. If this file is not the same as the CEREADME file on the disk, a copy of this file should be printed and stored with the Service Information.

Testing the Line Printer

The following is a simple procedure for determining if a printer attached to your system is responding correctly. The AIX operating system should be up and running in your normal environment.

To determine what printers are available,enter the following:

```
lsdev -C -c printer
```

This command displays a list of printers currently defined on the system. Only those printers that are in the available state can be used (for example, those printers marked as defined can not be used). Ensure that a printer is actually connected at the location specified in the output of the command.

To begin printing, enter the following:

```
cat /usr/lpp/diagnostics/CEREADME > /dev/lpx
```

Note: In the above step, you must substitute for x the value obtained from the **lsdev** command.

After the command is entered, the contents of the CEREADME file should print.

Automatic Diagnostic Tests

All automatic diagnostic tests run after the system unit is turned on and before the AIX operating system is loaded.

The automatic diagnostic tests display event indicators to track test progress. If a test stops, the indicator for that test remains displayed to identify the unsuccessful test.

Built-In Self-Test

Note: This set of programs is not supported on all system units.

The Built-In Self-Test (BIST) programs run first after the system unit is turned on. These programs test the central electronics complex.

Power-On Self-Test

The Power-On Self-Test (POST) programs check the devices needed to accomplish an initial program load. The POST also checks the memory, and portions of the central electronics complex, common interrupt handler, and the direct memory access (DMA) handler.

Configuration Program

The configuration program determines what features, adapters, and devices are present on the system. The configuration program which is part of the AIX operating system builds a configuration list that is used by the diagnostic programs to control which tests are run during system checkout.

The configuration program displays numbers between 500 and 999 in the operator panel display. Refer to Chapter 28, "Diagnostics Numbers and Location Codes" on page 28-1 for a listing of program actions associated with displayed numbers.

Devices attached to serial and parallel ports are not configured. The Dials and Lighted Program Function Keys (LPFKs) can be tested from Online Diagnostics after they are manually configured. No other device attached to the serial and parallel ports are supported by the diagnostics.

CPU and Memory Testing and Error Log Analysis

Except for the floating-point tests, all CPU and memory testing on the system units are done by POST and BIST. Memory is tested entirely by the POST. The POST provides an error-free memory MAP. If POST cannot find enough good memory to boot, it halts and displays an error message. If POST finds enough good memory, the memory problems are logged and the system continues to boot.

If any memory errors were logged, they are reported by the Base System or Memory Diagnostics, which must be run to analyze the POST results. Normally, most memory problems that are detected by the POST are isolated to a single FRU.

The CPU and memory cannot be tested after the AIX based diagnostics are loaded; however, they are monitored for correct operation by various checkers such as Checkstop, Machine Check, etc. If one of these checks intermittently occurs it is logged into the error log.

Single-bit memory errors are corrected by ECC (Error Checking and Correction) on systems equipped with ECC memory.

Diagnostic Programs

The following topics provide an overview of the diagnostic programs.

Diagnostic Controller

The diagnostic controller runs as an application program on the AIX operating system. The diagnostic controller carries out the following functions:

- Displays diagnostic menus.
- Checks availability of needed resources.
- Checks error log entries under certain conditions.
- Loads diagnostic application programs.
- Loads task and service aid programs.
- Displays test results.

Diagnostic Applications Programs

To test an adapter or device, select the device or adapter from the Diagnostic
Selection menu. The diagnostic controller then loads the diagnostic application
program for the selected device or adapter.

The diagnostic application program loads and runs test units to check the functions
of the device or adapter.

The diagnostic controller checks the results of the tests done by the diagnostic
application and determines the action needed to continue the testing.

The amount of testing the diagnostic application does depends on the mode (service,
maintenance, or concurrent) under which the diagnostic programs are running.

Error Log Analysis: When you select Diagnostics or Advanced Diagnostics the
Diagnostic Selection menu is displayed (other menus may be displayed before this
menu). This menu allows you to select the purpose for running diagnostics.

When you select the Problem Determination option, the diagnostic programs read
and analyze the contents of the error log.

If the error log contains recent errors (approximately the last 48 hours), the
diagnostic programs automatically select the diagnostic application program to test
the logged function.

If there are no recent errors logged or the diagnostic application program runs
without detecting an error, the Diagnostic Selection menu is displayed. This menu
allows you to select a resource for testing.

If an error is detected while the diagnostic application program is running, the `A
PROBLEM WAS DETECTED` screen displays a Service Request Number (SRN).

Note: After a FRU is replaced based on an error log analysis program, the error log
entries for the problem device must be removed or the program may continue to
indicate a problem with the device. To accomplish this task run the **errclear**
command from the command line, or using **SMIT** select *Problem Determination /
Error Log / Clear the Error Log.* Fill out the appropriate menu items.

Enhanced FRU Isolation: The diagnostics provide enhanced Field Replaceable Unit (FRU) isolation by automatically selecting associated resources. The normal way diagnostics select a resource is to present a list of system resources and then ask you to select one. Diagnostics begin with that same type of selection.

If the diagnostic application for the selected resource detects a problem with that resource, the diagnostic controller checks for an associated resource. For example, if the test of a disk drive detects a problem, the diagnostic controller tests a sibling device on the same controller to determine if the drive or the controller is failing. This extra FRU isolation is apparent when you test a resource and notice that the diagnostic controller continues to test another resource that you did not select.

Advanced Diagnostics Function

The advanced diagnostics function is normally used by a service representative. These diagnostics may ask you to disconnect a cable and install a wrap plug.

The advanced diagnostics run in the same modes as the diagnostics used for normal hardware problem determination. The advanced diagnostics provide additional testing by allowing the service representative to do the following:

- Use wrap plugs for testing.
- Loop on a test (not available in concurrent mode) and display the results of the testing.

Task and Service Aid Functions

Tasks and service aids provide a means to display data, check media, and check functions without being directed by the hardware problem determination procedure. Refer to Chapter 27, "Introduction to Tasks and Service Aids" on page 27-1 for information and procedures about tasks and service aids.

System Checkout

The **System Checkout** option is accomplished by selecting the **All Resources** option on the **Resource Selection Menu**. This program uses the configuration list generated by the configuration procedure to determine which devices and features to test. These tests run without interaction.

Periodic Diagnostics

Periodic testing of the disk drives and battery are enabled by default. The disk diagnostics test any disk drives that are not in use and do disk error log analysis on all disks. The battery test does test the real time clock and NV-RAM battery. Problems are reported by a message to the system console and logged in the error log. Diagnostics must be run for an SRN to be reported.

Periodic diagnostics are controlled by the Periodic Diagnostic Service Aid. The Periodic Diagnostic Service Aid allows a hardware resource to be tested once a day. If the resource cannot be tested because it is busy, error log analysis is performed if supported on the resource.

The diagnostics are invoked using the **diag -c -d** device command.

Periodic Diagnostic Reminders

Periodic Diagnostics issues a reminder notification about detectable deconfigured resources upon completion of a system boot, an also weekly as long as the resources remain deconfigured. The notification is a message to the system console and to all system groups.

Currently the detectable deconfigured resources are processors and memory.

The weekly reminder is issued every Tuesday at 8 AM. The resources in the periodic test list are tested for deconfigured resources. Adding or removing a resource from the periodic test list enables or disables the weekly reminder for deconfigured resources.

The `sysplanar0` resource looks for resources deconfigured at boot-time. Run-time deconfigurations are checked by the diagnostics for the individual resources in the resource list.

Automatic Error Log Analysis (diagela)

Automatic Error Log Analysis (**diagela**) provides the capability to do error log analysis when a permanent hardware error is logged, by default enabling the **diagela** program on all platforms.

The **diagela** program determines if the error should be analyzed by the diagnostics. If the error should be analyzed, a diagnostic application is invoked and the error is analyzed. No testing is done if the diagnostics determine that the error requires a

service action, it sends a message to your console and to all system groups. The message contains the SRN.

Running diagnostics in this mode is similar to using the **diag -c -e -d** device command.

Notification can also be customized by adding a stanza to the **PDiagAtt** object class. The following example illustrates how a customer's program can be invoked in place of the normal mail message:

```
PDiagAtt:
    DClass = " "
    DSClass = " "
    DType = " "
    attribute = "diag_notify"
    value = "/usr/bin/customer_notify_ program $1 $2 $3 $4 $5"
    rep = "s"
```

If DClass, DSClass, and DType are blank, then the `customer_notify_program` applies for ALL devices. Filling in the DClass, DSClass, and DType with specifics causes the `customer_notify_program` to be invoked only for that device type.

Once the above stanza is added to the ODM data base, problems are displayed on the system console and the program specified in the value field of the `diag_notify` pre-defined attribute is invoked. The following keyword is expanded automatically as arguments to the notify program:

- $1 the keyword `diag_notify`

- $2 the resource name that reported the problem

- $3 the Service Request Number

- $4 the device type

- $5 the error label from the error log entry

In the case where no diagnostic program is found to analyze the error log entry, or analysis is done but no error was reported, a separate program can be specified to be invoked. This is accomplished by adding a stanza to the **PDiagAtt** object class with an attribute = **diag_analyze**. The following example illustrates how a customer's program can be invoked for this condition:

```
PDiagAtt:
    DClass = " "
    DSClass = " "
```

```
DType= " "
attribute = "diag_anaylze"
value = "/usr/bin/customer_analyzer_program $1 $2 $3 $4 $5"
rep = "s"
```

If DClass, DSClass, and DType are blank, then the **customer_analyzer_program**
applies for ALL devices. Filling in the DClass, DSClass, and DType with specifics
causes the **customer_analyzer_program** to be invoked only for that device type.

Once the above stanza is added to the ODM data base, the program specified is
invoked if there is no diagnostic program specified for the error, or if analysis was
done, but no error found. The following keywords expand automatically as
arguments to the analyzer program:

- $1 the keyword **diag_analyze**

- $2 the resource name that reported the problem

- $3 the error label from the error log entry if from ELA, the keyword PERIODIC if
  from Periodic Diagnostics, or the keyword REMINDER if from a Diagnostic
  Reminder.

- $4 the device type

- $5 the keywords:

  - **no_trouble_found** if the analyzer was run, but no trouble was found.

  - **no_analyzer** if the analyzer is not available.

To activate the Automatic Error Log Analysis feature, log in as root and type the
following command:

```
/usr/lpp/diagnostics/bin/diagela ENABLE
```

To disable the Automatic Error Log Analysis feature, log in as root and type the
following command:

```
/usr/lpp/diagnostics/bin/diagela DISABLE
```

Diagela can also be enabled and disabled using the Periodic Diagnostic Service Aid.

Repair Action Log

The diagnostics do error log analysis on most resources. The default time for error log analysis is seven days; however, this time can be changed from 1 to 60 days using the **Display or Change Diagnostic Run Time Options** task. To prevent false problems from being reported when error log analysis is run, repair actions need to be logged whenever a FRU is replaced. A repair action can be logged by using the **Log Repair Action** task or by running diagnostics in System Verification mode.

The Log Repair Action task lists all resources. Replaced resources can be selected from the list, and when **commit** (F7 key) is selected a repair action is logged for each selected resource.

Chapter 26. Using the Standalone and Online Diagnostics

Sources for the Diagnostic Programs

The diagnostics consist of Standalone Diagnostics and Online Diagnostics. Standalone Diagnostics are resident on removable media. They must be booted before they can be run. If booted, they have no access to the AIX Error Log or the AIX Configuration Data.

Online Diagnostics, when installed, are resident with AIX on the disk or server. They can be booted in single user mode (called service mode), run in maintenance mode (called maintenance mode), or run concurrently (called concurrent mode) with other applications. They have access to the AIX Error Log and the AIX Configuration Data.

Standalone and Online Diagnostics Operating Considerations

The following items identify some things to consider before using the diagnostics.

- Run Online Diagnostics in Service Mode when possible, unless otherwise directed. The Online Diagnostics perform additional functions, compared to Standalone Diagnostics. This ensures that the error state of the system is captured in NVRAM for your use in fixing the problem. The AIX error log and certain SMIT functions are only available when diagnostics are run from the disk drive.

- When running Online Diagnostics, device support for some devices may not have been installed. If this is the case, that device does not appear in the resource list.

- When running Standalone Diagnostics, device support for some devices may be contained on supplemental diagnostic media. If this is the case, the device does not appear in the resource list when running diagnostics unless the supplemental media has been processed.

- Support for some tty terminals is optionally installed. If you attach a tty terminal to a system to run diagnostics beware that it may not work properly since the AIX support for the terminal may not be installed.

Selecting a Console Display

When you run Standalone Diagnostics and under some conditions Online Diagnostics, you need to select the console display. The diagnostics display instructions on any graphics display and the terminal attached to the S1 port.

Identifying the Terminal Type to the Diagnostics Programs

Note: This is a different function than selecting a console display.

When you run diagnostics, the diagnostics must know what type of terminal you are using. If the terminal type is not known when the FUNCTION SELECTION menu is displayed, the diagnostics do not allow you to continue until a terminal is selected from the DEFINE TERMINAL option menu. Select lft for adapter-attached displays.

Undefined Terminal Types

If an undefined terminal type from the DEFINE TERMINAL option menu is entered, the menu prompts the user to enter a valid terminal type, and the menu is redisplayed until either a valid type is entered or the user exits the DEFINE TERMINAL option.

Resetting the Terminal: If the user enters a terminal type that is valid (according to the DEFINE TERMINAL option menu) but is not the correct type for the ASCII terminal being used, difficulty may be encountered in reading the screen, using the function keys or the Enter key. These difficulties can be bypassed by pressing Ctrl-C to reset the terminal. The screen display which results from this resetting action varies with the mode which the system is being run:

- Online Normal or Maintenance Mode - The command prompt appears.

- Standalone Mode or Online Service Mode -The terminal type is reset to "dumb", the Diagnostic Operating Instruction panel is displayed, and the user is required to go through the DEFINE TERMINAL process again.

Running Standalone Diagnostics

Consider the following when you run Standalone Diagnostics:

- The diagnostic disc must remain in the CD-ROM drive for the entire time that diagnostics are executing.

- The diagnostic CD-ROM disc cannot be ejected from the CD-ROM drive once the diagnostic programs have loaded. The disc can only be ejected after the system has been powered-Off and then powered-On (Standalone mode) or after the diagnostics program has terminated (Online concurrent mode). The disc must be ejected before the system attempting to load the diagnostic programs again.

- The CD-ROM drive from which diagnostics were loaded cannot be tested.

- The SCSI adapter (or circuitry) controlling the CD-ROM drive from which diagnostics were loaded cannot be tested.

Running Online Diagnostics

Consider the following when you run the Online Diagnostics from a server or a disk:

- The diagnostics cannot be loaded and run from a disk until the AIX operating system has been installed and configured. After the installation of the AIX operating system, all three modes of operation are available.

- The diagnostics cannot be loaded on a system (client) from a server if that system is not set up to IPL from a server over a network, or the server has not been setup to send a service mode IPL of the diagnostics. When the system is set up to IPL from a server, the diagnostics are executed in the same manner as they are from disk.

- If the diagnostics were loaded from disk or a server, you must shutdown the AIX operating system before powering the system unit off to prevent possible damage to disk data. This is done in one of two ways:

  - If the diagnostic programs were loaded in Standalone mode, press the F3 key until DIAGNOSTIC OPERATING INSTRUCTIONS displays; then follow the displayed instructions to shutdown the AIX operating system.

  - If the diagnostic programs were loaded in maintenance or concurrent mode, enter the shutdown -F command.

- Under some conditions the system may stop, with instructions displayed on attached displays and terminals. Follow the instructions to select a console display.

Running the Diagnostics from a tty Terminal

Consider the following when you run diagnostics using a tty-type terminal as the console display:

- See the operator manual for your type of tty terminal to find the key sequences you need to respond to the diagnostics. For the 3151, refer to the 3151 ASCII Display Station Guide to Operations, form number GA18-2633. For the 3164, refer to the 3164 ASCII Color Display Station Description, form number GA18-2617.

- When the diagnostics present display information through the S1 port, certain attributes are used. These attributes are set as if the diagnostics were using a 3161 display terminal. Refer to the tables in Appendix D, "General Attributes Required When Using a TTY Terminal" on page D-1 for a list of attributes for the 3161 ASCII Display Terminal and for two other ASCII display terminals commonly used with the system.

- If you have a tty terminal other than a 3151, 3161 or 3164 attached to the S1 port, your terminal may have different names for the attributes. Refer to the

tables in Appendix D, "General Attributes Required When Using a TTY Terminal" on page D-1 and use the attribute descriptions to determine the settings for your terminal.

Online Diagnostics Mode of Operation

The Online diagnostics can be run in three modes:

- Service Mode allows checking of most system resources.
- Concurrent Mode allows the normal system functions to continue while selected resources are being checked.
- Maintenance Mode allows checking of most system resources

Service Mode

Service mode provides the most complete checkout of the system resources. This mode also requires that no other programs be running on the system. All system resources except the SCSI adapter, and the disk drives used for paging can be tested. However, note that system memory and the processor are only tested during POST.

Error log analysis is done in service mode when you select *the* Problem Determination option on the DIAGNOSTIC MODE SELECTION menu.

Running the Online Diagnostics in Service Mode (Service Mode IPL)

To run Online diagnostics in service mode, take the following steps:

1. Stop all programs including the AIX operating system (get help if needed).
2. Remove all tapes, diskettes, and CD-ROM discs.
3. Turn the system unit's power off.
4. Turn the system unit's power on.
5. After the first POST indicator appears on the system unit's console, press F6 on the direct attached keyboard or 6 on the tty keyboard to indicate that diagnostics are to be loaded.

   Note: The term "POST indicator" refers to the ICONS (graphic display) or device mnemonics (ASCII terminal) that are displayed while the POST are executing.
6. Enter any requested password.
7. Follow any instructions to select a console.

8. After the diagnostic controller loads, DIAGNOSTIC OPERATING INSTRUCTIONS appear on the console display.

9. Follow the displayed instructions to checkout the desired resources.

10. When testing is complete; use the F3 key to return to the DIAGNOSTIC OPERATING INSTRUCTIONS.

11. Press the F3 key (from a defined terminal) or press 99 (for an undefined terminal) to shutdown the diagnostics before turning off the system unit.

Note: Pressing the F3 key (from a defined terminal) produces a "Confirm Exit" popup menu which offers two options: continuing with the shutdown by pressing F3; or returning to diagnostics by pressing Enter.

For undefined terminals, pressing 99 produces a full screen menu which offers two options: continuing with the shutdown by pressing 99 and then Enter; or returning to diagnostics by pressing Enter.

Concurrent Mode

Concurrent mode provides a way to run Online diagnostics on some of the system resources while the system is running normal system activity.

Because the system is running in normal operation, some of the resources cannot be tested in concurrent mode. The following resources cannot be tested in concurrent mode:

- SCSI adapters connected to paging devices

- The disk drive used for paging

- Any graphics related device if running X, CDE, or windowing environment.

- Memory

- Processor.

There are three levels of testing in concurrent mode:

- The **share-test level** tests a resource while the resource is being shared by programs running in the normal operation. This testing is mostly limited to normal commands that test for the presence of a device or adapter.

- The **sub-test level** tests a portion of a resource while the remaining part of the resource is being used in normal operation. For example, this test could test one port of a multiport device while the other ports are being used in normal operation.

- The **full-test level** requires the device not be assigned to or used by any other operation. This level of testing on a disk drive may require the use of the **varyoff**

command. The diagnostics display menus to allow you to vary off the needed resource.

Error log analysis is done in concurrent mode when you select *the* Problem Determination option on the DIAGNOSTIC MODE SELECTION menu.

To run the Online diagnostics in concurrent mode you must be logged onto the AIX operating system and have proper authority to issue the commands (if needed, get help).

The **diag** command loads the diagnostic controller and displays the Online diagnostic menus.

Running the Online Diagnostics in Concurrent Mode

To run Online diagnostics in concurrent mode, take the following steps:

- Log on to the AIX operating system as root or superuser.

  Note: You must have either Root User authority or be a user with an administrative role of RunDiagnostics to run the diagnostics. If you are not a Root User, you must also have System as a primary group and a group set that includes Shutdown. Group Shutdown is necessary to perform the shutdown and reboot operations required for certain diagnostics. Users with the RunDiagnostics role can change the system configuration, update the microcode, and so forth. It is important that users in this role understand the responsibility it requires.

  To setup a non-Root User or a Customer Engineer (CE) or Service Support Representative (SSR) who can run diagnostics, create a unique user name using the System Management Tool (SMIT). The primary group of this user must be System. The user must also have the RunDiagnostics role and a group set that includes Shutdown.

- Enter the **diag** command.
- When the DIAGNOSTIC OPERATING INSTRUCTIONS are displayed, follow the instructions to check out the desired resources.
- When testing is complete; use the F3 key to return to the DIAGNOSTIC OPERATING INSTRUCTIONS. Then press the F3 key again to return to the AIX operating system prompt. Be sure to vary on any resource you had varied to off.
- Press the Ctrl-D key sequence to log off from root or superuser.

Maintenance Mode

Maintenance mode runs the Online diagnostics using the customer's version of the AIX operating system. This mode requires that all activity on the AIX operating system be stopped so the Online diagnostics have most of the resources available to check. All of the system resources except the SCSI adapters, memory, processor, and the disk drive used for paging can be checked.

Error log analysis is done in maintenance mode when you select *the Problem Determination* option on the *DIAGNOSTIC MODE SELECTION* menu.

The **shutdown -m** command is used to stop all activity on the AIX operating system and put the AIX operating system into maintenance mode. Then the **diag** command is used to invoke the diagnostic controller so you can run the diagnostics. After the diagnostic controller is loaded, follow the normal diagnostic instructions.

Running the Online Diagnostics in Maintenance Mode

To run the Online diagnostics in maintenance mode you must be logged on to the customer's version of the AIX operating system as *root* or *superuser* and use the **shutdown -m** and **diag** commands. Use the following steps to run the Online diagnostics in maintenance mode:

1. Stop all programs except the AIX operating system (get help if needed).
2. Log onto the AIX operating system as *root* or *superuser*.
3. Enter the **shutdown -m** command.
4. When a message indicates the system is in maintenance mode, enter the **diag** command.

   Note: It may be necessary to set *TERM* type again.
5. When *DIAGNOSTIC OPERATING INSTRUCTIONS* is displayed, follow the displayed instructions to checkout the desired resources.
6. When testing is complete; use the F3 key to return to *DIAGNOSTIC OPERATING INSTRUCTIONS*. Then press the F3 key again to return to the AIX operating system prompt.
7. Press Ctrl-D to log off from *root* or *superuser*.

Standalone Diagnostic Operation

Standalone Diagnostics provide a method to test the system when the Online Diagnostics are not installed and a method of testing the disk drives and other resources that can not be tested by the Online Diagnostics.

Error Log Analysis is not done by the Standalone Diagnostics.

If running from CD-ROM, the CD-ROM drive and the SCSI controller that controls it cannot be tested by the Standalone Diagnostics.

Running the Standalone Diagnostics

To run Standalone Diagnostics in service mode, take the following steps:

1. Stop all programs including the AIX operating system (get help if needed).
2. Remove all tapes, diskettes, and CD-ROMs.
3. Turn the system unit's power off.
4. Turn the system unit's power on.
5. Insert the diagnostic media drive.
6. When the keyboard POST indicator appears, press the F5 key on the direct attached keyboard, or the number 5 key on the tty keyboard.
7. Enter any requested passwords.
8. Follow any instruction to select the console.
9. After the diagnostic controller loads, DIAGNOSTIC OPERATING INSTRUCTIONS appear on the console display.
10. Follow the displayed instructions to checkout the desired resources.
11. When testing is complete; use the F3 key to return to the DIAGNOSTIC OPERATING INSTRUCTIONS.

General Information About Multiple Systems

This chapter presents guideline information for anyone needing to run the diagnostic programs on a system unit that is attached to another system. These guidelines are intended for both the operator of the system and the service representative.

This guideline is presented by adapter type or by system configuration type.

These considerations and actions are not detailed step-by-step instructions, but are used to ensure that you have considered the attached system before you run diagnostics on this system unit.

You are directed to the detailed procedures for the various activities as needed.

These guidelines generally present considerations for the following:

- Starting and stopping the communications with the other system.
- Considerations before running diagnostics on the system.
- Analyzing the error log information.
- Using the wrap plugs with the diagnostics.

When this system unit is attached to another system, be sure you isolate this system unit before stopping the operating system or running diagnostic programs. Some system cabling changes (such as installing wrap plugs or removing a device from the configuration) may require action by the operator of the attached system before making the cabling changes on this system.

Determining System Architecture

Location codes and many of the service aids are system model architecture (platform) restricted. If location codes or service aids are needed to complete servicing your system, it may be necessary to know which platform your system is using.

This manual deals with the following platforms:

- CHRP (Common Hardware Reference Platform)
- RSPC (PowerPC Reference Platform)

Notes:

- The service aids in this manual may be identified as being CHRP or RSPC only. Assume the service aid can be accessed on either platform unless a note stating the service aid is CHRP or RSPC only is present.

- There are two location code sections located in Chapter 28, "Diagnostics Numbers and Location Codes" on page 28-1 Refer to "Location Codes for RSPC Model Architecture System Units" on page 28-12 for RSPC location codes and "Location Codes for CHRP Model Architecture System Units" on page 28-16 for CHRP location codes.

To find out the platform on which you are working, enter one of the following commands.

If you are running AIX 4.2.1 or later, then from an AIX shell enter:
lscfg | pg

A screen appears containing information similar to the following:

* Model Architecture: RS6k
  Model Implementation: Uniprocessor, MCA bus

* Model Architecture: RSPC
  Model Implementation: Uniprocessor, PCI bus

* Model Architecture: CHRP
  Model Implementation: Multiple Processor, PCI bus

* Model Architecture: OEM

If you are running AIX 4.2.1 or later Diagnostics

* Select the Display Configuration and Resource List Task from the Task Selection Menu.

On any AIX system logged on as 'root' user.

* Run the **bootinfo -p** command.

The system platform type is returned.

On system units that supports the OK prompt, and you are running AIX Diagnostics from Standalone or Online mode do the following:

After turning the power on and the first image appears, but before audible tone sounds:

* Press the F8 key, an OK prompt appears.

* Next to the prompt enter the **dev /** command

  A menu containing the device_type appears. The platform designation (CHRP or RSPC) is identified

High-Availability SCSI

A high-availability SCSI configuration consists of two system units or CPU drawers connected to a common set of SCSI devices. The configuration provides high-availability because either system unit or CPU drawer can continue to access the common devices while the other system is unavailable.

The actions needed to isolate a particular system unit or device from the configuration depends on the software controlling the systems and devices. Therefore, be sure you use the documentation with the software to prepare the configuration before turning a system unit or device off.

High-Availability Cabling

Refer to *RS/6000 Adapters, Devices, and Cable Information for Multiple Bus Systems*. additional cabling information

Diagnostic Summary

Memory and Processor Testing

- Memory and Fixed-Point Processors are only tested during POST.

- A complete memory test is run during POST.

- The POST only halts and reports problems that prevent the system from booting.

- All other problems are logged for later analysis be the Sysplanar and Memory Diagnostics.

Sysplanar and Memory Diagnostics

Analyzes POST and firmware errors that were detected during IPL, but did not prevent the system from booting.

- Performs error log analysis if the diagnostics are running online in problem determination mode, or the error log analysis mode.

Error Log Analysis

- Error Log Analysis is analysis of the AIX Error Log.

- Error Log Analysis is part of the diagnostic applications and is invoked by selecting a device from the DIAGNOSTIC SELECTION menu, by using the **diag** command, or selecting the Run Error Log Analysis task.

- Error Log Analysis is only performed when running online diagnostics.

- Error Log Analysis is NOT performed when running from removable media.

- Error Log Analysis only reports problems if the errors have reached defined thresholds. Thresholds can be from 1 to 100 depending on the error.

- Permanent errors do not necessarily mean a part should be replaced.

- Automatic Error Log Analysis (diagela) provides the capability to do error log analysis whenever a permanent hardware error is logged.

Diagnostic Modes: The Diagnostic Modes consist of Problem Determination Mode and System Verification Mode. The only difference between the two modes is one performs ELA and the other does not.

- Problem Determination Mode runs all tests unless the resource is being used. If a problem is not found, then Error Log Analysis is performed.

- In Problem Determination Mode, Error Log Analysis is performed even if a resource is being used.

- A screen always appears informing the user that the resource needs to be freed if a resource is being used.

- System Verification Mode does not do ELA. This mode should be run when doing a repair verification.

Diagnostics Tasks and Resources

Tasks are operations that can be performed on a resource. Running Diagnostics, Displaying VPD, or Formatting a Device, are examples of tasks. Service aids are also considered tasks.

Resources are devices used by the system unit. Diskette Drive, and CD ROM Drive are examples of resources.

The FUNCTION SELECTION menu contains two selections allowing either all resources, or all tasks to be displayed. When Task Selection is made and a task has been selected a list of supporting resources are displayed. Alternatively, when Resource Selection is made, and a resource or group of resources are selected, a list of supporting common tasks are displayed. Also, to aid with backward compatibility the FUNCTION SELECTION menu contains 'Diagnostic' and Advanced Diagnostic'.

The 'Display or Change Diagnostic Run Time Options' task can be used to set advanced mode diagnostics, looping capability, and ELA mode when running diagnostics from the Task Selection menu.

The following sections describe the 4.2 and later Diagnostic Subsystem.

diag Command Line Options:

Usage:
```
diag [[-a] | [-s] | [ [-d <device>] [-v] [-c] [-e] [-A] [-E <days>]] | [-B]
| [-T <taskname>] | [-S <testsuite>]
```

Flags

```
The diag command line flags are as follows:
  -a            Perform missing device analysis.
  -A            Advanced Diagnostics
  -B            Base system test
  -c            Machine is unattended.  No prompts should be displayed.
  -d device     Test the named resource.
  -e            Error Log Analysis.  Checks the error log for device
                specified in "resource" of the -d option.
  -E days       Number of days to search error log when using -e.
  -h            Use diag -h to print out a command usage statement.
  -s            Test the system.
  -S testsuite  Test the Test Suite Group:
                     1 - Base system
                     2 - I/O Devices
                     3 - Async Devices
                     4 - Graphics Devices
                     5 - SCSI Devices
                     6 - Storage Devices
                     7 - Commo Devices
                     8 - Multimedia Devices
  -T taskname   Fastpath to specific task.  Current fast paths are:
                     certify — Certify media task
                     chkspares — Spare sector availability task
                     download — Download microcode task
                     disp_mcode — Display microcode level task
                     format — Format media task
                     identify — PCI RAID physical disk identify task
  -v            System Verification mode.

Default execution mode is non-advanced mode.
```

Chapter 27. Introduction to Tasks and Service Aids

The AIX Diagnostic Package contains programs that are called Tasks. Tasks can be thought of as "performing a specific function on a resource"; for example, running diagnostics, or performing a service aid on a resource. This chapter describes the Tasks available in AIX Diagnostics Version 4.2 and later.

Note: Many of these programs work on all system model architectures. Some programs are only accessible from Online Diagnostics in Service or Concurrent mode, others may be accessible only from Standalone Diagnostics. While still other programs may only be supported on a particular system architecture, such as CHRP (Common Hardware Reference Platform), or RSPC (PowerPC Reference Platform). Refer to "Determining System Architecture" on page 26-10 to identify the platform type of your system unit.

To perform one of these tasks, use the Task Selection option from the FUNCTION SELECTION menu.

Once a task is selected, a resource menu may be presented showing all resources supported by the task.

A fast path method is also available to perform a task by using the **diag** command and the **-T** flag. This means the user does not have to go through most of the introductory menus just to get to a particular task. Instead, the user is presented with a list of resources available to support the specified task. The current fast path tasks are:

* Certify – certifies media
* Chkspares – checks for the availability of spare sectors
* Download – downloads microcode to an adapter or device
* Disp_mcode – displays current level of microcode
* Format – formats media
* Identify – identifies the PCI RAID physical disks

To run these tasks directly from the command line, specify the resource and other task unique flags. Use the descriptions in this chapter to understand which flags are needed for a given task.

Tasks

The following tasks are described in this chapter:

- Add Resource to Resource List
- AIX Shell Prompt
- Analyze Adapter Internal Log
- Backup and Restore Media
- Certify Media
- Change Hardware Vital Product Data
- Configure Dials and LPFKeys
- Configure ISA Adapters
- Configure Reboot Policy
- Configure Remote Maintenance Policy
- Configure Ring Indicate Power On
- Configure Ring Indicate Power On Policy
- Configure Service Processor (RSPC)
- Configure Surveillance Policy
- Create Customized Configuration Diskette
- Delete Resource from Resource List
- Disk Maintenance
- Display Configuration and Resource List
- Display Firmware Device Node Information
- Display Hardware Error Report
- Display Hardware Vital Product Data
- Display Machine Check Error Log
- Display Microcode Level
- Display or Change Bootlist
- Display or Change Diagnostic Run Time Options
- Display Previous Diagnostic Results
- Display Resource Attributes
- Display Service Hints
- Display Software Product Data
- Display System Environmental Sensors
- Display Test Patterns
- Download Microcode
- Fibre Channel RAID Service Aids
- Flash SK-NET FDDI Firmware
- Format Media
- Generic Microcode Download
- Local Area Network Analyzer
- Log Repair Action
- Periodic Diagnostics
- PCI RAID Physical Disk Identify

- Process Supplemental Media
- Run Diagnostics
- Run Error Log Analysis
- Run Exercisers
- Save or Restore Hardware Management Policies
- Save or Restore Service Processor Configuration
- SCSI Bus Analyzer
- SCSI Device Identification and Removal
- SCSD Tape Drive Service Aid
- Spare Sector Availability
- SSA Service Aid
- Update Disk Based Diagnostics
- Update System or Service Processor Flash
- Update System Flash
- 7135 RAIDiant Array Service Aids
- 7318 Serial Communication Network Server

Add Resource to Resource List

Use this task to add resources back to the resource list.

Note: Only resources that were previously detected by the diagnostics and deleted from the Diagnostic Test List are listed. If no resources are available to be added, then none are listed.

AIX Shell Prompt

Note: Use in Online Service Mode only.

This service aid allows access to the AIX command line. To use this service aid the user must know the root password (when a root password has been established).

Note: Do not use this task to install code, or change the configuration of the system. This task is intended to view files, configuration records, and data. Changing the system configuration or installing code with this service aid may produce unexplained system problems after exiting the diagnostics.

Analyze Adapter Internal Log

The PCI RAID adapter has an internal log that logs information about the adapter and the disk drives attached to the adapter. Whenever data is logged in the internal log, the device driver copies the entries to the AIX system error log and clears the internal log.

The Analyze Adapter Internal Log service aid analyzes these entries in the AIX system error log. The service aid displays the errors and the associated service actions. Entries that do not require any service actions are ignored.

Backup and Restore Media

This service aid allows verification of backup media and devices. It presents a menu of tape and diskette devices available for testing and prompts for selection of the desired device. It then presents a menu of available backup formats and prompts for selection of the desired format. The supported formats are tar, backup, and cpio. After the device and format are selected, the service aid backups a known file to the selected device, restores that file to **/tmp**, and compares the original file to the restored file. The restored file is also left in **/tmp** to allow for visual comparison. All errors are reported.

Certify Media

This task allows the selection of diskette or hardfiles to be certified.

Hardfiles can be connected either to a SCSI adapter (non-RAID) or a PCI SCSI RAID adapter. The usage and criteria for a hardfile connected to a non-RAID SCSI adapter are different from those for a hardfile connected to a PCI SCSI RAID adapter.

- Certify Diskette

  This selection provides a way to verify the data written on a diskette. When this service aid is selected, a menu asks you to select the type of diskette being verified. The program then reads all of the ID and data fields on the diskette one time and displays the total number of bad sectors found.

- Certify Hardfile Attached to a Non-RAID SCSI Adapter

  This selection reads all of the ID and data fields. It checks for bad data and counts all errors encountered. If the unrecovered data errors exceed the threshold value, the hardfile needs to be formatted and certified. If the recovered data errors, recovered and unrecovered equipment errors exceed the threshold values, the disk needs to be replaced.

  This task may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

  Usage:
  ```
  diag -c -d <deviceName> -T "certify"
  ```

- Certify Hardfile attached to a PCI SCSI RAID Adapter

  This selection is used to certify physical disks attached to a PCI SCSI RAID adapter. Certify reads the entire disk and checks for recovered errors, unrecovered errors and reassigned errors. If these errors exceed the threshold values, the user is prompted to replace the physical disk.

  This task may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

  Usage:
  ```
  diag -c -d < RAID adapterName > -T "certify {-l < chID > | -A}"
  ```

  Flag   **Description**
  -l   Physical Disk channel/ID (example: 27)
  -A   All disks.

Change Hardware Vital Product Data

Use this service aid to display the Display/Alter VPD Selection Menu. The menu lists all resources installed on the system. When a resource is selected a menu is displayed that lists all the VPD for that resource.

Note: The user cannot alter the VPD for a specific resource unless it is not machine readable.

Configure Dials and LPFKeys

This service aid provides a tool for configuring and removing dials/LPFKs to the asynchronous serial ports.

Since version 4.1.3 a tty must be defined on the async port before the Dials and LPFKs can be configured on the port. Before version 4.2 the Dials and LPFKs could only be configured on the standard serial ports. At version 4.2 the Dials and LPFKs can be configured on any async port.

This selection invokes the SMIT utility to allow Dials and LPFKs configuration. A tty must be in the available state on the async port before the Dials and LPFKs can be configured on the port. The task allows an async adapter to be configured, then a tty port defined on the adapter, and then Dials and LPFKs can be defined on the port.

Configure ISA Adapter

This task invokes SMIT to allow the identification and configuration of ISA adapters on systems that have an ISA bus and adapters.

Diagnostic support for ISA adapters not shown in the list may be supported from a supplemental diskette. ISA adapter support can be added from a supplemental diskette with the Process Supplemental Media task.

Whenever an ISA adapter is installed, this service aid must be run and the adapter configured before the adapter can be tested. This service aid must also be run to remove an ISA adapter from the system whenever an ISA adapter is physically removed from the system.

If diagnostics are run on an ISA adapter that has been removed from the system, the diagnostics fail because the ISA adapter cannot be detected by the system.

Configure Reboot Policy

Note: Runs on CHRP systems units only.

This service aid controls how the system tries to recover from a system crash.

Use this service aid to display and change the following settings for the Reboot Policy.

Note: Because of system capability, some of the following settings may not be displayed by this service aid.

- Maximum Number of Reboot Attempts

  Enter a number that is 0 or greater.

  Note: A value of 0 indicates 'do not attempt to reboot' to a crashed system.

  This number is the maximum number of consecutive attempts to reboot the system. The term "reboot", in the context of this service aid, is used to describe bringing system hardware back up from scratch, for example from a system reset or power on.

  When the reboot process completes successfully, the reboot attempts count is reset to 0, and a "restart" begins. The term "restart", in the context of this service aid, is used to describe the operating system activation process. Restart always follows a successful reboot.

  When a restart fails, and a restart policy is enabled, the system attempts to reboot for the maximum number of attempts.

- Use the O/S Defined Restart Policy (1=Yes, 0=No)

  When 'Use the O/S Defined Restart Policy' is set to Yes, the system attempts to reboot from a crash if the operating system has an enabled Defined Restart or Reboot Policy.

  When 'Use the O/S Defined Restart Policy' is set to No, or the operating system restart policy is undefined, then the restart policy is determined by the 'Supplemental Restart Policy'.

- Enable Supplemental Restart Policy (1=Yes, 0=No)

  The 'Supplemental Restart Policy', if enabled, is used when the O/S Defined Restart Policy is undefined, or is set to False.

  When surveillance detects operating system inactivity during restart, an enabled 'Supplemental Restart Policy' causes a system reset and the reboot process begins.

- Call-Out Before Restart (on/off)

When enabled, Call-Out Before Restart allows the system to call out (on a serial port that is enabled for call out) when an operating system restart is initiated. Such calls can be valuable if the number of these events becomes excessive, thus signalling bigger problems.

- Enable Unattended Start Mode (1=Yes, 0=No)

  When enabled, 'Unattended Start Mode' allows the system to recover from the loss of AC power.

  If the system was powered-on when the AC loss occurred, the system reboots when power is restored. If the system was powered-off when the AC loss occurred, the system remains off when power is restored.

This service aid may be accessed directly from the AIX command line, by entering:

`/usr/lpp/diagnostics/bin/uspchrp -b`

Configure Remote Maintenance Policy

Note: Runs on CHRP systems units only.

The Remote Maintenance Policy includes modem configurations and phone numbers to use for remote maintenance support.

Use this service aid to display and change the following settings for the Remote Maintenance Policy.

Note: Because of system capability, some of the following settings may not be displayed by this service aid.

- Configuration File for Modem on S1
  Configuration File for Modem on S2

  Enter the name of a modem configuration file to load on either serial port 1 (S1) or serial port 2 (S2). The modem configuration files are located in the directory **/usr/share/modems**. If a modem file is already loaded, it is showed by 'Modem file currently loaded'.

- Modem file currently loaded on S1
  Modem file currently loaded on S2

  This is the name of the file that is currently loaded on serial port 1 or serial port 2.

  Note: These settings are only shown when a modem file is loaded for a serial port.

- Call In Authorized on S1 (on/off)
  Call In Authorized on S2 (on/off)

Call In allows the Service Processor to receive a call from a remote terminal.

- Call Out Authorized on S1 (on/off)
  Call Out Authorized on S2 (on/off)

  Call Out allows the Service Processor to place calls for maintenance.

- S1 Line Speed
  S2 Line Speed

  A list of line speeds is available by using 'List' on the screen.

- Service Center Phone Number

  This is the number of the service center computer. The service center usually includes a computer that takes calls from systems with call-out capability. This computer is referred to as "the catcher". The catcher expects messages in a specific format to which the Service Processor conforms. For more information about the format and catcher computers, refer to the README file in the AIX **/usr/samples/syscatch** directory. Contact the service provider for the correct telephone number to enter here.

- Customer Administration Center Phone Number

  This is the number of the System Administration Center computer (catcher) that receives problem calls from systems. Contact the system administrator for the correct telephone number to enter here.

- Digital Pager Phone Number In Event of Emergency

  This is the number for a pager carried by someone who responds to problem calls from your system.

- Customer Voice Phone Number

  This is the number for a telephone near the system, or answered by someone responsible for the system. This is the telephone number left on the pager for callback.

- Customer System Phone Number

  This is the number to which your system's modem is connected. The service or administration center representatives need this number to make direct contact with your system for problem investigation. This is also referred to as the Call In phone number.

- Customer Account Number

  This number could be used by a service provider for record keeping and billing.

- Call Out Policy Numbers to call if failure

This is set to either 'first' or 'all'. If the call out policy is set to 'first', call out stops at the first successful call to one of the following numbers in the order listed:

1. Service Center
2. Customer Admin Center
3. Pager

If Call Out Policy is set to 'all', call out attempts to call all of the following numbers in the order listed:

1. Service Center
2. Customer Admin Center
3. Pager

- Customer RETAIN Login ID
  Customer RETAIN Login Password

  These settings apply to the RETAIN service function.

- Remote Timeout, in seconds
  Remote Latency, in seconds

  These settings are functions of the service provider's catcher computer.

- Number of Retries While Busy

  This is the number of times the system should retry calls that resulted in busy signals.

- System Name (System Administrator Aid)

  This is the name given to the system and is used when reporting problem messages.

  Note: Knowing the system name aids the support team quickly identify the location, configuration, history, etc. of your system.

This service aid may be accessed directly from the AIX command line, by entering:

```
/usr/lpp/diagnostics/bin/uspchrp -m
```

Configure Ring Indicate Power On Policy

Note: Runs on CHRP systems units only.

This service aid allows the user to power on a system by telephone from a remote location. If the system is powered off, and Ring Indicate Power On is enabled, the system powers on at a predetermined number of rings. If the system is already on, no action is taken. In either case, the telephone call is not answered and the caller receives no feedback that the system has powered on.

Use this service aid to display and change the following settings for the Ring Indicate
Power On Policy.

Note: Because of system capability, some of the following settings may not be
displayed by this service aid.

- Power On Via Ring Indicate (on/off)

- Number of Rings Before Power On

This service aid may be accessed directly from the AIX command line, by entering:

`/usr/lpp/diagnostics/bin/uspchrp -r`

Configure Ring Indicate Power On

Note: Runs on RSPC systems units only.

This service aid allows the user to display and change the NVRAM settings for the
Ring Indicate Power On capability of the service processor.

The settings allows the user to:

- Enable/Disable power on from Ring Indicate
- Read/Set the number of rings before power on

Configure Service Processor

Note: Runs on RSPC systems units only.

This service aid allows you to display and change the NVRAM settings for the
service processor.

This service aid supports the following functions:

- Surveillance Setup
- Modem Configuration
- Call In/Call Out Setup
- Site Specific Call In/Call Out Setup
- Reboot/Restart Policy Setup

Surveillance Setup

This selection allows you to display and change the NVRAM settings for the
surveillance capability of the service processor.

The settings allow you to:

- Enable/disable surveillance
- Set the surveillance time interval, in minutes
- Set the surveillance delay, in minutes

The current settings are read from NVRAM and displayed on the screen. Any changes made to the data shown are written to NVRAM.

Modem Configuration

Use this selection when setting the NVRAM for a modem attached to any of the Service Processor's serial ports. The user inputs the file name of a modem configuration file and the serial port number. The formatted modem configuration file is read, converted for NVRAM than loaded into NVRAM. Refer to the "Service Processor Installation and User's Guide" for more information.

Call In/Out Setup

This selection allows the user to display and change the NVRAM settings for the Call In/Call Out capability of the service processor.

The settings allows the user to:

- Enable/Disable call in on either serial port.
- Enable/Disable call out on either serial port.
- Set the line speed on either serial port.

Site Specific Call In/Out Setup

This selection allows you to display and change the NVRAM settings that are site specific for the call in/call out capability of the service processor.

The site specific NVRAM settings allow you to:

- Set the phone number for the service center
- Set the phone number for the customer administration center
- Set the phone number for a digital pager
- Set the phone number for the customer system to call in
- Set the phone number for the customer voice phone
- Set the customer account number
- Set the call out policy
- Set the customer RETAIN id
- Set the customer RETAIN password
- Set the remote timeout value
- Set the remote latency value
- Set the number of retries while busy

* Set the system name

The current settings are read from NVRAM and displayed on the screen. Any changes made to the data shown are written to NVRAM.

Reboot/Restart Policy Setup

This selection controls how the system tries to recover from a system crash.

Use this service aid to display and change the following settings for the Reboot Policy Setup.

* Maximum Number of Reboot Attempts

    Enter a number that is 0 or greater.

    Note: A value of 0 indicates "do not attempt to reboot" to a crashed system.

    This number is the maximum number of consecutive attempts allowed to reboot the system. The term "reboot", when used in context of this service aid, describes the system hardware being brought backup from scratch. Examples would be a system reset or turning the power on.

    Once the maximum number of reboot attempts is exceeded, the system calls out if that function has been enabled.

    When the reboot process completes successfully, the reboot attempts count is reset to 0, and a "restart" begins. The term "restart", when used in context of this service aid, describes the operating system activation process. Restart always follows a successful reboot.

    When a restart fails, and a restart policy is enabled, the system attempts to reboot for the maximum number of reboot attempts.

* Enable Restart Policy (1=Yes, 0=No)

    When the service processor detects operating system inactivity, an enabled "Restart Policy" causes a system reset and the reboot process begins.

* Call-Out Before Restart (on/off)

    When enabled, "Call-Out Before Restart" allows the system to call out (on a serial port that is enabled for call out) when an operating system restart is initiated. Such call-outs can be valuable if the number becomes excessive, thus signalling bigger problems.

* Enable Unattended Start Mode (1=Yes, 0=No)

    When enabled, "Unattended Start Mode" allows the system to recover from the loss of AC power.

If the system was powered-on when the AC loss occurred, the system reboots when power is restored. If the system was powered-off when the AC loss occurred, the system remains off when power is restored.

Configure Surveillance Policy

Note: Runs on CHRP systems units only.

This service aid monitors the system for hang conditions, that is, hardware or software failures that cause operating system inactivity. When enabled, and surveillance detects operating system inactivity, a call is placed to report the failure.

Use this service aid to display and change the following settings for the Surveillance Policy.

Note: Because of system capability, some of the following settings may not be displayed by this service aid.

- Surveillance (on/off)
- Surveillance Time Interval

  This is the maximum time between heartbeats from the operating system.

- Surveillance Time Delay

  This is the time to delay between when the operating system is in control and when to begin operating system surveillance.

- Changes are to take affect immediately

  Set this to Yes if the changes made to the settings in this menu are to take place immediately. Otherwise the changes takes place beginning with the next system boot.

This service aid may be accessed directly from the AIX command line, by entering:

`/usr/lpp/diagnostics/bin/uspchrp -s`

Create Customized Configuration Diskette

This selection invokes the Diagnostic Package Utility Service Aid which allows the user to perform the following action:

- Create a Standalone Diagnostic Package Configuration Diskette

  The Standalone Diagnostic Package Configuration Diskette allows the following to be changed from the console:

  - Default refresh rate for a LFT

The refresh rate used by the standalone diagnostic package is 60Hz. If the display's refresh rate is 77Hz, then set the refresh rate to 77.

– Different async terminal console

A console configuration file that allows a terminal attached to any RS232 or RS422 adapter to be selected as a console device can be created using this service aid. The default device is a RS232 tty attached to the first standard serial port (S1).

Delete Resource from Resource List

Use this task to delete resources from the resource list.

Note: Only resources that were previously detected by the diagnostics and have not been deleted from the Diagnostic Test List are listed. If no resources are available to be deleted, then none are listed.

Disk Maintenance

- Disk to Disk Copy
- Display/Alter Sector

Disk to Disk Copy

Notes:

1. This service aid cannot be used to update to a different size drive. The service aid only supports copying from a SCSI drive to another SCSI drive of similar size.

2. Use the **migratepv** command when copying the contents to other disk drive types. This command also works when copying SCSI disk drives or when copying to a different size SCSI disk drive. Refer to *System Management Guide: Operating System and Devices* for a procedure on migrating the contents of a physical volume.

This selection allows you to recover data from an old drive when replacing it with a new drive. The service aid recovers all LVM software reassigned blocks. To prevent corrupted data from being copied to the new drive, the service aid aborts if an unrecoverable read error is detected. To help prevent possible problems with the new drive, the service aid aborts if the number of bad blocks being reassigned reaches a threshold.

The procedure for using this service aid requires that both the old and new disks be installed in or attached to the system with unique SCSI addresses. This requires

that the new disk drive SCSI address must be set to an address that is not currently in use and the drive be installed in an empty location. If there are no empty locations, then one of the other drives must be removed. Once the copy is complete, only one drive may remain installed. Either remove the target drive to return to the original configuration, or perform the following procedure to complete the replacement of the old drive with the new drive.

1. Remove both drives.
2. Set the SCSI address of the new drive to the SCSI address of the old drive.
3. Install the new drive in the old drive's location.
4. Install any other drives that were removed into their original location.

To prevent problems that may occur when running this service aid from disk, it is suggested that this service aid be run from the diagnostics that are loaded from removable media when possible.

Display/Alter Sector

This selection allows the user to display and alter information on a disk sector. Care must be used when using this service aid because inappropriate modification to some disk sectors may result in total loss of all data on the disk. Sectors are addressed by their decimal sector number. Data is displayed both in hex and in ASCII. To prevent corrupted data from being incorrectly corrected, the service aid does not display information that cannot be read correctly.

Display Configuration and Resource List

This service aid displays the item header only for all installed resources. Use this service aid when there is no need of seeing the VPD. (No VPD is displayed.)

Display Firmware Device Node Information

Note: Runs on CHRP systems units only.

This task displays the firmware device node information that appears on CHRP platforms. The format of the output data may not be the same between different levels of AIX. It is intended to gather more information about individual or particular devices on the system.

Display Hardware Error Report

This service aid provides a tool for viewing the hardware error log. It uses the **errpt** command.

The Display Error Summary and Display Error Detail selection provide the same type of report as the **errpt** command. The Display Error Analysis Summary and Display Error Analysis Detail selection provide additional analysis.

Display Hardware Vital Product Data

This service aid displays all installed resources along with any VPD for those resources. Use this service aid when you want to look at the VPD for a specific resource.

Display Machine Check Error Log

Note: The Machine Check Error Log Service Aid is available only on Standalone Diagnostics.

When a machine check occurs, information is collected and logged in a NVRAM error log before the system unit shuts down. This information is logged in the AIX error log and cleared from NVRAM when the system is rebooted from the hard disk, LAN, or standalone media. When booting from Standalone Diagnostics, this service aid can take the logged information and turn it into a readable format that can be used to isolate the problem. When booting from the hard disk or LAN, the information can be viewed from the AIX error log using the Hardware Error Report Service Aid. In either case the information is analyzed when running the **sysplanar0** diagnostics in Problem Determination Mode.

Display Microcode Level

The following usage statements describe the syntax of the command to display the current level of microcode on an adapter or device.

Usage:
```
diag -c -d <device_name> -T "disp_mcode"
```

Display or Change Bootlist

This service aid allows the bootlist to be displayed, altered, or erased.

The system attempts to perform an IPL from the first device in the list. If the device is not a valid IPL device or if the IPL fails, the system proceeds in turn to the other devices in the list to attempt an IPL.

Display or Change Diagnostic Run Time Options

The Display or Change Diagnostic Run Time Options task allows the diagnostic run time options to be set.

Note: The run time options are used only when selecting the Run Diagnostic task.

The run time options are:

- Display Diagnostic Mode Selection Menus

  This option allows the user to turn on or off displaying the DIAGNOSTIC MODE SELECTION MENU (the default is on).

- Run Tests Multiple Times

  This option allows the user to turn on or off running the diagnostic in loop mode (the default is off).

  Note: This option is only displayed when running Online Diagnostics in Service Mode.

- Include Advanced Diagnostics

  This option allows the user to turn on or off including the Advanced Diagnostics (the default is off).

- Include Error Log Analysis

  This option allows the user to turn on or off including the Error Log Analysis (ELA) (the default is off).

- Number of Days Used to Search Error Log

  This option allows the user to select the number of days to search the AIX error log for errors when running the Error Log Analysis. The default is seven days, but can be changed from one to sixty days.

- Display Progress Indicators

  This option allows the user to turn on or off the progress indicators when running the Diagnostic Applications. The progress indicators are a popup box at the bottom of the screen indicating the test being run (the default is on).

- Diagnostic Event Logging

  This option allows the user to turn on or off logging information to the Diagnostic Event Log (the default is on).

- Diagnostic Event Log File Size

This option allows the user to select the maximum size of the Diagnostic Event Log. The default size for the Diagnostic Event Log is 100KB. The size can be increased in 100KB increments to a maximum of 1MB.

Display Previous Diagnostic Results

Note: This service aid is not available when you load the diagnostics from a source other than a hard disk drive or a network.

This service aid allows a service representative to display results from a previous diagnostic session. When the Display Previous Diagnostic Results option is selected, the user can view up to 25 no trouble found (NTF) and service request number (SRN) results.

This service aid displays Diagnostic Event Log information. The Diagnostic Event Log can be displayed in a short version or a long version. The Diagnostic Event Log contains information about events logged by a diagnostic session.

This service aid displays the information in reverse chronological order. If more information is available than can be displayed on one screen, use the Page Down and Page Up keys to scroll through the information.

This information is not from the AIX operating system error log. This information is stored in the **/var/adm/ras** directory.

The command can be run from the AIX command line by entering:
`/usr/lpp/diagnostics/bin/diagrpt [[-o] | [-s mmddyy] | [-a] | [-r]]`

Flag	Description
-o	Displays the last diagnostic results file stored in the **/etc/lpp/diagnostics/data** directory.
-s mmddyy	Displays all diagnostic result files logged since the date specified.
-a	Displays the long version of the Diagnostic Event Log.
-r	Displays the short version of the Diagnostic Event Log.

Display Resource Attributes

This task displays the Customized Device Attributes associated with a selected resource. This task is similar to running the **lsattr -E -l <resource>** command.

Display Service Hints

This service aid reads and displays the information in the CEREADME file from the diagnostics media. This file contains information that is not in the publications for

this version of the diagnostics. It also contains information about using this particular version of diagnostics.

Use the arrow keys to scroll through the information in the file.

Display Software Product Data

This task invokes SMIT to display information about the installed software and provides the following functions:

- List Installed Software
- List Applied but Not Committed Software Updates
- Show Software Installation History
- Show Fix (APAR) Installation Status
- List Fileset Requisites
- List Fileset Dependents
- List Files Included in a Fileset
- List File Owner by Fileset

Display System Environmental Sensors

Note: Runs on CHRP systems units only.

This service aid displays the environmental sensors implemented on a CHRP system. The information displayed is the sensor name, physical location code, literal value of the sensor status, and the literal value of the sensor reading.

The sensor status can be any one of the following:

- **Normal** – The sensor reading is within the normal operating range.

- **Critical High** – The sensor reading indicates a serious problem with the device. Run diagnostics on sysplanar0 to determine what repair action is needed.

- **Critical Low** – The sensor reading indicates a serious problem with the device. Run diagnostics on sysplanar0 to determine what repair action is needed.

- **Warning High** – The sensor reading indicates a problem with the device. This could become a critical problem if action is not taken. Run diagnostics on sysplanar0 to determine what repair action is needed.

- **Warning Low** – The sensor reading indicates a problem with the device. This could become a critical problem if action is not taken. Run diagnostics on sysplanar0 to determine what repair action is needed.

- **Hardware Error** - The sensor could not be read because of a hardware error. Run diagnostics on sysplanar0 in problem determination mode to determine what repair action is needed.

- **Hardware Busy** – The system has repeatedly returned a busy indication, and a reading is not available. Try the service aid again. If the problem continues, run diagnostics, on sysplanar0 in problem determination mode to determine what repair action is needed.

This service aid can also be run as a command. The command can be used to list the sensors and their values in a text format, list the sensors and their values in numerical format, or a specific sensor can be queried to return either the sensor status or sensor value.

The command can be run by entering one of the following:
```
/usr/lpp/diagnostics/bin/uesensor -l | -a
/usr/lpp/diagnostics/bin/uesensor -t <token> -i <index> [-v]
```

Flag	Description
-l	List the sensors and their values in a text format.
-a	List the sensors and their values in a numerical format. For each sensor, the following numerical values are displayed as:

`<token> <index> <status> <measured value> <location code>`

Flag	Description
-t token	Specifies the sensor token to query.
-i index	Specifies the sensor index to query.
-v	Indicates to return the sensor measured value. The sensor status is returned by default.

Examples

1. Display a list of the environmental sensors:

   `/usr/lpp/diagnostics/bin/uesensor -l`

   Sensor = Fan Speed
   Status = Normal
   Value = 2436 RPM
   Location Code = F1

   Sensor = Power Supply
   Status = Normal
   Value = Present and operational
   Location Code = V1

   Sensor = Power Supply
   *Status = Critical low
   Value = Present and not operational

Location Code = V2

2. Display a list of the environmental sensors in a numerical list:

```
/usr/lpp/diagnostics/bin/uesensor -a
```

3 0 11 87 P1
9001 0 11 2345 F1
9004 0 11 2 V1
9004 1 9 2 V2

3. Return the status of sensor 9004, index 1:

```
/usr/lpp/diagnostics/bin/uesensor -t 9004 -i 1
```

9

4. Return the value of sensor 9004, index 1:

```
/usr/lpp/diagnostics/bin/uesensor -t 9004 -i 1 -v
```

2

Display Test Patterns

This service aid provides a means of adjusting system display units by providing displayable test patterns. Through a series of menus the user selects the display type and test pattern. After the selections are made the test pattern is displayed.

Download Microcode

This service aid provides a way to copy microcode to an adapter or device. The service aid presents a list of adapters and devices that use microcode. After the adapter or device is selected, the service aid provides menus to guide you in checking the current level and downloading the needed microcode.

This task may be run directly from the AIX command line. The following usage statements guide you for a particular type of adapter or device. See the flag descriptions to complete the AIX command.

Download Microcode to PCI SCSI RAID Adapter

The following usage statements describe the syntax of the command for a PCI SCSI RAID Adapter:

Usage:
```
diag -c -d <RAID adapterName> -T "download [-B] [-D] [-P]"
```

Flag   **Description**
-B   Download boot block microcode (default to functional microcode).

-D   Microcode is on diskette (default to **/etc/microcode** directory).
-P   Download the previous level of microcode (default to latest level).

Download Microcode to Disk Drive Attached to a PCI SCSI RAID Adapter

The following usage statements describe the syntax of the command for a disk drive attached to a PCI SCSI RAID Adapter.

Usage:
```
diag -c -d <RAID adapterName> -T "download {-l <chID> | -A} [-D] [-P]"
```

Flag	Description
-A	All disk drives.
-D	Microcode is on diskette (default to **/etc/microcode** directory).
-l	RAID disk drive–physical disk channel/ID (example 27).
-P	Download the previous level of microcode (default to latest level).

Download Microcode to a PCI FC-AL Adapter

The following usage statements describe the syntax of the command for a PCI FC-AL Adapter.

Usage:
```
diag -c -d <device_name> -T "download [-s {diskette|disk}]
 [-f] [-l {latest|previous}]"
```

Flag	Description
-d	Device name is the name of the adapter.
-f	Force the download even if the current level of microcode is not on the media.
-l	Level of microcode to download. The default is latest.
-s	The source of the new microcodde. The default value is disk.

The microcode image file must be located in **/etc/microcode**.

Download Microcode to Other Devices

The following usage statements describe the syntax of the command:

Usage:
```
diag -c -d <device_name> -T "download [-s diskette] [-l previous] [-F]"
```

Flag	Description
-F	Force flag. Required to download microcode if the current level is unavailable on the source.

-l	Microcode level. Latest is default.
-s	microcode source. **/etc/microcode** is default. Default source device is disk.

Fibre Channel RAID Service Aids

The Fibre Channel RAID service aids contain the following functions:

Certify LUN

    This selection reads and checks each block of data in the LUN. If excessive errors are encountered the user is notified.

    You can run this task from the AIX command line. The following usage statement describes the syntax of the fastpath command:

    Usage: `diag -T "certify"`

Certify Spare Physical Disk

    This selection allows the user to certify (check integrity of the data) on drives designated as spares.

    You can run this task from the AIX command line. The following usage statement describes the syntax of the fastpath command:

    Usage: `diag -T "certify"`

Format Physical Disk

    This selection is used to format a selected disk drive.

    You can run this task from the AIX command line. The following usage statement describes the syntax of the fastpath command:

    Usage: `diag -T "format"`

Array Controller Microcode Download

    This selection allows the microcode on the Fibre Channel RAID controller to be updated when required.

    You can run this task from the AIX command line. The following usage statement describes the syntax of the fastpath command:

    Usage: `diag -T "download"`

Physical Disk Microcode Download

    This selection is used to update the microcode on any of the disk drives in the array.

    You can run this task from the AIX command line. The following usage statement describes the syntax of the fastpath command:

    Usage: `diag -T "download"`

Update EEPROM

This selection is used to update the contents of the EEPROM on a selected controller.

Replace Controller

Use this selection when it is necessary to replace a controller in the array.

Flash SK-NET FDDI Firmware

This task allows the Flash firmware on the SysKonnect SK-NET FDDI adapter to be updated.

Format Media

This task allows the selection of diskettes, hardfiles, or optical media to be formatted. Each selection is described below.

Hardfile Attached to SCSI Adapter (non-RAID)

- Hardfile Format

  Writes all of the disk. The pattern put on the disk is device dependent, i.e. some drives may put all 0s, while some may put hexadecimal number 5F. No bad block reassignment occurs

- Hardfile Format and Certify

  Does the same function as Format. After the format is completed, Certify is run. This certify reassigns all bad blocks encountered.

- Hardfile Erase Disk

  This option can be used to overwrite (remove) all data currently stored in user-accessible blocks of the disk. The Erase Disk option writes one or more patterns to the disk. An additional option allows data in a selectable block to be read and displayed on the system console.

  To use the Erase Disk option, specify the number (0-3) of patterns to be written. Select the patterns to be written; the patterns are written serially. That is, the first pattern is written to all blocks. Then the next pattern is written to all blocks, overlaying the previous pattern. A random pattern is written by selecting the "Write random pattern?" option.

  Note: The Erase Disk service aid has not been certified as meeting the Department of Defense or any other organizations security guidelines.

The following steps should be followed if the data on the drive is to be overwritten:

1. Use the "Erase Disk" selection to overwrite the data on the drive.
2. Do a format without certify.
3. Run a second pass of the erase disk selection.

For a newly installed drive, you can insure that all blocks on the drive are overwritten with your pattern if you use the following procedure:

1. Format the drive.

2. Check the defect MAP by running the Erase Disk selection.

   Note: If you use the "Format and Certify" option, there may be some blocks which get placed into the grown defect MAP.

3. If there are bad blocks in the defect MAP, record the information presented and ensure that this information is kept with the drive. This data is used later when the drive is to be overwritten.

4. Use the drive as you would normally.

5. When the drive is no longer needed and is to be erased, run the same version of the Erase Disk selection which was used in step 2.

   Note: Using the same version of the service aid is only critical if there were any bad blocks found in step 3.

6. Compare the bad blocks which were recorded with the drive in step 3 with those which now appear in the grown defect MAP.

   Note: If there are differences between the saved data and the newly obtained data, then all sectors on this drive cannot be overwritten. The new bad blocks are not overwritten.

7. If the bad block list is the same, continue running the service aid to overwrite the disk with the chosen pattern(s).

This task may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

Usage:
```
diag -c -d <deviceName> -T "format [-s* fmtcert | erase -a {read | write}]
[-F]"
```

Flag	Description
fmtcert	Formats and certifies the disk.
*	Available in no-console mode only.
-F	Force flag. Forces disk erasure even if all blocks cannot be erased due to errors accessing grown defect map.

Note: Erase option in command line mode uses default values. To selectively read or write, use diag in console mode.

Hardfile Attached to PCI SCSI RAID Adapter

This function formats the physical disks attached to a PCI SCSI RAID adapter. This task may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

Usage:
```
diag -c -d <RAID adapterName> -T "format {-l <chId> | -A }"
```

Flag	Description
-l	Physical disk channel/ID - (An example of physical disk channel/ID is 27, where the channel is 2 and the ID is 7.)
-A	All disks

Optical Media

- Optical Media Initialize

  Formats the media without certifying. This function does not reassign the defective blocks or erase the data on the media. It provides a quick way of formatting the media and cleaning the disk.

  Note: It takes approximately 1 minute to format the media.

- Optical Media Format and Certify

  Formats and certifies the media. This function reassigns the defective blocks and erases all data on the media.

This task may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

Usage:
```
diag -c -d <deviceName> -T "format [-s {initialize | fmtcert} ]"
```

Option	Description
initialize	Formats media without certifying.
fmtcert	formats and certifies the media.

Diskette Format

This selection formats a diskette by writing patterns to it.

Generic Microcode Download

This service aid provides a means of executing a "generic" script from a diskette. The intended purpose for this "generic" script is to load microcode to a supported resource. This script is responsible for executing whatever program is required in order to download the microcode onto the adapter or device.

This service aid is supported in both concurrent and standalone modes from disk, LAN, or loadable media.

On entry, the service aid displays information about what it does. It then asks for a Genucode diskette to be inserted into the diskette drive. The diskette must be in tar format. The service aid then restores the script file **genucode** to the **/tmp** directory. Then the script is executed. The script must at that point then pull off any other needed files from the diskette. The script should then exec whatever program is necessary in order to perform its function. On completion, a status code is returned, and the user is returned to the service aid. The **genucode** script should have a # ! /usr/bin/ksh line at the beginning of the file. Return status of 0 should be returned if the program was sucessful, else a non-zero status should be returned.

Local Area Network Analyzer

This selection is used to exercise the LAN communications adapters (Token-Ring, Ethernet, and (FDDI) Fiber Distributed Data Interface). The following services are available:

- Connectivity testing between two network stations. Data is transferred between the two stations. This requires the user to input the Internet Addresses of both stations.

- Monitoring ring (Token-Ring only). The ring is monitored for a period of time. Soft and hard errors are analyzed.

Log Repair Action

The Log Repair Action task logs a repair action in the AIX Error Log. A Repair Action log indicates that a FRU has been replaced, and error log analysis should not be done for any errors logged before the repair action. The Log Repair Action task lists all resources. Replaced resources can be selected from the list, and when **commit** (F7 key) is selected a repair action is logged for each selected resource. For more information see "Repair Action Log" on page 25-11

Periodic Diagnostics

This selection provides a tool for configuring periodic diagnostics and automatic error log analysis. A hardware resource can be chosen to be tested once a day, at a user specified time. If the resource cannot be tested because it is busy, error log analysis is performed. Hardware errors logged against a resource can also be monitored by enabling Automatic Error Log Analysis. This allows error log analysis to be performed every time a hardware error is put into the error log. If a problem is detected, a message is posted to the system console and a mail message sent to the user(s) belonging to the system group with information about the failure such as Service Request Number.

The service aid provides the following functions:

- Add or delete a resource to the periodic test list
- Modify the time to test a resource
- Display the periodic test list
- Modify the error notification mailing list
- Disable or Enable Automatic Error Log Analysis

PCI RAID Physical Disk Identify

This selection identifies physical disks connected to a PCI SCSI-2 F/W RAID adapter.

This task may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

Usage
```
diag -c -d < pci RAID adapter > -T identify
```

Process Supplemental Media

Diagnostic Supplemental Media contains all the necessary diagnostic programs and files required to test a particular resource. The supplemental is normally released and shipped with the resource as indicated on the diskette label. Diagnostic Supplemental Media must be used when the device support has not been incorporated into the latest diagnostic CD-ROM.

This task processes the Diagnostic Supplemental Media. Insert the supplemental media when prompted, then press Enter. After processing has occurred, go to the Resource Selection list to find the resource to test.

Notes:

- This task is supported in Standalone Diagnostics only.
- Process and test one resource at a time.
- Do not process multiple supplementals at a time.

Run Diagnostics

The Run Diagnostics task invokes the Resource Selection List menu. When the commit key is pressed, Diagnostics are run on all selected resources.

The procedures for running the diagnostics depends on the state of the diagnostics run time options. See "Display or Change Diagnostic Run Time Options" on page 27-18.

Run Error Log Analysis

The Run Error Log Analysis task invokes the Resource Selection List menu. When the commit key is pressed, Error Log Analysis is run on all selected resources.

Run Exercisers

Note: The Run Exercisers task is only supported in Online Maintenance Mode on CHRP systems.

This task provides a tool to troubleshoot intermittent system problems on AIX Release 4.3.2 or later. This task provides an exerciser supervisor that controls the selected exercisers.

When you select Run Exercisers from the Task Selection menu, the EXERCISER SELECTION menu displays. Select the exerciser you want to run from this menu. Each exerciser has other menus to set options for the exerciser.

Exerciser Commands (CMD)

Use the following commands as needed in the exerciser menus and reports. Not all commands are available in each menu or report.

CMD	Description
a	Acknowledge an error.
b	Back one page.
c	Toggle between cycle count and last error.
e	View the AIX error log.
f	Page forward one page.

q   Return to Main Menu.
r   Refresh screen.
s   Enable or disable beep on error.
x   Exit system exerciser.

Acronyms

The following list describes acronyms used in the exerciser reports.

To toggle between two states (example Activate/Halt Devices), use the number of the device.

Acronym	Description
COE	Continue on error (use number to select).
CP	Device has run the specified number of cycles and is not running.
DD	The exerciser has been terminated by a signal.
ER	Device has stopped with an error.
HG	The device is hung.
HOE	Halt on error (use number to select).
RN	Device is running.
ST	Device is stopped.

Memory Exerciser

The memory exercisers are labeled memx, where x is a number for the exerciser. Multiple exercisers can be active.

The memory exerciser requests as many memory buffers as possible from AIX. The exerciser then fills the memory buffers with specified bit patterns, then reads and compares the memory buffers to the specified bit patterns.

On systems with multiple processors a process is started for each processor. The free memory space is split evenly between the available processors thus reducing the time required to exercise all of the memory.

If the system is working properly, there are no compare errors. If a non-recoverable memory error occurs, the system crashes. Recoverable memory errors are logged by the AIX operating system.

The following items must be available to run this service aid:

- On-line diagnostics loaded in maintenance mode
- 128KB of free space in **/etc/lpp/diagnostics/data**
- The following commands must be available:
  - **vmstat**

     – **lsps**
     – **bootinfo**

Save or Restore Hardware Management Policies

Note: Runs on CHRP systems units only.

Use this service aid to save or restore the settings from Ring Indicate Power On
Policy, Surveillance Policy, Remote Maintenance Policy and Reboot Policy.

- Save Hardware Management Policies

  This selection writes all of the settings for the hardware management policies to
  the file:

  `/etc/lpp/diagnostics/data/hmpolicies`

- Restore Hardware Management Policies

  This selection restores all of the settings for the hardware management policies
  from the contents of the file:

  `/etc/lpp/diagnostics/data/hmpolicies`

This service aid may be accessed directly from the AIX command line, by entering:

`/usr/lpp/diagnostics/bin/uspchrp -a`

Save or Restore Service Processor Configuration

Note: Runs on RSPC system units only.

Use this service aid to save or restore the Service Processor Configuration to or from
a file. The Service Processor Configuration includes the Ring Indicator Power On
Configuration.

- Save Service Processor Configuration

  This selection writes all of the settings for the Ring Indicate Power On and the
  Service Processor to the file:

  `/etc/lpp/diagnostics/data/spconfig`

- Restore Service Processor Configuration

  This selection restores all of the settings for the Ring Indicate Power On and the
  Service Processor from the file:

  `/etc/lpp/diagnostics/data/spconfig`

SCSI Bus Analyzer

This service aid provides a means to diagnose a SCSI Bus problem in a free-lance mode.

To use this service aid, the user should have an understanding of how a SCSI Bus works. This service aid should be used when the diagnostics cannot communicate with anything on the SCSI Bus and cannot isolate the problem. Normally the procedure for finding a problem on the SCSI Bus with this service aid is to start with a single device attached, ensure that it is working, then start adding additional devices and cables to the bus ensuring that each one works. This service aid works with any valid SCSI Bus configuration.

The SCSI Bus Service Aid transmits a SCSI Inquiry command to a selectable SCSI Address. The service aid then waits for a response. If no response is received within a defined amount of time, the service aid displays a timeout message. If an error occurs or a response is received, the service aid then displays one of the following messages:

- The service aid transmitted a SCSI Inquiry Command and received a valid response back without any errors being detected.

- The service aid transmitted a SCSI Inquiry Command and did not receive any response or error status back.

- The service aid transmitted a SCSI Inquiry Command and the adapter indicated a SCSI bus error.

- The service aid transmitted a SCSI Inquiry Command and an adapter error occurred.

- The service aid transmitted a SCSI Inquiry Command and a check condition occur.

When the SCSI Bus Service Aid is entered a description of the service aid is displayed.

Pressing the Enter key displays the Adapter Selection menu. This menu allows the user to enter which address to transmit the SCSI Inquiry Command.

When the adapter is selected the SCSI Bus Address Selection menu is displayed. This menu allows the user to enter which address to transmit the SCSI Inquiry Command.

Once the address is selected the SCSI Bus Test Run menu is displayed. This menus allows the user to transmit the SCSI Inquiry Command by pressing the Enter

key. The service aid then indicates the status of the transmission. When the
transmission is completed, the results of the transmission are displayed.

Notes:

- A Check Condition can be returned when there is nothing wrong with the bus
  or device.

- AIX does not allow the command to be sent if the device is in use by another
  process.

SCSI Device Identification and Removal

This service aid allows the user to choose a SCSI device or location from a menu
and to identify a device located in a system unit that uses a SCSI Enclosure
Services (SES) backplane.

The service aid also does the following:

- Generates a menu displaying all SCSI devices.
- Lists the device and all of it's sibling devices.
- List all SCSI adapters and their ports.
- List all SCSI devices on a port.

SCSD Tape Drive Service Aid

This service aid provides a means to obtain the status or maintenance information
from a SCSD tape drive. Only some models of SCSI tape drive are supported.

The service aid provides the following options:

- Display time since a tape drive was last cleaned.

  The time since the drive was last cleaned is displayed onto the screen. In
  addition, a message whether the drive is recommended to be cleaned is also
  displayed.

- Copy a tape drive's trace table.

  The trace table of the tape drive is written to diskettes or a file. The diskettes
  must be formatted for DOS. Writing the trace table may require several diskettes.
  The actual number of diskettes is determined by the size of the trace table.
  Label the diskettes as follows:

  'TRACE[x].DAT' (where 'x' is a sequential diskette number). The complete trace
  table consists of the sequential concatenation of all the diskette data files.

When the trace table is written to a disk file, the service aid prompts for a file name. The default name is: '/tmp/TRACE.<x>', where x is the AIX name of the SCSD tape drive being tested.

- Display or copy a tape drive's log sense information.

  The service aid provides options to display the log sense information to the screen, to copy it to a DOS formatted diskette or to copy it to a file. The file name "LOGSENSE.DAT" is used when the log sense data is written on the diskette. The service aid prompts for a file name when the log sense data is chosen to be copied to a file.

This service aid may be run directly from the AIX command line. The following usage statement describes the syntax of the command (path is /usr/lpp/diagnostics/bin/utape):

Usage:
```
utape [-h | -?] [-d <device>] [-n | -l | -t]
```

or
```
utape -c -d <device> [-v] {-n | {-l | -t} { -D | -f [<filename>]}}
```

Flag	Description
-c	Run the service aid without displaying menus. The return code indicates success or failure. The output is suppressed except for the usage statement and the numeric value for hours since cleaned (if -n and -D flags are used).
-D	Copy data to diskette.
-f	Copy data to the filename given after this flag or to a default filename if no name is specified.
-h, -?	Display a usage statement and/or return code. If the -c flag is present, only the return code displays to indicate the service aid did not run. If the -c isn't used, a usage statement displays and the service aid exits.
-l	Display or copy log sense information.
-n	Display time since drive was last cleaned.
-t	Copy trace table.
-v	Verbose mode. If the -c flag is present, the information displays on the screen. If the -n flag is present, the information about tape head cleaning is printed.

Spare Sector Availability

This selection checks the number of spare sectors available on the optical disk. The spare sectors are used to reassign when defective sectors are encountered during normal usage or during a format and certify operation. Low availability of spare sectors shows that the disk needs to be backed up and replaced. Formatting the disk does not improve the availability of spare sectors.

This task may be run directly from the AIX command line. The following usage statement describes the syntax of the command:

Usage:
```
diag -c -d < deviceName > -T chkspares
```

SSA Service Aids

This service aid provides tools for diagnosing and resolving problems on SSA attached devices. The following tools are provided:

- Set Service Mode
- Link Verification
- Configuration Verification
- Format and Certify Disk

Update Disk Based Diagnostics

This service aid allows fixes (APARs) to be applied.

This task invokes the SMIT Update Software by Fix (APAR) task. The task allows the input device and APARs to be selected. Any APAR can be installed using this task.

Update System or Service Processor Flash

Note: Runs on CHRP system units only.

This selection updates the system or service processor flash for CHRP system units.

Further update and recovery instructions may be provided with the update. It is necessary to know the fully qualified path and file name of the flash update image file that was provided. If the flash update image file is on a diskette, the service aid can list the files on the diskette for selection.

Refer to the update instructions, or the system unit's service guide to determine the level of the system unit or service processor flash.

When run from online diagnostics, the flash update image file is copied to the **/var** file system. If there is not enough space in the **/var** file system for the flash update image file, an error is reported. If this occurs, exit the service aid, increase the size of the **/var** file system and retry the service aid. After the file is copied, a warning screen asks for confirmation to continue the update flash. Continuing the update flash reboots the system. The system does not return to diagnostics. The current flash image is not saved. After the reboot, the **/var/update_flash_image** can be removed.

When running from standalone diagnostics, the flash update image file is copied to the file system from diskette. The user needs to provide the image on a diskette since the user does not have access to remote file systems or any other files that are on the system. If enough space is not available, an error is reported stating additional system memory is needed. After the file is copied, a warning screen asks for confirmation to continue the update flash. Continuing the update flash reboots the system. The current flash image is not saved.

The **update_flash** command can be used in place of this service aid. It is located in the **/usr/lpp/diagnostics/bin** directory.

Attention: The **update_flash** command reboots the entire system. Do not use this command if more than one user is signed onto the system.

Update System Flash

Note: Runs on RSPC system units only.

This selection updates the system flash for RSPC systems.

The user provides a valid binary image either on diskette or qualified path name. The diskettes can be in DOS or a backup format.

The flash update image is copied to the **/var** file system. If there is not enough space in the file system for the flash update image file, an error is reported. If this occurs, increase the file size of the **/var** file system. The current flash image is not saved. The command automatically removes the **/var/update_flash_image**.

After user confirmation, the command reboots the system twice to complete the flash update.

7135 RAIDiant Array Service Aid

The 7135 RAIDiant Array service aids contain the following functions:

- Certify LUN

  This selection reads and checks each block of data in the LUN. If excessive errors are encountered the user is notified.

- Certify Spare Physical Disk

  This selection allows the user to certify (check the integrity of the data) on drives designated as spares.

- Format Physical Disk

  This selection is used to format a selected disk drive.

- Array Controller Microcode Download

  This selection allows the microcode on the 7135 controller to be updated when required.

- Physical Disk Microcode Download

  This selection is used to update the microcode on any of the disk drives in the array.

- Update EEPROM

  This selection is used to update the contents of the EEPROM on a selected controller.

- Replace Controller

  Use this selection when it is necessary to replace a controller in the array.

Adapter Microcode Download

Usage: `diag -c -d <deviceName> -T "download [-B][-D][-P]"`

Flag	Description
-B	Download boot block microcode (default to functional microcode)
-D	Microcode is on diskette (default to /etc/microcode directory)
-P	Download the previous level of microcode (default to latest level)

Physical Disk Microcode Download

Usage: `diag -c -d <deviceName> -T "download -l <ChId> [-D][-P]"`

Flag	Description
-l	Physical disk channel/ID (i.e. 27)
-D	Microcode is on diskette (default to /etc/microcode directory)
-P	Download the previous level of microcode (default to latest level)

Physical Disk Format

Usage: `diag -c -d <deviceName> -T "format -l <ChId>"`

Flag	Description
-l	Physical disk channel/ID (i.e. 27)

Physical Disk Certify

Usage: `diag -c -d <deviceName> -T "certify -l <ChId>"`

Flag	Description
-l	Physical disk channel/ID (i.e. 23)

Physical Disk Identify

Usage: `diag -c -d <deviceName> -T "identify"`

7318 Serial Communications Network Server Service Aid

This service aid provides a tool for diagnosing terminal server problems.

Chapter 28. Diagnostics Numbers and Location Codes

Operator Panel Display Numbers

This section contains a list of the various numbers and characters that display in the operator panel display. The numbers and characters are divided into three broad categories. The first group tracks the progress of the configuration program; the second group tracks the progress of the diagnostics; the third group provides information about messages that follow a *flashing* 888 number. The third group is within MAP 0070.

For more detailed explanations of operator panel display numbers, refer to the *AIX Version 4 Messages Guide and Reference*, order number SC23-2641.

Configuration Program Indicators

2E6 Ultra/Wide Differential SCSI adapter being identified or configured
2E7 Configuration method unable to determine if the SCSI adapter type is SE or DE type
440 9.1GB Ultra SCSI Disk Drive being identified or configured
441 18.2GB Ultra SCSI Disk Drive being identified or configured
444 2-Port Multiprotocol PCI Adapter (ASIC) being identified or configured
500 Querying Standard I/O slot.
501 Querying card in Slot 1.
502 Querying card in Slot 2.
503 Querying card in Slot 3.
504 Querying card in Slot 4.
505 Querying card in Slot 5.
506 Querying card in Slot 6.
507 Querying card in Slot 7.
508 Querying card in Slot 8.
510 Starting device configuration.
511 Device configuration completed.
512 Restoring device configuration files from media.
513 Restoring basic operating system installation files from media.
516 Contacting server during network boot.
517 Mounting client remote file system during network IPL.
518 Remote mount of the root and /usr file systems failed during network boot.
520 Bus configuration running.
521 **/etc/init** invoked **cfgmgr** with invalid options; **/etc/init** has been corrupted or incorrectly modified (irrecoverable error).
522 The configuration manager has been invoked with conflicting options (irrecoverable error).

523 The configuration manager is unable to access the ODM database (irrecoverable error).

524 The configuration manager is unable to access the config.rules object in the ODM database (irrecoverable error).

525 The configuration manager is unable to get data from a customized device object in the ODM database (irrecoverable error).

526 The configuration manager is unable to get data from a customized device driver object in the ODM database (irrecoverable error).

527 The configuration manager was invoked with the phase 1 flag; running phase 1 at this point is not permitted (irrecoverable error).

528 The configuration manager cannot find sequence rule, or no program name was specified in the ODM database (irrecoverable error).

529 The configuration manager is unable to update ODM data (irrecoverable error).

530 The program **savebase** returned an error.

531 The configuration manager is unable to access the **PdAt** object class (irrecoverable error).

532 There is not enough memory to continue (malloc failure); irrecoverable error.

533 The configuration manager could not find a configure method for a device.

534 The configuration manager is unable to acquire database lock (irrecoverable error).

535 HIPPI diagnostics interface driver being configured.

536 The configuration manager encountered more than one sequence rule specified in the same phase (irrecoverable error).

537 The configuration manager encountered an error when invoking the program in the sequence rule.

538 The configuration manager is going to invoke a configuration method.

539 The configuration method has terminated, and control has returned to the configuration manager.

551 IPL vary-on is running.

552 IPL vary-on failed

553 IPL phase 1 is complete

554 The boot device could not be opened or read, or unable to define NFS swap device during network boot

555 An ODM error occurred when trying to vary-on the rootvg, or unable to create an NFS swap device during network boot

556 Logical Volume Manager encountered error during IPL vary-on

557 The root filesystem does not mount

558 There is not enough memory to continue the system IPL

559 Less than 2 M bytes of good memory are available to load the AIX kernel

570 Virtual SCSI devices being configured

571 HIPPI common function device driver being configured

572 HIPPI IPI-3 master transport driver being configured

573 HIPPI IPI-3 slave transport driver being configured

574	HIPPI IPI-3 transport services user interface device driver being configured
575	A 9570 disk-array driver is being configured
576	Generic async device driver being configured
577	Generic SCSI device driver being configured
578	Generic commo device driver being configured
579	Device driver being configured for a generic device
580	HIPPI TCPIP network interface driver being configured
581	Configuring TCP/IP
582	Configuring Token-Ring data link control
583	Configuring an Ethernet data link control
584	Configuring an IEEE Ethernet data link control
585	Configuring an SDLC MPQP data link control
586	Configuring a QLLC X.25 data link control
587	Configuring a NETBIOS
588	Configuring a Bisync Read-Write (BSCRW)
589	SCSI target mode device being configured
590	Diskless remote paging device being configured
591	Configuring an LVM device driver
592	Configuring an HFT device driver
593	Configuring SNA device drivers
594	Asynchronous I/O being defined or configured
595	X.31 pseudo-device being configured
596	SNA DLC/LAPE pseudo-device being configured
597	OCS software being configured
598	OCS hosts being configured during system reboot
599	Configuring FDDI data link control
5c0	Streams-based hardware drive being configured
5c1	Streams-based X.25 protocol being configured
5c2	Streams-based X.25 COMIO emulator driver being configured
5c3	Streams-based X.25 TCP/IP interface driver being configured
5c4	FCS adapter device driver being configured
5c5	SCB network device driver for FCS is being configured
5c6	AIX SNA channel being configured
600	Starting network boot portion of **/sbin/rc.boot**
602	Configuring network parent devices
603	**/usr/lib/methods/defsys, /usr/lib/methods/cfgsys,** or **/usr/lib/methods/cfgbus** failed
604	Configuring physical network boot device
605	Configuration of physical network boot device failed
606	Running **/usr/sbin/ifconfig** on logical network boot device
607	**/usr/sbin/ifconfig** failed
608	Attempting to retrieve the **client.info** file with **tftp.** Note that a flashing 608 indicates multiple attempt(s) to retrieve the **client_info** file are occurring
609	The **client.info** file does not exist or it is zero length

610 Attempting remote mount of NFS file system

611 Remote mount of the NFS file system failed

612 Accessing remote files; unconfiguring network boot device

614 Configuring local paging devices

615 Configuration of a local paging device failed

616 Converting from diskless to dataless configuration

617 Diskless to dataless configuration failed

618 Configuring remote (NFS) paging devices

619 Configuration of a remote (NFS) paging device failed

620 Updating special device files and ODM in permanent filesystem with data from boot RAM filesystem

622 Boot process configuring for operating system installation

637 Dual Channel PCI-2 Ultra2 SCSI Adapter being configured

638 4.5GB Ultra SCSI Single Ended Disk Drive being configured

639 9.1GB 10K RPM Ultra SCSI Disk Drive (68-pin)

640 9.1GB 10K RPM Ultra SCSI Disk Drive (80-pin)

646 High-Speed Token-Ring PCI Adapter

650 IBM SCSD disk drive being configured

653 18.2GB Ultra-SCSI 16-bit Disk Drive

655 GXT130P Graphics adapter being configured

657 GXT2000P graphics adapter being configured

658 PCI Fibre Channel Disk Subsystem Controller being identified or configured

659 2102 Fibre Channel Disk Subsystem Controller Drawer being identified or configured.

660 2102 Fibre Channel Disk Array being identified or configured.

662 Ultra2 Integrated SCSI controller.

663 IBM ARTIC960 RxD PCI Adapter is being configured

664 32x (MAX) SCSI-2 CD-ROM drive being configured

667 PCI 3-Channel Ultra2 SCSI RAID Adapter

669 PCI Gigabit Ethernet Adapter

674 ESCON® Channel PCI Adapter

677 PCI Fiber Channel Arbitrated Loop Adapter

682 20x (MAX) SCSI-2 CD-ROM Drive being configured

689 4.5GB Ultra SCSI Single Ended Disk Drive being configured

690 9.1GB Ultra SCSI Single Ended Disk Drive being configured

700 A 1.1 GB 8-bit SCSI disk drive being identified or configured.

701 A 1.1 GB 16-bit SCSI disk drive is being identified or configured.

702 A 1.1 GB 16-bit differential SCSI disk drive is being identified or configured.

703 A 2.2 GB 8-bit SCSI disk drive is being identified or configured.

704 A 2.2 GB 16-bit SCSI disk drive is being identified or configured.

705 The configuration method for the 2.2 GB 16-bit differential SCSI disk drive is being run. If an irrecoverable error occurs, the system halts.

706 A 4.5 GB 16-bit SCSI disk drive is being identified or configured.

707 A 4.5 GB 16-bit differential SCSI disk drive is being identified or configured.

708	A L2 cache is being identified or configured.
710	POWER GXT150M graphics adapter being identified or configured.
711	Unknown adapter being identified or configured.
712	Graphics slot bus configuration is executing.
713	The IBM ARTIC960 device is being configured.
714	A video capture adapter is being configured.
715	The Ultramedia Services audio adapter is being configured. This LED displays briefly on the panel.
717	TP Ethernet Adapter being configured.
718	GXT500 Graphics Adapter being configured.
720	Unknown read/write optical drive type being configured.
721	Unknown disk or SCSI device being identified or configured.
722	Unknown disk being identified or configured.
723	Unknown CD-ROM being identified or configured.
724	Unknown tape drive being identified or configured.
725	Unknown display adapter being identified or configured.
726	Unknown input device being identified or configured.
727	Unknown async device being identified or configured.
728	Parallel printer being identified or configured.
729	Unknown parallel device being identified or configured.
730	Unknown diskette drive being identified or configured.
731	PTY being identified or configured.
732	Unknown SCSI initiator type being configured.
733	7GB 8mm tape drive being configured.
734	4x SCSI-2 640MB CD-ROM Drive
736	Quiet Touch keyboard and speaker cable being configured.
741	1080MB SCSI Disk Drive
745	16GB 4mm Tape Auto Loader
746	SCSI-2 Fast/Wide PCI Adapter
747	SCSI-2 Differential Fast/Wide PCI Adapter
749	7331 Model 205 Tape Library
751	SCSI 32-bit SE F/W RAID Adapter
754	1.1GB 16-bit SCSI disk drive being configured.
755	2.2GB 16-bit SCSI disk drive being configured.
756	4.5GB 16-bit SCSI disk drive being configured.
757	External 13GB 1.5M/s 1/4 inch tape being configured.
763	SP Switch MX Adapter
764	SP System Attachment Adapter
772	4.5GB SCSI F/W Disk Drive
773	9.1GB SCSI F/W Disk Drive
774	9.1GB External SCSI Disk Drive
776	PCI Token-Ring Adapter being identified or configured.
777	10/100Mbps PCI Ethernet Adapter being identified or configured.
778	POWER GXT3000P 3D PCI Graphics adapter being configured

77c A 1.0 GB 16-bit SCSI disk drive being identified or configured.

783 4mm DDS-2 Tape Autoloader

789 2.6GB External Optical Drive

78c PCI bus configuration executing

790 Multi-bus Integrated Ethernet Adapter being identified or configured.

797 TURBOWAYS® 155 UTP/STP ATM Adapter being identified or configured.

798 Video streamer adapter being identified or configured.

799 2-Port Multiprotocol PCI adapter being identified or configured.

79c ISA bus configuration executing

7C0 CPU/System Interface

7C1 Business Audio Subsystem being identified or configured

7cc PCMCIA bus configuration executing

800 TURBOWAYS 155 MMF ATM Adapter being identified or configured.

803 7336 Tape Library robotics being configured

804 8x Speed SCSI-2 CD-ROM Drive being configured

806 POWER GXT800 PCI Graphics adapter being configured

807 SCSI Device Enclosure being configured

80c SSA 4-Port Adapter being identified or configured.

811 Processor complex being identified or configured.

812 Memory being identified or configured.

813 Battery for time-of-day, NVRAM, and so on being identified or configured, or system I/O control logic being identified or configured.

814 NVRAM being identified or configured.

815 Floating-point processor test

816 Operator panel logic being identified or configured.

817 Time-of-day logic being identified or configured.

819 Graphics input device adapter being identified or configured.

821 Standard keyboard adapter being identified or configured.

823 Standard mouse adapter being identified or configured.

824 Standard tablet adapter being identified or configured.

825 Standard speaker adapter being identified or configured.

826 Serial Port 1 adapter being identified or configured.

827 Parallel port adapter being identified or configured.

828 Standard diskette adapter being identified or configured.

831 3151 adapter being identified or configured, or Serial Port 2 being identified or configured.

834 64-port async controller being identified or configured.

835 16-port async concentrator being identified or configured.

836 128-port async controller being identified or configured.

837 16-port remote async node being identified or configured.

838 Network Terminal Accelerator Adapter being identified or configured.

839 7318 Serial Communications Server being configured.

840 PCI Single-Ended Ultra SCSI Adapter

841 8-port async adapter (EIA-232) being identified or configured.

842 8-port async adapter (EIA-422A) being identified or configured.

843 8-port async adapter (MIL-STD 188) being identified or configured.

844 7135 RAIDiant Array disk drive subsystem controller being identified or configured.

845 7135 RAIDiant Array disk drive subsystem drawer being identified or configured.

846 RAIDiant Array SCSI 1.3GB Disk Drive

847 16-port serial adapter (EIA-232) being identified or configured.

848 16-port serial adapter (EIA-422) being identified or configured.

849 X.25 Interface Co-Processor/2 adapter being identified or configured.

850 Token-Ring network adapter being identified or configured.

851 T1/J1 Portmaster® adapter being identified or configured.

852 Ethernet adapter being identified or configured.

854 3270 Host Connection Program/6000 connection being identified or configured.

855 Portmaster Adapter/A being identified or configured.

857 FSLA adapter being identified or configured.

858 5085/5086/5088 adapter being identified or configured.

859 FDDI adapter being identified or configured.

85c Token-Ring High-Performance LAN adapter is being identified or configured.

861 Optical adapter being identified or configured.

862 Block Multiplexer Channel Adapter being identified or configured.

865 ESCON Channel Adapter or emulator being identified or configured.

866 SCSI adapter being identified or configured.

867 Async expansion adapter being identified or configured.

868 SCSI adapter being identified or configured.

869 SCSI adapter being identified or configured.

870 Serial disk drive adapter being identified or configured.

871 Graphics subsystem adapter being identified or configured.

872 Grayscale graphics adapter being identified or configured.

874 Color graphics adapter being identified or configured.

875 Vendor generic communication adapter being configured.

876 8-bit color graphics processor being identified or configured.

877 POWER Gt3™/POWER Gt4™ being identified or configured.

878 POWER Gt4 graphics processor card being configured.

879 24-bit color graphics card, MEV2

880 POWER Gt1™ adapter being identified or configured.

887 Integrated Ethernet adapter being identified or configured.

889 SCSI adapter being identified or configured.

890 SCSI-2 Differential Fast/Wide and Single-Ended Fast/Wide Adapter/A.

891 Vendor SCSI adapter being identified or configured.

892 Vendor display adapter being identified or configured.

893 Vendor LAN adapter being identified or configured.

894 Vendor async/communications adapter being identified or configured.

895   Vendor IEEE 488 adapter being identified or configured.

896   Vendor VME bus adapter being identified or configured.

897   S/370™ Channel Emulator adapter being identified or configured.

898   POWER Gt1x™ graphics adapter being identified or configured.

899   3490 attached tape drive being identified or configured.

89c   A multimedia SCSI CD-ROM is being identified or configured.

900   GXT110P Graphics Adapter being identified or configured.

901   Vendor SCSI device being identified or configured.

902   Vendor display device being identified or configured.

903   Vendor async device being identified or configured.

904   Vendor parallel device being identified or configured.

905   Vendor other device being identified or configured.

908   POWER GXT1000 Graphics subsystem being identified or configured.

910   1/4GB Fiber Channel/266 Standard Adapter being identified or configured.

911   Fiber Channel/1063 Adapter Short Wave

912   2.0GB SCSI-2 differential disk drive being identified or configured.

913   1.0GB differential disk drive being identified or configured.

914   5GB 8mm differential tape drive being identified or configured.

915   4GB 4mm tape drive being identified or configured.

916   Non-SCSI vendor tape adapter being identified or configured.

917   A 2.0GB 16-bit differential SCSI disk drive is being identified or configured.

918   A 2GB 16-bit single-ended SCSI disk drive is being identified or configured.

920   Bridge Box being identified or configured.

921   101 keyboard being identified or configured.

922   102 keyboard being identified or configured.

923   Kanji keyboard being identified or configured.

924   Two-button mouse being identified or configured.

925   Three-button mouse being identified or configured.

926   5083 tablet being identified or configured.

927   5083 tablet being identified or configured.

928   Standard speaker being identified or configured.

929   Dials being identified or configured.

930   Lighted program function keys (LPFK) being identified or configured.

931   IP router being identified or configured.

933   Async planar being identified or configured.

934   Async expansion drawer being identified or configured.

935   3.5-inch diskette drive being identified or configured.

936   5.25-inch diskette drive being identified or configured.

937   An HIPPI adapter is being configured.

938   Serial Hippi PCI adapter being configured.

942   POWER GXT 100 graphics adapter being identified or configured.

943   A 3480 or 3490 control unit attached to a System/370 Channel Emulator/A adapter are being identified or configured.

944   100MB ATM adapter being identified or configured

945	1.0GB SCSI differential disk drive being identified or configured.
946	Serial port 3 adapter is being identified or configured.
947	A 730MB SCSI disk drive is being configured.
948	Portable disk drive being identified or configured.
949	Unknown direct bus-attach device being identified or configured.
950	Missing SCSI device being identified or configured.
951	670MB SCSI disk drive being identified or configured.
952	355MB SCSI disk drive being identified or configured.
953	320MB SCSI disk drive being identified or configured.
954	400MB SCSI disk drive being identified or configured.
955	857MB SCSI disk drive being identified or configured.
956	670MB SCSI disk drive electronics card being identified or configured.
957	120MB DBA disk drive being identified or configured.
958	160MB DBA disk drive being identified or configured.
959	160MB SCSI disk drive being identified or configured.
960	1.37GB SCSI disk drive being identified or configured.
964	Internal 20GB 8mm tape drive identified or configured.
968	1.0GB SCSI disk drive being identified or configured.
970	Half-inch, 9-track tape drive being identified or configured.
971	150MB 1/4-inch tape drive being identified or configured.
972	2.3GB 8mm SCSI tape drive being identified or configured.
973	Other SCSI tape drive being identified or configured.
974	CD-ROM drive being identified or configured.
975	An optical disk drive is being identified or configured.
977	M-Audio Capture and Playback Adapter being identified or configured.
981	540MB SCSI-2 single-ended disk drive being identified or configured.
984	1GB 8-bit disk drive being identified or configured.
985	M-Video Capture Adapter being identified or configured.
986	2.4GB SCSI disk drive being identified or configured.
987	An Enhanced SCSI CD-ROM drive is being identified or configured.
989	200MB SCSI disk drive being identified or configured.
990	2.0GB SCSI-2 single-ended disk drive being identified or configured.
991	525MB 1/4-inch cartridge tape drive being identified or configured.
994	5GB 8mm tape drive being identified or configured.
995	1.2GB 1/4 inch cartridge tape drive being identified or configured.
996	A single-port, multi-protocol communications adapter is being identified or configured.
997	FDDI adapter being identified or configured.
998	2.0GB 4mm tape drive being identified or configured.
999	7137 or 3514 Disk Array Subsystem being configured.
D46	Token-Ring cable
D81	T2 Ethernet Adapter being configured.

Diagnostic Load Progress Indicators

c00 AIX Install/Maintenance loaded successfully.
c01 Insert the first diagnostic diskette.
c02 Diskettes inserted out of sequence.
c03 The wrong diskette is in diskette drive.
c04 The loading stopped with a non-recoverable error.
c05 A diskette error occurred.
c06 The **rc.boot** configuration shell script is unable to determine type of boot.
c07 Insert the next diagnostic diskette.
c08 RAM file system started incorrectly.
c09 The diskette drive is reading or writing a diskette.
c20 An unexpected halt occurred, and the system is configured to enter the kernel debug program instead of entering a system dump.
c21 The **ifconfig** command was unable to configure the network for the client network host.
c22 The **tftp** command was unable to read client's *ClientHostName* **info** file during a client network boot.
c24 Unable to read client's *ClientHostName*.**info** file during a client network boot.
c25 Client did not mount remote miniroot during network install.
c26 Client did not mount the /usr file system during the network boot.
c29 The system was unable to configure the network device.
c31 Select the console display for the diagnostics. To select No console display, set the key mode switch to Normal then to Service. The diagnostic programs then load and run the diagnostics automatically.
c32 A direct-attached display (HFT) was selected.
c33 A tty terminal attached to serial ports S1 or S2 was selected.
c34 A file was selected. The console messages store in a file.
c40 Configuration files are being restored.
c41 Could not determine the boot type or device.
c42 Extracting data files from diskette.
c43 Cannot access the boot/install tape.
c44 Initializing installation database with target disk information.
c45 Cannot configure the console.
c46 Normal installation processing.
c47 Could not create a physical volume identifier (PVID) on disk.
c48 Prompting you for input.
c49 Could not create or form the JFS log.
c50 Creating root volume group on target disks.
c51 No paging devices were found.
c52 Changing from RAM environment to disk environment.
c53 Not enough space in the **/tmp** directory to do a preservation installation.
c54 Installing either BOS or additional packages.

c55 Could not remove the specified logical volume in a preservation installation.
c56 Running user-defined customization.
c57 Failure to restore BOS.
c58 Displaying message to turn the key.
c59 Could not copy either device special files, device ODM, or volume group information from RAM to disk.
c61 Failed to create the boot image.
c62 Loading platform dependent debug files
c63 Loading platform dependent data files
c64 Failed to load platform dependent data files
c70 Problem Mounting diagnostic CD-ROM disc
c99 Diagnostics have completed. This code is only used when there is no console.
Fxx (xx is any number) Refer to Firmware chapter of the service manual.

Location Codes for RSPC Model Architecture System Units

Note: You need to know which system architecture the system unit on which you are working utilizes. If you are working with a CHRP model use the "Location Codes for CHRP Model Architecture System Units" on page 28-16. If you don't know which model you have, refer to "Determining System Architecture" on page 26-10 before proceeding.

Because the same diagnostic programs are used on all system units, a location code is used to physically locate a failing device or unit. The location code is displayed along with the service request number (SRN) when the diagnostic programs isolate a failure. If the location code is not known, you can run the Display Previous Diagnostic Results service aid to display the results of the last time the diagnostic programs were run.

The basic format of the system unit's location code is:

```
AB-CD-EF-GH     non-SCSI
        G,H   SCSI
```

For planars, cards, and non-SCSI devices the location code is defined as:

```
AB-CD-EF-GH
 |  |  |  |
 |  |  |  Device/FRU/Port ID
 |  |  Connector ID
 |  Slot or Adapter Number
 Bus Type
```

AB identifies a bus type, CD identifies a slot or adapter number, EF a connector identifier, and GH is a port identifier, address, memory module, device, or FRU. Adapters/cards are identified with just AB-CD.

The possible values for AB are as follows:

```
00      for processor bus
01      for ISA buses
04      for PCI buses
05      for PCMCIA buses (not supported on 7024)
```

The possible values for CD depend on the adapter/card. For pluggable adapters/cards this is a two digit slot number in the range from 01 to 99. However, in the case of ISA cards these numbers do not actually correspond to the physical slot numbers. They simply are based on the order the ISA cards are defined/configured either by SMIT or the ISA Adapter Configuration Service Aid.

For integrated adapters the first character in CD is a letter in the range from A to Z. This letter is based on the order that the integrated adapters are defined in residual data and ensures unique location codes for the integrated adapters. The D is set to 0.

EF is the Connector ID. It is used to identify the adapter connector that a resource is attached to.

GH is a port identifier, address, memory module,device, or FRU. It is used to identify a port, device, or a FRU. GH has several meanings depending upon the resource type. They are:

- For memory cards GH defines a memory module. Values for GH are 1 through 16.

  For systems that have memory module that plug directly into the system planar the location code is 00-00-00-GH where GH is the memory module slot. For system that have memory cards with memory module, the location code is 00-CD-EF-GH where CD is the card slot and GH is the memory module slot.

- For L2 caches GH defines the cache. Values for GH are 1 through 16.

- For PCMCIA devices GH defines the PCMCIA. Values for GH are 1 through 16.

- For async devices GH defines the port on the fanout box. Values are 00 to 15.

- For a diskette drive H defines which diskette drive 1 or 2. G is always 0.

- For all other devices GH is equal to 00.

For integrated adapters, EF-GH is the same as the definition for a pluggable adapter. For example, the location code for a diskette drive is 01-A0-00-00. A second diskette drive is 01-A0-00-01.

For SCSI the Location Code is defined as:

```
AB-CD-EF-G,H
 |  |  |  | |
 |  |  |  | Logical Unit Address of SCSI Device
 |  |  | Control Unit Address of SCSI Device
 |  | Connector ID
 | Slot or Adapter Number
Bus Type
```

Where AB-CD-EF are the same as non-SCSI devices.

G defines the control unit address of the device. Values of 0 to 15 are valid.

H defines the logical unit address of the device. Values of 0 to 255 are valid.

Refer to the examples on the following page.

Examples:

```
Processor-PCI bus
  00-00              PCI bus

Memory module in system planar
  00-00-00-01

Memory module in card
  00-0A-00-01

Integrated PCI adapters
  04-A0             ISA bus (Integrated PCI-ISA bridge)
  04-B0             Secondary PCI bus (Integrated PCI-PCI bridge)
  04-C0             Integrated PCI SCSI controller

Non-integrated PCI adapters
  04-01             Any PCI card in slot 1
  04-02             Any PCI card in slot 2

Integrated ISA adapters
  01-A0             Diskette adapter
  01-B0             Parallel port adapter
  01-C0             Serial port 1 adapter
  01-D0             Serial port 2 adapter
  01-E0             Keyboard adapter
  01-F0             Mouse adapter

Non-integrated ISA adapters
  01-01             First ISA card defined/configured
  01-02             Second ISA card defined/configured
  01-03             Third ISA card defined/configured
  01-04             Fourth ISA card defined/configured

Device attached to SCSI controller
  04-C0-01-4,0      Device attached to Integrated PCI SCSI controller
```

Location Codes for CHRP Model Architecture System Units

Note: You need to know which system architecture the system unit on which you are working utilizes. If you are working with a RSPC model use the "Location Codes for RSPC Model Architecture System Units" on page 28-12. If you don't know which model you have, refer to "Determining System Architecture" on page 26-10 before proceeding.

The (CHRP) system unit uses Physical Location Codes in conjunction with AIX Location Codes to provide mapping of the failing field replaceable units. The location codes are produced by the system unit's firmware and AIX.

Physical Location Codes

Physical location codes provide a mapping of logical functions in a platform (or expansion sites for logical functions, such as connectors or ports) to their specific locations within the physical structure of the platform.

Location Code Format

The format for the location code is a string of alphanumeric characters separated by a dash (-), slash (/), pound sign (#), or period (.). The base location is all of the information before the slash (/) or pound sign (#). It identifies a device that is connected or plugged into the parent. Extended location information follows the slash (/). It identifies a device that is part of the parent, a connector, or a cable. Cable information follows the pound sign (#). It identifies a cable that is connected to the parent. The following are examples:

- P1-C1 identifies a CPU card C1 plugged into planar P1.
- P1-M1 identifies a memory card M1 plugged into planar P1.
- P1-K1 identifies a keyboard attached to connector K1 on planar P1.
- P1/S1 identifies; serial port 1 controller on planar P1, the connector for serial port 1, or the cable attached to connector S1.
- P1-I2/E3 identifies; Ethernet controller 3 on the card plugged into slot 2 (I2) on planar P1, the connector for Ethernet controller 3, or the cable attached to Ethernet controller 3.
- P1-I2#E3 identifies; the cable attached to Ethernet controller 3 plugged into slot 2 (I2) on planar P1.

The period (.) is used to identify sub-locations such as memory DIMMs on a base memory card or a specific SCSI address. The following are examples:

- P1-M1.4 identifies DIMM 4 on memory card 1 on planar 1.
- P1-C1.1 identifies CPU 1 on CPU card 1 on planar 1.

- P2/Z1-A3.1 identifies a SCSI device with a SCSI address of LUN 1 at SCSI ID 3 attached to SCSI bus 1 from planar 2.
- P1-I2#E3.2 identifies the second cable in a series of cables attached to Ethernet controller 3 in slot 2 (I2) on planar 1.

Depending on the AIX and firmware levels, AIX Diagnostics may include extended location information when identifing a planar or card. The extended location information or cable information is always included when identifing a cable or connector. Location codes with extended location information that display without a description identifing the devices, always identify the cable attached to the port.

Physical Location Code Standard Prefixes

Table 28-1 lists the assigned values for the location type prefixes. In most cases, the prefix value assignments were chosen to provide some mnemonic characteristic, so that they would be easier to remember. The underlined characters in the description field are intended to illustrate this mnemonic relationship.

Table 28-1 (Page 1 of 2). Location Code Prefix Values	
Description	**Prefix Value (n=instance #)**
Rack or non-drawer enclosure unit	Un
Drawer unit mounted in a rack	Un.n (U0.n if rack cannot be sensed by firmware)
Single enclosure platform	(No enclosure location code)
Planar (backplane, system, I/O)	Pn
Planar riser card, extender	Pn.n
Power/voltage supply, voltage regulator, backup battery	Vn
Fan/sensor	Fn
LED/LCD operator panel	Ln
CPU/cache card (or pluggable module if on planar)	Cn
CPU/cache module on CPU card (if pluggable)	Cn.n
Memory card or SIMM/DIMM on planar	Mn
Memory SIMM/DIMM on memory card	Mn.n
Other extra-function base system cards (for example, service processor)	Xn

Table 28-1 (Page 2 of 2). Location Code Prefix Values	
Description	**Prefix Value (n=instance #)**
I/O adapter	In
Pluggable modules or daughter cards on I/O adapter	In.n
Diskette drive	Dn
Ports/Connectors:	
Graphics/video connector	Gn
Keyboard/keyboard connector	Kn
Mouse/mouse connector	On
Serial port	Sn
Parallel port	Rn
Ethernet connector	En
Token Ring connector	Tn
SCSI (pronounced scuzzy) connector	Zn
Other I/O ports or connectors	Qn
SCSI device addresses (including SSA (Serial Storage Architecture))	
Primary address (SCSI control unit ID)	An
Primary and secondary address (SCSI ID and LUN (Logical Unit Number))	An.n
SCSI device location in SCSI Enclosure Services (SES)	
SCSI bank	Bn
SCSI bank and bay	Bn.n
Undefined prefixes (reserved)	H, J, N, W, Y

AIX Location Codes

The basic formats of the AIX location codes are:

- For non-SCSI devices/drives

  AB-CD-EF-GH

- For SCSI devices/drives

  AB-CD-EF-G,H

For planars, cards, and non-SCSI devices the location code is defined as:

```
AB-CD-EF-GH
 |  |  |  |
 |  |  |  Device/FRU/Port ID
 |  |  Connector ID
 |  devfunc Number, Adapter Number or Physical Location
 Bus Type or PCI Parent Bus
```
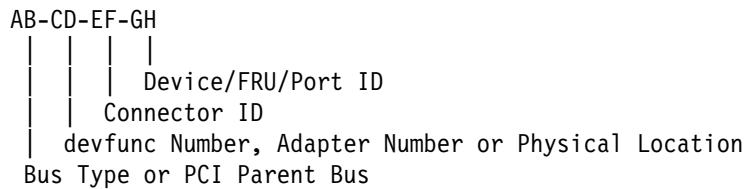
- The AB value identifies a bus type or PCI parent bus as assigned by the firmware.
- The CD value identifies adapter number, adapter's devfunc number, or physical location. The devfunc number is defined as the PCI device number times 8, plus the function number.
- The EF value identifies a connector.
- The GH value identifies a port, address, device, or FRU.

Adapters and cards are identified with just AB-CD.

The possible values for AB are:

00	Processor bus
01	ISA bus
02	EISA bus
03	MCA bus
04	PCI bus used in the case where the PCI bus cannot be identified
05	PCMCIA buses
xy	For PCI adapters where x is equal to or greater than 1. The x and y are characters in the range of 0-9, A-H, J-N, P-Z (O, I, and lower case are omitted) and are equal to the parent bus's ibm, aix-loc Open Firmware Property.

The possible values for CD depend on the adapter/card.

For pluggable PCI adapters/cards, CD is the device's devfunc number (PCI device number times 8, plus the function number). The C and D are characters in the range of 0-9, and A-F (hex numbers). This allows the location code to uniquely identify multiple adapters on individual PCI cards.

For pluggable ISA adapters, CD is equal to the order the ISA cards defined/configured either by SMIT or the ISA Adapter Configuration Service Aid.

For integrated ISA adapters, CD is equal to a unique code identifying the ISA adapter. In most cases this is equal to the adapter's physical location code. In cases where a physical location code is not available, CD is FF.

EF is the connector ID. It is used to identify the adapter's connector that a resource is attached to.

GH is used to identify a port, device, or FRU. For example:

- For async devices GH defines the port on the fanout box. The values are 00 to 15.
- For a diskette drive H defines which diskette drive 1 or 2. G is always 0.
- For all other devices GH is equal to 00.

For integrated adapter, EF-GH is the same as the definition for a pluggable adapter. For example, the location code for a diskette drive is 01-D1-00-00. A second diskette drive is 01-D1-00-01.

For SCSI the location code is defined as:

```
AB-CD-EF-G,H
 | |  | | |
 | |  | | | Logical Unit address of the SCSI Device
 | |  | | Control Unit Address of the SCSI Device
 | |  | Connector ID
 |  devfunc Number, Adapter Number or Physical Location
 Bus Type or PCI Parent Bus
```

Where AB-CD-EF are the same as non-SCSI devices.

G defines the control unit address of the device. Values of 0 to 15 are valid.

H defines the logical unit address of the device. Values of 0 to 255 are valid.

There is also a bus location code that is generated as '00-xxxxxxxx' where xxxxxxxx is equivalent to the node's unit address.

Refer to the system unit service guide for additional information.

Location Code Examples

Table 28-2 provides several examples of location codes for elements of typical platforms. Since different platforms come in different packaging, the specific meaning and actual physical location of a location code may vary, but the representation is intended to be applied consistently.

Table 28-2. Location Code Examples	
Descriptions of example locations	**Location Code**
Locations in a single enclosure platform	
System planar	P1
CPU card in slot 1 (or pluggable CPU module in module socket 1)	P1-C1
Memory SIMM in slot 2 on the planar	P1-M2
I/O planar (including all integrated I/O devices)	P2
Card in I/O slot 4	P2-I4
Serial port 2 controller (with connector)	P2/S2
Keyboard port controller (with connector)	P2/K1
Keyboard (connected to keyboard port)	P2-K1
Power Supply	V1
Fan 2	F2
Op panel	L1
Integrated SCSI controller (with connector)	P2/Z1
Locations in a multi-enclosure platform	
System planar	U1-P1
Memory DIMM 12 on memory card in slot 2 on the system planar	U1-P1-M2.12
Connector/cable from system planar to remote I/O expansion planar	U1-P1-Q1
Adapter in slot 4 of an I/O expansion planar in a second enclosure	U2-P1-I4

Chapter 29. Using the SRN List

The service request number (SRN) list is in numerical sequence by the SRN.

The SRNs listed in the following chapters are for all systems and devices for which this version of the diagnostic programs can produce an SRN.

The columns in the table are used as follows:

Service Request Number

Usually a six-digit number (9333 uses four digits) representing a specific failure of a specific function.

Source of SRN (SRN Src.)

SRN source codes identify the program or procedure that produced the SRN:

A   The SRN is from a steady number in the operator panel display.

B   The SRN is from a MAP callout.

C   The SRN was due to a missing resource at configuration time.

D   The SRN is from a diagnostic test after complete isolation testing.

E   The SRN is from a POST failure.

F   The SRN is from a diagnostic test after partial isolation testing.

G   The SRN is from the Error Log Analysis program.

H   The SRN is from a diagnostic message after a flashing 888

J   The SRN is from built-in ROM diagnostics.

K   The SRN is from off-line diagnostics.

Failing Function Codes

These numbers represent functional areas of the system unit. The "Failing Function Code List" on page 35-4 identifies the FRU that contains this function for each specific system unit.

Description and Action

This column lists a brief description of the failure this SRN represents. It also contains instructions as to what to do to continue the problem analysis. If you are servicing a SP system, *do not* do the Action listed, instead, always return to the *SP Maintenance Information Manual*.

How to Use the Service Request Number List

The service request number list is in numerical sequence by the SRN.

1. Find your SRN in the table.

2. Record the code letter for the Source of SRN (SRN Src.).

3. Record the failing function codes in the order listed.

4. Perform the action shown in the Action column.

   Notes:

   - If you cannot find SRN information in the "Service Request Number List," check for the existence of supplemental material supporting the device for which the SRN was generated.

   - x in an SRN represents any digit or character.

   - If your SRN is not listed, check to see if xxx has been used. The -xxx should always be the last SRN identified within a specific prefix. An example would be 950-xxx. The xxx is the last digit within the 950 prefix.

   - If you are servicing a SP system, *do not* do the Action listed, instead, always return to the *SP Maintenance Information Manual*.

Service Request Number Listing

The following five chapters contain the Service Request Number (SRN) List. The chapters are broken down into number ranges. The following table identifies each SRN chapter range and the page number at which it begins:

Chapter Title	Page Number
Chapter 29, "Using the SRN List"	29-1
Chapter 30, "Five-Digit SRNs 10112 through DFFFF"	30-1
Chapter 31, "Six-Digit SRNs 101-000 through 699-120"	31-1
Chapter 32, "Six-Digit SRNs 700-102 through 89c-302"	32-1
Chapter 33, "Six-Digit SRNs 900-001 through xxxxxxx"	33-1

Chapter 30. Five-Digit SRNs 10112 through DFFFF

Service Request Number List

Replace FRU parts in the order by which the "Failing Function Codes" are listed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
10104			Description: Format in progress. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
10112			Description: Format Degraded. A format operation ended before it completed. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
1xxxx			Description: Disk drive module error. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive. **Note**: In this SRN, an x represents a digit 0 through F.
20PAA			Description: An open SSA loop was detected. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive and the *User's Guide and Maintenance Information* for the SSA adapter.
21PAA to 29PAA			Description: An SSA Threshold Exceeded link error was detected. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
2A002			Description: Async code 02 was received. Probably, a software error occurred. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive and the *User's Guide and Maintenance Information* for the SSA adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
2A003			Description: Async code 03 was received. Probably, a software error occurred. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive and the *User's Guide and Maintenance Information* for the SSA adapter.
2A004			Description: Async code 04 was received. Probably, a software error occurred. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive and the *User's Guide and Maintenance Information* for the SSA adapter.
2A005			Description: Async code 05 was received. This code indicates that a disk drive module detected the loss of redundant power or cooling. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
2A006			Description: Async code 06 was received. This code indicates that a disk drive module detected the loss of redundant power or cooling. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
2A106			Description: Async code 06 was received. This code indicates that multiple disk drive modules detected loss of redundant power or cooling. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
2A206			Description: A disk drive module detected that one of its SSA links failed the POST. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
2FFFF			Description: An async code that is not valid was received. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive and the *User's Guide and Maintenance Information* for the SSA adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
300C0			Description: A disk drive module detected the loss of redundant power or cooling. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
301C0			Description: Multiple disk drive modules detected the loss of redundant power or cooling. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
303FE			Description: A disk drive Microcode Error was detected. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive and the *User's Guide and Maintenance Information* for the SSA adapter.
303FF			Description: An SCSI status that is not valid was received. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive and the *User's Guide and Maintenance Information* for the SSA adapter.
31000			Description: The disk drive was reset by the adapter. The disk drive might be going to fail. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
33PAA			Description: Excessive link reconfigurations were detected. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
40000			Description: The SSA adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
40004			Description: A module on the adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
40008			Description: A module on the adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
40016			Description: A module on the adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
40032			Description: A module on the adapter failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
40064			Description: A module on the adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
40128			Description: A module on the adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
41004			Description: A module on the adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
41008			Description: A module on the adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
41016			Description: A module on the adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
41032			Description: A module on the adapter failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
41064			Description: A module on the adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
41128			Description: A module on the adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42000			Description: A module on the adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42200			Description: Other adapters on the SSA loop are using levels of microcode that are not compatible. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
42500			Description: An SSA adapter detected a failure in its fast-write cache. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42510			Description: Not enough DRAM available to run an SSA fast-write cache. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42515			Description: An SSA adapter is attempting to use its fast-write cache, but a fast-write cache card is not installed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42520			Description: An SSA fast-write cache failure was detected. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42521			Description: An SSA fast-write cache option card failure was detected. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42522			Description: An SSA fast-write cache option card failure was detected. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42523			Description: A incorrect version number was detected in the fast-write cache option card. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42524			Description: A fast-write disk drive (or drives) contains unsynchronized data, but the fast-write cache option card cannot be detected. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42525			Description: A fast-write problem occurred. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
42526			Description: This adapter does not support the SSA Fast-Write Cache Option. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42527			Description: A dormant SSA fast-write cache entry exists. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42528			Description: A fast-write SSA disk drive has been detected that was previously unsynchronized, but has since been configured on a different adapter. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42529			Description: The fast-write cache is disabled. The battery is charging. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
4252A			Description: The supply voltage to the fast-write cache option card is low. The card has switched to Self-Refresh mode. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
4252B			Description: The battery to the fast-write cache option card no longer has the power to maintain data. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
4252C			Description: The battery to the fast-write cache option card needs to be exchanged for a new one. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
42540			Description: Two-way fast-write cache is configured to operate only when both caches are available. One cache, however, is not available. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
43PAA			Description: An SSA device on the loop is preventing the completion of the loop configuration. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive and to the *User's Guide and Maintenance Information* for the SSA adapter.
44PAA			Description: A disk drive module has a Failed status. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive and to the *User's Guide and Maintenance Information* for the SSA adapter.
45PAA			Description: The SSA adapter has detected an open SSA loop. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive and to the *User's Guide and Maintenance Information* for the SSA adapter.
46000			Description: A RAID array is in the Off-Line state because more than one disk drive is not available. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
46500			Description: A member disk drive is missing from a SSA array or the original SSA adapter is not available. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
47000			Description: An attempt was made to store in the SSA adapter the details of more than 32 RAID arrays. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
47500			Description: Part of the RAID array data might have been lost. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
48000			Description: The SSA adapter detected a link configuration that is not valid. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
48500			Description: The array filter detected a link configuration that is not valid. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
48600			Description: One member disk drive of an array is not on the SSA loop that contains the other member disk drives of the array. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
48700			Description: Two or more member disk drives of an SSA array are on different loops. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
48750			Description: An array is in the Off-Line state because the primary or secondary half of the array is not present. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
48755			Description: The SSA adapter is unknown to the array. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
48760			Description: An array is in the Off-Line state because the split/join procedure was not performed correctly. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
48800			Description: The Invalid-Strip table is full. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
48900			Description: An SSA array is not available; a multiple-device error occurred. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
48950			Description: A disk drive caused an Array-Build operation to fail. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
49000			Description: A RAID array is in the Degraded state. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
49100			Description: A RAID array is in the Exposed state. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
49500			Description: No hot-spare disk drives are available for an array that is configured for hot-spare disk drives. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
49510			Description: Hot-spare configuration is not synchronized. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
49520			Description: Hot-spare tuning has been lost. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
49530			Description: The number of disk drives that remain in a hot-spare pool is less than the specified number. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
49540			Description: Adapters that do not support hot-spare pools were detected. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
49700			Description: The parity for the RAID array is not complete. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
49800			Description: A different adapter was detected on each loop. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
4A100			Description: The adapter cannot initialize an SSA disk drive. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
4BPAA			Description: An SSA disk drive at PAA cannot be configured, because its UID cannot be read. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50000			Description: The SSA adapter failed to respond to the device driver. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50001			Description: A Data Parity error occurred. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50002			Description: An SSA adapter DMA error occurred. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50004			Description: A Channel Check occurred. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50005			Description: A software error occurred. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50006			Description: A Channel Check occurred. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50007			Description: The IOCC detected an internal error. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50008			Description: Unable to read or write the POS registers or PCI configuration space. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50010			Description: An SSA adapter or device-driver protocol error occurred. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50012			Description: The SSA adapter microcode hung. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
50013			Description: The SSA adapter card failed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50100			Description: An attempt was made to log an error against a `pdisk` that is not available to the using system. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50200			Description: Duplicate SSA cluster number detected. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50411			Description: SSA adapter detected a SS_SIC_CLASS1 error. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50422			Description: SSA adapter detected a SS_TIMEOUT error. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
50425			Description: SSA adapter detected a SS_LINK_CONFIG_FAILED error. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
504xx			Description: The SSA adapter microcode hung. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
60000			Description: The SSA adapter is missing from the expected configuration. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
60200			Description: The SSA unit cannot be turned on. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
60210			Description: A disk drive module has its Check light On. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
60220			Description: A fan-and-power-supply assembly has its Check light On. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
60230			Description: The SSA unit has an unexpected Check light On. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
60240			Description: An SSA configuration problem occurred. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
7xxxx			Description: An SSA disk drive is missing from the expected configuration of the SSA loop. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive and to the *User's Guide and Maintenance Information* for the SSA adapter. **Note:** In this SRN, an x represents a digit 0 through F.
8xxxx			Description: A Configuration Error occurred. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive. **Note:** In this SRN, an x represents a digit 0 through F.
D0000			Description: The using system cannot configure the disk drive module. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
D0100			Description: Unable to clear a disk drive module reservation. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
D0101			Description: The disk drive module has been reserved since the diagnostics started. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
D0200			Description: The disk drive module timed out while the diagnostics were running. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
D0300			Description: The disk drive module failed the diagnostic test. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
D0400			Description: The disk drive module is Not Ready while the diagnostics are running. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
D0450			Description: The Format operation that was started on this disk drive module has not finished. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
D0460			Description: A Format operation was degraded. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive.
D4000			Description: The diagnostics cannot configure the SSA adapter. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
D4100			Description: The diagnostics cannot open the SSA adapter. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
D4300			Description: The diagnostics have detected an SSA adapter POST failure. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
D44xx			Description: The diagnostics detected that the SSA adapter has corrupted microcode, but cannot download a new version of the microcode. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter. **Note:** In this SRN, an X represents a digit 0 through F.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
D6PAA			Description: A high-speed SSA link is running at low speed. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
DFFFF			**Note:** The description and action for this SRN are valid only if you ran the diagnostics on the SSA attachment. Description: A command or parameter that was sent or received is not valid. Action: Refer to the SRN table in the *Service Guide* for the unit containing the disk drive and to the *User's Guide and Maintenance Information* for the SSA adapter.
SSA01			Description: There is not enough using-system memory available for this service aid to continue. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
SSA02			Description: An unknown error occurred. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.
SSA03			Description: The service aid was unable to open a hdisk. Action: Refer to the SRN table in the *User's Guide and Maintenance Information* for the SSA adapter.

Chapter 31. Six-Digit SRNs 101-000 through 699-120

Replace FRU parts in the order by which the "Failing Function Codes" are listed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
101-000	A		Description: The system hung while attempting to configure a device. Action: Use MAP 1540.
101-185	A		Description: A checkstop occurred. Action: Use MAP 1540 in the system unit service guide to isolate the cause.
101-292	A	B88	Description: SCSI POST failure Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1 "Step 0050-2" on page 7-2 and follow instructions for problem isolation.
101-517	A		Description: The system unit failed to IPL. Action: Use MAP 1540.
101-518	A		Description: CD-ROM read problems after boot. **Note:**The boot record was read from the CD-ROM disk. However, errors occurred when trying to mount the CD-ROM file system. This problem can be caused by SCSI device addressing, SCSI terminator, open PTC, SCSI cable, etc. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1
101-521 to 101-538	A		Description: The configuration manager detected an error. Action: If you are running the diagnostics from a disk, try running the diagnostics from a CD-ROM. If the diagnostics run correctly from CD-ROM, the problem may be damaged data on the disk. Contact your software support facility. If a different problem occurs when you run the diagnostics from CD ROM, correct that problem. If you were running from a CD ROM at first, have the same problem on CD ROM that you had when running diagnostics from disk, or these actions did not resolve the problem, go to MAP 1540, in either the service guide or the installation and service guide for this system unit.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
101-544	A		Description: Disk read problems occurred after booting. **Note:** The boot record was read from the disk. However, errors occurred when trying to open the disk drive. This problem can be caused by SCSI device addressing, SCSI terminator, open PTC, SCSI cable, etc. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1
101-551 to 101-557	A		Description: The system hung while loading the software. This can be caused by a hardware or software problem. Action: Run the diagnostics from CD-ROM. Start at Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1. If the diagnostics run correctly from CD-ROM, the problem may be a damaged disk data. Consider having the customer contact Software Support before reinstalling the operating system on the disk. If you still get the same SRN, go to MAP 1540 in either the service guide or the installation and service guide for this system unit.
101-558	A		Description: There is not enough memory to execute diagnostics. Action: There must be a minimum of 16MB of installed memory. If the system has 16MB or more of memory installed, suspect a problem with a memory card.
101-559 to 101-599	A		Description: The system halted while software was loading. This problem may be attributed to either hardware or software. Action: Use the CD ROM based diagnostics if not yet used. If the same SRN is generated from the CD ROM diagnostics, go to MAP 1540 in the system unit service guide for problem isolation. If the SRN is not generated when using the CD ROM, suspect a problem with the system's software.
101-662	A		Description: An unexpected system interrupt. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
101-711 to 101-726	A	xxx	Description: The system hung while trying to configure an unknown resource. Action: Run diagnostics from CD-ROM. Start at Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1, Step 14. If you still get the same SRN, refer to "Failing Function Code List" on page 35-4 and find the FFC that matches the last three digits of the SRN. Suspect the device adapter or device itself. If more than one adapter or device is installed, isolate the failing resource by removing the adapters or devices one at a time and checking if the system stops with the same value in the three-digit display. **Note:** xxx corresponds to the last three digits of the SRN.
101-727	A		Description: The system hung while trying to configure an asynchronous adapter. Action: Use MAP 1540 in the installation and service guide for this system unit. Suspect a problem with one of the async adapters.
101-7C1	A	7C1	Description: The system unit halted while configuring an audio subsystem.
101-80c	A	80c	Description: A potential problem with an SSA device exists. If the system has external SSA devices refer to the *SSA Adapters User's Guide and Maintenance Information*. If the system has internal SSA devices, go to the SSA MAP in either the system unit's service guide or user's guide.
101-840	A		Description: An unexpected system interrupt. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit. Suspect either a SCSI adapter or integrated SCSI if so equipped.
101-888	A	210 227 E10	Description: The system does not IPL.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
101-c32	D		Description: The system hung while indicating that a direct-attached display was selected as the console. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit. Suspect the graphics adapter being used for the display console first.
101-c33	D		Description: The system hung while indicating that a TTY terminal is the system console. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit. Suspect the graphics adapter being used for the display console first.
101-c70	A		Description: A problem was encountered mounting the CD-ROM. Action: Use MAP 1540 in the service guide or the installation and service guide for the system unit.
101-xxx	A	xxx E10	Description: The system hung while configuring a resource. The last three digits identify the failing function code for the resource being configured. Action: Use Chapter 18, "MAP 0260: System Hangs During Resource Configuration" on page 18-1.
103-151	D	151	Description: The time-of-day battery failed.
103-202 to 103-210	H		Description: Unexpected interrupt. Action: Go to MAP 1540 in either the service guide or the installation and service guide for this system unit.
109-200	B		Description: The system crashed while being run by the customer. Action: Use Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1, and get a new SRN.
110-101	C		Description: The diagnostics did not detect an installed resource. Action: If this SRN appeared when running concurrent diagnostics, then run concurrent using the **diag -a** command, otherwise use Chapter 20, "MAP 0290: Missing Resource Problem Resolution" on page 20-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
110-908	D	908 C33 C36	Description: The system halted while diagnostics were executing.
110-921 to 110-926	D	xxx 812	Description: The system halted while diagnostics were executing. **Note:** xxx corresponds to the last three digits of the SRN.
110-935	D	935 812	Description: The system halted while diagnostics were executing.
110-946	D	946 221	Description: The system halted while diagnostics were executing.
110-xxx	D	xxx 221	Description: The system halted while diagnostics were executing. **Note:** xxx corresponds to the last three digits of the SRN. If your 110 SRN is not listed below, use the 110-xxx procedure.
111-107	B		Description: A machine check occurred. Action: Go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1
111-108	B		Description: An encoded SRN was displayed. Action: Go to Chapter 4, "MAP 0020: Problem Determination Procedure" on page 4-1
111-121	B		Description: There is a display problem. Action: Do problem determination on the display.
111-259	B		Description: Cannot display readable information on the terminal. Action: Use Chapter 19, "MAP 0280: Boot Problem Resolution" on page 19-1 Entry 3.
111-725	B	725	Description: Cannot display readable information on the display. **Note:** Suspect the display adapter attached to the console display. Action: Use Chapter 19, "MAP 0280: Boot Problem Resolution" on page 19-1
111-736	B	736 821	Description: The keyboard does not respond. Action: Use Chapter 19, "MAP 0280: Boot Problem Resolution" on page 19-1 Entry 1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
111-78C	B	PCI adapter 227 E10	Description: I/O bus problem. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. **Note:** PCI adapter refers to the adapters you made note of when using Chapter 12, "MAP 0080 System Bus Problem Isolation" on page 12-1.
111-82C	B		Description: Cannot display readable information on the display. Action: Go to Chapter 19, "MAP 0280: Boot Problem Resolution" on page 19-1 Entry 2.
111-921	B	921 821	Description: The keyboard does not respond. Action: Use Chapter 19, "MAP 0280: Boot Problem Resolution" on page 19-1 Entry 1.
111-922	B	922 821	Description: The keyboard does not respond. Action: Use Chapter 19, "MAP 0280: Boot Problem Resolution" on page 19-1 Entry 1.
111-923	B	923 821	Description: The keyboard does not respond. Action: Use Chapter 19, "MAP 0280: Boot Problem Resolution" on page 19-1 Entry 1.
111-947	B	221	Description: System beeper not functioning correctly.
111-999	D	210	Description: System does not perform a soft reset.
2E6-212	D	2E6	Description: FIFO empty bit set.
2E6-213	D	2E6	Description: FIFO empty bit clear.
2E6-214	D	2E6	Description: FIFO full bit set.
2E6-215	D	2E6	Description: FIFO full bit clear.
2E6-216	D	2E6	Description: FIFO data miscompare.
2E6-217	D	2E6	Description: SCSI FIFO data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E6-218	D	2E6	Description: SCSI FIFO underflow.
2E6-219	D	2E6	Description: SCSI parity error.
2E6-220	D	2E6	Description: SCSI FIFO flags error.
2E6-221	D	2E6 221	Description: Miscompare during the write/read of the configuration register.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
2E6-222	D	2E6	Description: Error during the write/read of the memory register.
2E6-223	D	2E6	Description: Miscompare during the write/read of the memory I/O register.
2E6-224	D	2E6 221	Description: Error reading the PCI configuration register.
2E6-225	D	2E6	Description: Adapter POST failed.
2E6-230	D	190 2E6	Description: Arbitration test failed. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E6-231	D	190 2E6	Description: Function could not complete. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E6-232	D	190 2E6	Description: SCSI bus data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E6-240	D	190 2E6	Description: No terminal power. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E6-242	D	221 2E6	Description: SCSI bus problem. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E6-301	D	2E6 221	Description: The parent device open failed
2E6-600	G	2E6	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E6-601	G	2E6	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E6-602	G	2E6	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E6-603	G	2E6	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E6-604	G	2E6	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E6-605	G	2E6	Description: Error log analysis indicates a PCI SCSI adapter failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
2E6-606	G	2E6	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E6-607	G	2E6	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E6-701	G	2E6 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E6-702	G	2E6 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E6-703	G	2E6 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E6-704	G	2E6 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E6-800	G	SCSI Subsys	Description: Error log analysis indicates a PCI SCSI adapter PTC failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E6-802	G	SCSI Subsys	Description: Error log analysis indicates a PCI SCSI bus failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-212	D	2E7 221	Description: FIFO empty bit set. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-213	D	2E7 221	Description: FIFO empty bit clear. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-214	D	2E7 221	Description: FIFO full bit set. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-215	D	2E7 221	Description: FIFO full bit clear. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-216	D	2E7 221	Description: FIFO data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
2E7-217	D	2E7 221	Description: SCSI FIFO data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-218	D	2E7 221	Description: SCSI FIFO underflow. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-219	D	2E7 221	Description: SCSI parity error. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-220	D	2E7 221	Description: SCSI FIFO flags error. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-221	D	2E7 221	Description: Miscompare during the write/read of the configuration register. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-222	D	2E7 221	Description: Error during the write/read of the memory register. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-223	D	2E7 221	Description: Miscompare during the write/read of the memory I/O register. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-224	D	2E7 221	Description: Error reading the PCI configuration register.
2E7-225	D	2E7 221	Description: Adapter POST failed.
2E7-230	D	190 2E7	Description: Arbitration test failed. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-231	D	190 2E7	Description: Function could not complete. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-232	D	190 2E7	Description: SCSI bus data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
2E7-240	D	2E7 221	Description: No terminal power. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-242	D	221 2E7	Description: SCSI bus problem. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-301	D	2E7 190 software	Description: Configuration open failed for parent bus.
2E7-700	G	2E7 software	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E7-701	G	2E7 software	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E7-702	G	2E7 software	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E7-703	G	2E7 software	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E7-704	G	2E7 software	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E7-705	G	2E7 software	Description: Error log analysis indicates a PCI SCSI adapter failure.
2E7-800	G	2E7	Description: Error log analysis indicates a PCI SCSI adapter PTC failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2E7-802	G	2E7	Description: Error log analysis indicates a PCI SCSI bus failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
2EF-101	E	751	Description: Post indicates an adapter failure.
440-098	J	440 B88	Description: The disk drive indicates an error.
440-099	J	440 B88	Description: The disk drive not found.
440-102	D	440	Description: An unrecoverable media error occurred.
440-104	D	440	Description: The motor failed to restart.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
440-105	D	440	Description: The drive did not become ready.
440-106	D	440	Description: The electronics card test failed.
440-108	D	440	Description: The bus test failed.
440-110	D	440	Description: The media format is corrupted.
440-112	D	440	Description: The diagnostic test failed.
440-114	D	440	Description: An unrecoverable hardware error.
440-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
440-117	D	440	Description: A write protect error occurred.
440-118	D	440 B88	Description: A SCSI command time-out occurred.
440-120	D	440	Description: A SCSI busy or command error.
440-122	D	440	Description: A SCSI reservation conflict error.
440-124	D	440	Description: A SCSI check condition error occurred.
440-126	D	440 B88	Description: A software error was caused by a hardware failure.
440-128	G	440	Description: The error log analysis indicates a hardware failure.
440-129	G	19 440 B88 software	Description: Error log analysis indicates a SCSI bus problem.
440-130	G	440	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
440-132	D	440	Description: A disk drive hardware error occurred.
440-134	D	B88 software	Description: The adapter failed to configure.
440-135	D	440 B88 software	Description: The device failed to configure.
440-136	D	440	Description: The certify operation failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
440-137	D	440 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
441-098	J	441 B88	Description: The disk drive indicates an error.
441-099	J	441 B88	Description: The disk drive not found.
441-102	D	441	Description: An unrecoverable media error occurred.
441-104	D	441	Description: The motor failed to restart.
441-105	D	441	Description: The drive did not become ready.
441-106	D	441	Description: The electronics card test failed.
441-108	D	441	Description: The bus test failed.
441-110	D	441	Description: The media format is corrupted.
441-112	D	441	Description: The diagnostic test failed.
441-114	D	441	Description: An unrecoverable hardware error.
441-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
441-117	D	441	Description: A write protect error occurred.
441-118	D	441 B88	Description: A SCSI command time-out occurred.
441-120	D	441	Description: A SCSI busy or command error.
441-122	D	441	Description: A SCSI reservation conflict error.
441-124	D	441	Description: A SCSI check condition error occurred.
441-126	D	441 B88	Description: A software error was caused by a hardware failure.
441-128	G	441	Description: The error log analysis indicates a hardware failure.
441-129	G	190 441 B88 software	Description: Error log analysis indicates a SCSI bus problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
441-130	G	441	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
441-132	D	441	Description: A disk drive hardware error occurred.
441-134	D	B88 software	Description: The adapter failed to configure.
441-135	D	441 B88 software	Description: The device failed to configure.
441-136	D	441	Description: The certify operation failed.
441-137	D	441 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
442-098	J	442 B88	Description: The disk drive indicates an error.
442-099	J	442 B88	Description: The disk drive not found.
442-102	D	442	Description: An unrecoverable media error occurred.
442-104	D	442	Description: The motor failed to restart.
442-105	D	442	Description: The drive did not become ready.
442-106	D	442	Description: The electronics card test failed.
442-108	D	442	Description: The bus test failed.
442-110	D	442	Description: The media format is corrupted.
442-112	D	442	Description: The diagnostic test failed.
442-114	D	442	Description: An unrecoverable hardware error.
442-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
442-117	D	442	Description: A write protect error occurred.
442-118	D	442 B88	Description: A SCSI command time-out occurred.
442-120	D	442	Description: A SCSI busy or command error.
442-122	D	442	Description: A SCSI reservation conflict error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
442-124	D	442	Description: A SCSI check condition error occurred.
442-126	D	442 B88	Description: A software error was caused by a hardware failure.
442-128	G	442	Description: The error log analysis indicates a hardware failure.
442-129	G	190 442 B88 software	Description: Error log analysis indicates a SCSI bus problem.
442-130	G	442	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
442-132	D	442	Description: A disk drive hardware error occurred.
442-134	D	B88 software	Description: The adapter failed to configure.
442-135	D	442 B88 software	Description: The device failed to configure.
442-136	D	442	Description: The certify operation failed.
442-137	D	442 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
443-098	J	443 B88	Description: The disk drive indicates an error.
443-099	J	443 B88	Description: The disk drive not found.
443-102	D	443	Description: An unrecoverable media error occurred.
443-104	D	443	Description: The motor failed to restart.
443-105	D	443	Description: The drive did not become ready.
443-106	D	443	Description: The electronics card test failed.
443-108	D	443	Description: The bus test failed.
443-110	D	443	Description: The media format is corrupted.
443-112	D	443	Description: The diagnostic test failed.
443-114	D	443	Description: An unrecoverable hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
443-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
443-117	D	443	Description: A write protect error occurred.
443-118	D	443 B88	Description: A SCSI command time-out occurred.
443-120	D	443	Description: A SCSI busy or command error.
443-122	D	443	Description: A SCSI reservation conflict error.
443-124	D	443	Description: A SCSI check condition error occurred.
443-126	D	443 B88	Description: A software error was caused by a hardware failure.
443-128	G	443	Description: The error log analysis indicates a hardware failure.
443-129	G	190 443 B88 software	Description: Error log analysis indicates a SCSI bus problem.
443-130	G	443	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
443-132	D	443	Description: A disk drive hardware error occurred.
443-134	D	B88 software	Description: The adapter failed to configure.
443-135	D	443 B88 software	Description: The device failed to configure.
443-136	D	443	Description: The certify operation failed.
443-137	D	443 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
444-101	D	2C3 444	Description: External wrap test failed on port 0
444-102	D	2C3 444	Description: External wrap test failed on port 1

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
444-201	D	444 227	Description: Internal adapter test failed
444-202	D	444 227	Description: External wrap test failed on port 0
444-203	D	444 227	Description: External wrap test failed on port 1
444-204	D	2C3 444	Description: External wrap test failed on port 0
444-205	D	2C3 444	Description: External wrap test failed on port 1
444-206	D	2C3 444 software	Description: External wrap test failed on port 0
444-207	D	2C3 444 software	Description: External wrap test failed on port 1
444-301	D	444 227 software	Description: Internal adapter test failed
444-302	D	444 227 software	Description: External wrap test failed on port 0
444-303	D	444 227 software	Description: External wrap test failed on port 1
444-304	D	2C3 444 software	Description: External wrap test failed on port 0
444-305	D	2C3 444 software	Description: External wrap test failed on port 1
444-700	D	444 software	Description: Error log analysis indicates a hardware problem
637-212	D	637	Description: FIFO empty bit set.
637-213	D	637	Description: FIFO empty bit clear.
637-214	D	637	Description: FIFO full bit set.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
637-215	D	637	Description: FIFO full bit clear.
637-216	D	637	Description: FIFO data miscompare.
637-217	D	637	Description: SCSI FIFO data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
637-218	D	637	Description: SCSI FIFO underflow.
637-219	D	637	Description: SCSI parity error.
637-220	D	637	Description: SCSI FIFO flags error.
637-221	D	637 221	Description: Miscompare during the write/read of the configuration register.
637-222	D	637	Description: Error during the write/read of the memory register.
637-223	D	637	Description: Miscompare during the write/read of the memory I/O register.
637-224	D	637 221	Description: Error reading the PCI configuration register.
637-225	D	637	Description: Adapter POST failed.
637-230	D	190 637	Description: Arbitration test failed. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
637-231	D	190 637	Description: Function could not complete. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
637-232	D	190 637	Description: SCSI bus data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
637-240	D	100 637	Description: No terminal power. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
637-242	D	221 637	Description: SCSI bus problem. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
637-301	D	637 221	Description: The parent device open failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
637-600	G	637	Description: Error log analysis indicates a PCI SCSI adapter failure.
637-601	G	637	Description: Error log analysis indicates a PCI SCSI adapter failure.
637-602	G	637	Description: Error log analysis indicates a PCI SCSI adapter failure.
637-603	G	637	Description: Error log analysis indicates a PCI SCSI adapter failure.
637-604	G	637	Description: Error log analysis indicates a PCI SCSI adapter failure.
637-605	G	637	Description: Error log analysis indicates a PCI SCSI adapter failure.
637-606	G	637	Description: Error log analysis indicates a PCI SCSI adapter failure.
637-607	G	637	Description: Error log analysis indicates a PCI SCSI adapter failure.
637-701	G	637 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
637-702	G	637 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
637-703	G	637 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
637-704	G	637 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
637-800	G	SCSI Subsys	Description: Error log analysis indicates a PCI SCSI adapter PTC failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
637-802	G	SCSI Subsys	Description: Error log analysis indicates a PCI SCSI bus failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
638-098	J	638 B88	Description: The disk drive indicates an error.
638-099	J	638 B88	Description: The disk drive not found.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
638-102	D	638	Description: An unrecoverable media error occurred.
638-104	D	638	Description: The motor failed to restart.
638-105	D	638	Description: The drive did not become ready.
638-106	D	638	Description: The electronics card test failed.
638-108	D	638	Description: The bus test failed.
638-110	D	638	Description: The media format is corrupted.
638-112	D	638	Description: The diagnostic test failed.
638-114	D	638	Description: An unrecoverable hardware error.
638-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
638-117	D	638	Description: A write protect error occurred.
638-118	D	638 B88	Description: A SCSI command time-out occurred.
638-120	D	638	Description: A SCSI busy or command error.
638-122	D	638	Description: A SCSI reservation conflict error.
638-124	D	638	Description: A SCSI check condition error occurred.
638-126	D	638 B88	Description: A software error was caused by a hardware failure.
638-128	G	638	Description: The error log analysis indicates a hardware failure.
638-129	G	190 638 B88 software	Description: Error log analysis indicates a SCSI bus problem.
638-130	G	638	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
638-132	D	638	Description: A disk drive hardware error occurred.
638-134	D	B88 software	Description: The adapter failed to configure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
638-135	D	638 B88 software	Description: The device failed to configure.
638-136	D	638	Description: The certify operation failed. save
638-137	D	638 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
639-098	J	639 B88	Description: The disk drive indicates an error.
639-099	J	639 B88	Description: The disk drive not found.
639-102	D	639	Description: An unrecoverable media error occurred.
639-104	D	639	Description: The motor failed to restart.
639-105	D	639	Description: The drive did not become ready.
639-106	D	639	Description: The electronics card test failed.
639-108	D	639	Description: The bus test failed.
639-110	D	639	Description: The media format is corrupted.
639-112	D	639	Description: The diagnostic test failed.
639-114	D	639	Description: An unrecoverable hardware error.
639-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
639-117	D	639	Description: A write protect error occurred.
639-118	D	639 B88	Description: A SCSI command time-out occurred.
639-120	D	639	Description: A SCSI busy or command error.
639-122	D	639	Description: A SCSI reservation conflict error.
639-124	D	639	Description: A SCSI check condition error occurred.
639-126	D	639 B88	Description: A software error was caused by a hardware failure.
639-128	G	639	Description: The error log analysis indicates a hardware failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
639-129	G	190 639 B88 software	Description: Error log analysis indicates a SCSI bus problem.
639-130	G	639	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
639-132	D	639	Description: A disk drive hardware error occurred.
639-134	D	B88 software	Description: The adapter failed to configure.
639-135	D	639 B88 software	Description: The device failed to configure.
639-136	D	639	Description: The certify operation failed.
639-137	D	639 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
640-098	J	640 B88	Description: The disk drive indicates an error.
640-099	J	640 B88	Description: The disk drive not found.
640-102	D	640	Description: An unrecoverable media error occurred.
640-104	D	640	Description: The motor failed to restart.
640-105	D	640	Description: The drive did not become ready.
640-106	D	640	Description: The electronics card test failed.
640-108	D	640	Description: The bus test failed.
640-110	D	640	Description: The media format is corrupted.
640-112	D	640	Description: The diagnostic test failed.
640-114	D	640	Description: An unrecoverable hardware error.
640-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
640-117	D	640	Description: A write protect error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
640-118	D	640 B88	Description: A SCSI command time-out occurred.
640-120	D	640	Description: A SCSI busy or command error.
640-122	D	640	Description: A SCSI reservation conflict error.
640-124	D	640	Description: A SCSI check condition error occurred.
640-126	D	640 B88	Description: A software error was caused by a hardware failure.
640-128	G	640	Description: The error log analysis indicates a hardware failure.
640-129	G	190 640 B88 software	Description: Error log analysis indicates a SCSI bus problem.
640-130	G	640	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
640-132	D	640	Description: A disk drive hardware error occurred.
640-134	D	B88 software	Description: The adapter failed to configure.
640-135	D	640 B88 software	Description: The device failed to configure.
640-136	D	640	Description: The certify operation failed.
640-137	D	640 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
643-098	J	643 B88	Description: The disk drive indicates an error.
643-099	J	643 B88	Description: The disk drive not found.
643-102	D	643	Description: An unrecoverable media error occurred.
643-104	D	643	Description: The motor failed to restart.
643-105	D	643	Description: The drive did not become ready.
643-106	D	643	Description: The electronics card test failed.
643-108	D	643	Description: The bus test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
643-110	D	643	Description: The media format is corrupted.
643-112	D	643	Description: The diagnostic test failed.
643-114	D	643	Description: An unrecoverable hardware error.
643-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
643-117	D	643	Description: A write protect error occurred.
643-118	D	643 B88	Description: A SCSI command time-out occurred.
643-120	D	643	Description: A SCSI busy or command error.
643-122	D	643	Description: A SCSI reservation conflict error.
643-124	D	643	Description: A SCSI check condition error occurred.
643-126	D	643 B88	Description: A software error was caused by a hardware failure.
643-128	G	643	Description: The error log analysis indicates a hardware failure.
643-129	G	190 643 B88 software	Description: Error log analysis indicates a SCSI bus problem.
643-130	G	643	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
643-132	D	643	Description: A disk drive hardware error occurred.
643-134	D	B88 software	Description: The adapter failed to configure.
643-135	D	643 B88 software	Description: The device failed to configure.
643-136	D	643	Description: The certify operation failed.
643-137	D	643 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
644-098	J	644 B88	Description: The disk drive indicates an error.
644-099	J	644 B88	Description: The disk drive not found.
644-102	D	644	Description: An unrecoverable media error occurred.
644-104	D	644	Description: The motor failed to restart.
644-105	D	644	Description: The drive did not become ready.
644-106	D	644	Description: The electronics card test failed.
644-108	D	644	Description: The bus test failed.
644-110	D	644	Description: The media format is corrupted.
644-112	D	644	Description: The diagnostic test failed.
644-114	D	644	Description: An unrecoverable hardware error.
644-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
644-117	D	644	Description: A write protect error occurred.
644-118	D	644 B88	Description: A SCSI command time-out occurred.
644-120	D	644	Description: A SCSI busy or command error.
644-122	D	644	Description: A SCSI reservation conflict error.
644-124	D	644	Description: A SCSI check condition error occurred.
644-126	D	644 B88	Description: A software error was caused by a hardware failure.
644-128	G	644	Description: The error log analysis indicates a hardware failure.
644-129	G	190 644 B88 software	Description: Error log analysis indicates a SCSI bus problem.
644-130	G	644	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
644-132	D	644	Description: A disk drive hardware error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
644-134	D	B88 software	Description: The adapter failed to configure.
644-135	D	644 B88 software	Description: The device failed to configure.
644-136	D	644	Description: The certify operation failed.
644-137	D	644 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
646-101	D	D46	Description: External Test Failure
646-102	D	240	Description: External Test Failure
646-103	D	646	Description: I/O Test Failure
646-104	D	646	Description: Adapter On-card Test Failure
646-105	D	646	Description: Wrap Test Failure
646-201	D	646 221	Description: Configuration Register Test Failure
646-202	D	646 221	Description: Wrap Test Failure
646-204	F	D46 240	Description: External Test Failure
646-205	F	D46 646	Description: External Test Failure Action: Run advanced diagnostics with wrap test for this resource to obtain a correct problem resolution.
646-302	F	240 D46 221	Description: External Test Failure Action: Run advanced diagnostics with wrap test for this resource to obtain a correct problem resolution.
646-303	F	D46 646 221	Description: External Test Failure Action: Run advanced diagnostics with wrap test for this resource to obtain a correct problem resolution.
646-401	F	240 D46 646 221	Description: External Test Failure Action: Run advanced diagnostics with wrap test for this resource to obtain a correct problem resolution.
646-701	G	646	Description: Error log analysis indicates that an adapter error has occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
646-702	G	646	Description: Error log analysis indicates that an adapter check has occurred.
646-703	G	646 221	Description: Error log analysis indicates that a DMA failure has occurred.
646-704	G	646 221	Description: Error log analysis indicates that a PCI Bus error has occurred.
646-705	G	646 221	Description: Error log analysis indicates that a Programmed I/O error has occurred.
646-706	G	646	Description: ELA indicates a command write failure occurred.
646-707	G	646	Description: ELA indicates an internal adapter error has occurred.
650-xxx	D	650	Description: Disk drive configuration failed.
651-140	D	165 221	Description: Display Character test failed
651-150	D	166 2E0	Description: Sensor indicates a fan has failed. Action: Use Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.
651-151	D	152 2E2	Description: Sensor indicates a voltage is outside the normal range. Action: Use MAP 1520.
651-152	D	2E1	Description: Sensor indicates an abnormally high internal temperature. Action: Verify that: 1. The room ambient temperature is within the system operating environment. 2. There is unrestricted air flow around the system. 3. All system covers are closed. 4. There are no fan failures. If none of these problems exist, then proceed with Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.
651-153	D	152 E19	Description: Sensor indicates a power supply has failed. Action: Use Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-159	D		Description: Sensor indicates a FRU has failed. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. Instead of failing function codes, use the physical location code(s) from the diagnostic problem report screen to determine the FRUs.
651-160	D	166 2E0	Description: Sensor indicates a fan is turning too slowly. Action: Use Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.
651-161	D	152 2E2	Description: Sensor indicates a voltage is outside the normal range. Action: Use MAP 1520.
651-162	D	2E1	Description: Sensor indicates an abnormally high internal temperature. Action: Verify that: 1. The room ambient temperature is within the system operating environment. 2. There is unrestricted air flow around the system. 3. All system covers are closed. 4. There are no fan failures. If none of these problems exist, then proceed with Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.
651-163	D	152 E19	Description: Sensor indicates a power supply has failed. Action: Use Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.
651-169	D		Description: Sensor indicates a FRU has failed Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. Instead of failing function codes, use the physical location code(s) from the diagnostic problem report screen to determine the FRUs.
651-170	D		Description: Sensor status not available. Action: Contact your support person.
651-171	D		Description: Sensor status not available Action: Contact your support person.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-600	G		Description: Uncorrectable memory or unsupported memory. Action: Examine the memory modules and determine if they are supported types. If the modules are supported, then replace the appropriate memory module(s).
651-601	G		Description: Missing or bad memory Action: If the installed memory matches the reported memory size, then replace the memory: otherwise, add the missing memory.
651-602	G	2C5 2C7	Description: Bad or missing memory Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-603	G	2C6 2C7	Description: Bad or missing memory Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-604	G	2C5	Description: Memory module has no matched pair. Action: The most probable failure is the memory module paired with the memory module identified by the location code. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1 to identify the paired module.
651-605	G	2C6	Description: Memory module has no matched pair. Action: The most probable failure is the memory module paired with the memory module identified by the location code. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1 to identify the paired module.
651-608	G	D01	Description: Bad L2 Cache **Note:** Disregard this SRN if the processor for this cache was manually deconfigured. Refer to the Service Processor menus to determine if the processor was manually deconfigured. If the processor was manually deconfigured and you got this SRN, you need to apply AIX APAR IY01637 (4.2) or IY01606 (4.3). Contact your support center to determine if a newer level of firmware is available for your system.
651-609	G	D01	Description: Missing L2 Cache

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-610	G	210	Description: CPU internal error
651-611	G	210	Description: CPU internal cache controller error
651-612	G	D01	Description: External cache parity or multi-bit ECC error
651-613	G	D01	Description: External cache ECC single-bit error
651-614	G	214	Description: System bus time-out error
651-615	G	292	Description: Time-out error waiting for I/O
651-619	G		Description: Error log analysis indicates an error detected by the CPU. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. Instead of failing function codes, use the physical location code(s) from the diagnostic problem report screen to determine the FRUs.
651-620	G	2C5	Description: ECC correctable error Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-621	G	2C6	Description: ECC correctable error Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-622	G	2C5	Description: Correctable error threshold exceeded Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-623	G	2C6	Description: Correctable error threshold exceeded Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-624	G	214	Description: Memory Control Subsystem internal error
651-625	G	214	Description: Memory address error (invalid address or access attempt)
651-626	G	214	Description: Memory Data error (Bad data going to memory)
651-627	G	214	Description: System bus time-out error
651-628	G	210	Description: System bus protocol/transfer error

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-629	G		Description: Error log analysis indicates an error detected by the memory controller. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. Instead of failing function codes, use the physical location code(s) from the diagnostic problem report screen to determine the FRUs.
651-630	G	307	Description: I/O Expansion Bus Parity Error.
651-631	G	307	Description: I/O Expansion Bus Time-out Error.
651-632	G	306 307 308	Description: Internal Device Error.
651-633	G	307 306	Description: I/O Expansion Unit not in an operating state.
651-634	G	307	Description: Internal Device Error.
651-639	G		Description: Error log analysis indicates an error detected by the I/O. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. Instead of failing function codes, use the physical location code(s) from the diagnostic problem report screen to determine the FRUs.
651-640	G	2D5	Description: I/O general bus error.
651-641	G	2D6	Description: Secondary I/O general bus error
651-642	G	2D3	Description: Internal Service Processor memory error
651-643	G	2D3	Description: Internal Service Processor firmware error
651-644	G	2D3	Description: Other internal Service Processor hardware error
651-650	G	E17	Description: ECC correctable error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-651	G	E18	Description: ECC correctable error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-653	G	301	Description: ECC correctable error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-654	G	302	Description: ECC correctable error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-655	G	303	Description: ECC correctable error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-656	G	304	Description: ECC correctable error. action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-657	G	305	Description: ECC correctable error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-658	G	30A	Description: ECC correctable error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-660	G	E17	Description: Correctable error threshold exceeded. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-661	G	E18	Description: Correctable error threshold exceeded. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-663	G	301	Description: Correctable error threshold exceeded. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-664	G	302	Description: Correctable error threshold exceeded. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-665	G	303	Description: Correctable error threshold exceeded. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-666	G	304	Description: Correctable error threshold exceeded. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-667	G	305	Description: Correctable error threshold exceeded. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-668	G	30A	Description: Correctable error threshold exceeded. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-670	G	E17 2C7	Description: Bad or missing memory. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-671	G	E18 2C7	Description: Bad or missing memory. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-673	G	301	Description: Bad or missing memory. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-674	G	302	Description: Bad or missing memory. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-675	G	303	Description: Bad or missing memory. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-676	G	304	Description: Bad or missing memory. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-677	G	305	Description: Bad or missing memory. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-678	G	30A	Description: Bad or missing memory. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-680	G	E17	Description: Memory module has no matched pair. Action: The most probable failure is the memory module paired with the memory module identified by the location code. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1 to identify the paired module.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-681	G	E18	Description: Memory module has no matched pair. Action: The most probable failure is the memory module paired with the memory module identified by the location code. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1 to identify the paired module.
651-683	G	301	Description: Memory module has no matched pair. Action: The most probable failure is the memory module paired with the memory module identified by the location code. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1 to identify the paired module.
651-684	G	302	Description: Memory module has no matched pair. Action: The most probable failure is the memory module paired with the memory module identified by the location code. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1 to identify the paired module.
651-685	G	303	Description: Memory module has no matched pair. Action: The most probable failure is the memory module paired with the memory module identified by the location code. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1 to identify the paired module.
651-686	G	304	Description: Memory module has no matched pair. Action: The most probable failure is the memory module paired with the memory module identified by the location code. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1 to identify the paired module.
651-687	G	305	Description: Memory module has no matched pair. Action: The most probable failure is the memory module paired with the memory module identified by the location code. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1 to identify the paired module.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-688	G	30A	Description: Memory card has no matched pair. Action: The most probable failure is the memory card paired with the memory card identified by the location code. Use the system *Service Guide* to determine how the memory cards are grouped, then use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1 to replace the paired card.
651-710	G	214 2C4	Description: System bus parity error
651-711	G	214 210 2C4	Description: System bus parity error
651-712	G	214 210 210 2C4	Description: System bus parity error
651-713	G	214 2C4	Description: System bus protocol/transfer error
651-714	G	214 210 2C4	Description: System bus protocol/transfer error
651-715	G	214 210 210 2C4	Description: System bus protocol/transfer error
651-720	G	2C5 2C7 214	Description: Uncorrectable Memory Error Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-721	G	2C6 2C7 214	Description: Uncorrectable Memory Error Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-722	G	210 2C4 214	Description: System bus parity error
651-723	G	210 2C4 214	Description: System bus protocol/transfer error

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-724	G	292 2C8 214 763	Description: I/O Host Bridge time-out error
651-725	G	292 2C8 214 763	Description: I/O Host Bridge address/data parity error
651-726	G	Software	Description: I/O Host Bridge timeout caused by software. Action: This error is caused by a software or operating system attempt to access an invalid memory address. Contact software support for assistance.
651-730	G		Description: I/O error on the ISA bus. Action: Refer to the Bus SRN to FRU Reference Table in the system unit's service guide.
651-731	G	2C8 292 763	Description: Intermediate or System Bus Address Parity Error.
651-732	G	2C8 292 763	Description: Intermediate or System Bus Data Parity Error.
651-733	G	214 2C8 292	Description: Intermediate or System Bus Address Parity Error.
651-734	G	214 2C8 292	Description: Intermediate or System Bus Data Parity Error.
651-735	G	2D2 292	Description: Intermediate or System Bus Time-out Error.
651-736	G	2D2 292 214	Description: Intermediate or System Bus Time-out Error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-740	G	2D3 2D4	**Note:** Ensure that the system IPLROS and Service Processor are at the latest firmware level before removing any parts from the system. Description: Time-out on communication response from Service Processor
651-741	G	2D3 2D4	Description: Service Processor error accessing special registers
651-742	G	2D3 2D4	Description: Service Processor reports unknown communication error
651-743	G	2D7 2D5	Description: Service Processor error accessing Vital Product Data EEPROM
651-744	G	165 2D5 2D3	Description: Service Processor error accessing Operator Panel
651-745	G	2D9 2D5	Description: Service Processor error accessing Power Controller
651-746	G	2E0 2D4	Description: Service Processor error accessing Fan Sensor
651-747	G	2E1 2D5	Description: Service Processor error accessing Thermal Sensor
651-748	G	2E2 2D5	Description: Service Processor error accessing Voltage Sensor
651-749	G	2E3 2D4	Description: Service Processor error accessing Serial Port
651-750	G	814 2D4	Description: Service Processor detected NVRAM error
651-751	G	817 2D4	Description: Service Processor error accessing Real-Time Clock/Time-of-Day Clock
651-752	G	2E4 2D4	Description: Service Processor error accessing JTAG/COP controller/hardware
651-753	G	151 2D4	Description: Service Processor detects loss of voltage from the Time-of-Day Clock backup battery

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-754	G		Description: Power Control Network general connection failure Action: If a location code is present, check the cable connections at that location. If there is no location code, check all the power distribution cable connections starting at the processor drawer then through each I/O drawer.
651-760	G	software hardware	Description: Service Processor detected a surveillance time-out. Action: A surveillance time-out is caused by lack of response from the operating system. The most likely cause is a software or operating system failure. Verify that the problem is not related to hardware by running diagnostics, in Problem Determination Mode, on all resources which have not already been run. Also, the system administrator should look for other symptoms that would indicate a software or operating system problem. Contact the software support structure for assistance in needed.
651-770	G	2C8 292 306	Description: Intermediate or System Bus Address Parity Error.
651-771	G	2C8 292 306	Description: Intermediate or System Bus Data Parity Error.
651-772	G	2D2 292 306	Description: Intermediate or System Bus Time-out Error.
651-773	G	227	Description: Intermediate or System Bus Data Parity Error.
651-780	G	E17 2C7 214	Description: Uncorrectable Memory Error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-781	G	E18 2C7 214	Description: Uncorrectable Memory Error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-783	G	301 214	Description: Uncorrectable Memory Error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-784	G	302 214	Description: Uncorrectable Memory Error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-785	G	303 214	Description: Uncorrectable Memory Error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-786	G	304 214	Description: Uncorrectable Memory Error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-787	G	305 214	Description: Uncorrectable Memory Error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-788	G	30A 214	Description: Uncorrectable Memory Error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
651-800	G	166 2E0	Description: Fan is turning slower than expected.
651-801	G	166 2E0	Description: Fan stop was detected. Action: Verify the following: • nothing is obstructing the fan rotation • the fan power connection is tight • the fan speed sensing cable is tight If the fan still is not turning replace the fan. If the fan is turning, replace the fan sensor FRU.
651-802	G		Description: Fan failure. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. Instead of failing function codes, use the physical location code(s) from the diagnostic problem report screen to determine the FRUs.
651-809	G		Description: Power fault warning due to unspecified cause. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. Instead of failing function codes, use the physical location code(s) from the diagnostic problem report screen to determine the FRUs.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-810	G	152 2E2	Description: Over voltage condition was detected Action: Shut the system down and do the following before replacing any FRUs. 1. Visually inspect the power cables and reseat the connectors. 2. Run the following command `diag -Avd sysplanar0`. When the Resource Repair Action menu displays, select `sysplanar0`.
651-811	G	152 2E2	Description: Under voltage condition was detected Action: Shut the system down and do the following before replacing any FRUs. 1. Visually inspect the power cables and reseat the connectors. 2. Run the following command `diag -Avd sysplanar0`. When the Resource Repair Action menu displays, select `sysplanar0`.
651-812	G	152	Description: System shutdown due to: 1. Loss of AC power 2. Power button was pushed without proper system shutdown 3. Power supply failure Action: If reasons 1 and 2 can be ruled out than replace the power supply FRU.
651-813	G		Description: System shutdown due to loss of AC Power to the site. Action: System resumed normal operation, no action required.
651-814	G	152	Description: CEC Rack shutdown due to one of the following: 1. Loss of AC power to the CEC Rack 2. Open or disconnected SPCN cable between racks 3. AC module, Bulk power, regulator or SPCN card failure. Action: If 1 and 2 can be ruled out and the problem can be recreated, try the power supply related FRUs one at a time to isolate the problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-815	G	287 289	Description: I/O Rack shutdown due to one of the following: 1. Loss of AC power to the I/O Rack 2. Open or disconnected SPCN cable between racks 3. Power supply failure Action: If 1 and 2 can be ruled out, then replace the power supply FRU.
651-816	G	287	Description: Power fault due to internal power supply failure.
651-817	G	289	Description: Power fault due to internal power supply failure.
651-818	G		Description: Power fault due to manual activation of power-off request. Action: Resume normal operation.
651-819	G	152	Description: Power fault due to internal power supply failure.
651-820	G	2E1	Description: An over temperature condition was detected Action: Verify the following: • the room ambient temperature is within the system operating environment • there is unrestricted air flow around the system • all system covers are closed If all conditions are met, then replace the temperature sensor FRU.
651-821	G	2E1	Description: System shutdown due to an over maximum temperature condition being reached. Action: Verify the following: • The room ambient temperature is within the system operating environment. • There is unrestricted air flow around the system. • All system covers are closed. If all conditions are met, then replace the temperature sensor FRU.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-822	G	166 2E1	Description: System shutdown due to over temperature condition and fan failure. Use the physical FRU location(s) as the probable cause(s). Action: Use the physical location codes to replace the FRUs that are identified on the diagnostics problem report screen.
651-823	G		Description: System shutdown due to fan failure. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. Instead of failing function codes, use the physical location code(s) from the diagnostic problem report screen to determine the FRUs.
651-824	G		Description: System shutdown due to power fault warning with an unspecified cause. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. Instead of failing function codes, use the physical location code(s) from the diagnostic problem report screen to determine the FRUs. If no physical location codes are reported, the shutdown was caused by using the power off button or there was a loss of power to the system.
651-830	G	166 2E0	Description: Sensor detected a fan failure. Action: Use Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.
651-831	G	152 2E2	Description: Sensor detected a voltage outside of the normal range. Action: Use MAP 1520.
651-832	G	2E1	Description: Sensor detected an abnormally high internal temperature. Action: Verify that: 1. The room ambient temperature is within the system operating environment. 2. There is unrestricted air flow around the system. 3. All system covers are closed. 4. There are no fan failures. If none of these problems exist, then proceed with Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-833	G	152 E19	Description: Sensor detected a power supply failure. Action: Use Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.
651-839	G		Description: Sensor detected a FRU that has failed. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. Instead of failing function codes, use the physical location code(s) from the diagnostic problem report screen to determine the FRUs.
651-840	G	166 2E0	Description: Sensor detected a fan failure. Action: Use Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.
651-841	G	152 2E2	Description: Sensor detected a voltage outside of the normal range. Action: Use MAP 1520.
651-842	G	2E1	Description: Sensor detected an abnormally high internal temperature. Action: Verify that: 1. The room ambient temperature is within the system operating environment. 2. There is unrestricted air flow around the system. 3. All system covers are closed. 4. There are no fan failures. If none of these problems exist, then proceed with Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.
651-843	G	152 E19	Description: Sensor detected a power supply failure. Action: Use Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.
651-849	G		Description: Sensor detected a FRU that has failed. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. Instead of failing function codes, use the physical location code(s) from the diagnostic problem report screen to determine the FRUs.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
651-88x	G		Description: The CEC or SPCN reported an error. Action: If reference and location codes were reported with this SRN, refer to this system unit's system service guide with the reference and location codes for the necessary repair action. If the reference and location codes were NOT reported, then run Diagnostics in Problem Determination mode and record and report the reference and location codes for this SRN.
651-89x	G		Description: The CEC or SPCN reported an error. Action: Refer to the this system unit's system service guide, with the reference and location codes, for the necessary repair action. If the reference and location codes were NOT reported, then run Advanced Diagnostics in Problem Determination mode and record and report the reference and location codes for this SRN.
651-90x	G		Description: Platform specific error Action: Call your support center.
652-600	G		Description: A non-critical error has been detected: Uncorrectable memory or unsupported memory. Action: Schedule deferred maintenance. Examine the memory modules and determine if they are supported types. If the modules are supported, then replace the appropriate memory module(s).
652-610	G	210	Description: A non-critical error has been detected: CPU internal error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-611	G	210	Description: A non-critical error has been detected: CPU internal cache or cache controller error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1
652-612	G	D01	Description: A non-critical error has been detected: External cache parity or multi-bit ECC error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
652-613	G	D01	Description: A non-critical error has been detected: External cache ECC single-bit error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1
652-622	G	2C5	Description: A non-critical error has been detected: Correctable error threshold exceeded. Action: Schedule deferred maintenance. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
652-623	G	2C6	Description: A non-critical error has been detected: Correctable error threshold exceeded. Action: Schedule deferred maintenance. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
652-630	G	307	Description: A non-critical error has been detected: I/O Expansion Bus Parity Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-631	G	307	Description: A non-critical error has been detected: I/O Expansion Bus Time-out Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-632	G	306 307 308	Description: A non-critical error has been detected: I/O Expansion Bus Connection Failure. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-633	G	307 306	Description: A non-critical error has been detected: I/O Expansion Unit not in an operating state. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-634	G	307	Description: A non-critical error has been detected: Internal Device Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
652-660	G	E17	Description: A non-critical error has been detected: Correctable error threshold exceeded. Action: Schedule deferred maintenance. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
652-661	G	E18	Description: A non-critical error has been detected: Correctable error threshold exceeded. Action: Schedule deferred maintenance. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
652-663	G	301	Description: A non-critical error has been detected: Correctable error threshold exceeded. Action: Schedule deferred maintenance. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
652-664	G	302	Description: A non-critical error has been detected: Correctable error threshold exceeded. Action: Schedule deferred maintenance. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
652-665	G	303	Description: A non-critical error has been detected: Correctable error threshold exceeded. Action: Schedule deferred maintenance. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
652-666	G	304	Description: A non-critical error has been detected: Correctable error threshold exceeded. Action: Schedule deferred maintenance. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
652-667	G	305	Description: A non-critical error has been detected: Correctable error threshold exceeded. Action: Schedule deferred maintenance. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
652-668	G	30A	Description: Correctable error threshold exceeded. Action: Schedule deferred maintenance. Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
652-731	G	2C8 292	Description: A non-critical error has been detected: Intermediate or System Bus Address Parity Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-732	G	2C8 292	Description: A non-critical error has been detected: Intermediate or System Bus Data Parity Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-733	G	214 2C8 292	Description: A non-critical error has been detected: Intermediate or System Bus Address Parity Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-734	G	214 2C8 292	Description: A non-critical error has been detected: Intermediate or System Bus Data Parity Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-735	G	2D2 292	Description: A non-critical error has been detected: Intermediate or System Bus Time-out Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-736	G	2D2 292 214	Description: A non-critical error has been detected: Intermediate or System Bus Time-out Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-770	G	2C8 292 306	Description: A non-critical error has been detected: Intermediate System Bus Address Parity Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-771	G	2C8 292 306	Description: A non-critical error has been detected: Intermediate or System Bus Data Parity Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
652-772	G	2D2 292 306	Description: A non-critical error has been detected: Intermediate or System Bus Time-out Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-773	G	227	Description: A non-critical error has been detected: Intermediate or System Bus Data Parity Error. Action: Schedule deferred maintenance. Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
652-810	G	152	Description: Non-critical power problem, loss of redundant supply. Use the physical FRU location(s) as the probable cause(s). Action: Schedule maintenance. Use the physical location codes to replace the FRUs that are identified on the diagnostics problem report screen.
652-819	G		Description: Power fault due to internal redundant power supply failure.
652-820	G	166	Description: Non-critical cooling problem, loss of redundant fan. Use the physical FRU location(s) as the probable cause(s). Action: Schedule maintenance. Use the physical location codes to replace the FRUs that are identified on the diagnostics problem report screen.
652-830	G	166 2E0	Description: Sensor detected a redundant fan failure. Action: Use Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.
652-833	G	152 E19	Description: Sensor detected a redundant power supply failure. Action: Use Chapter 14, "MAP 0220 Hot-Swap FRU Problem Resolution" on page 14-1.
652-839	G		Description: Sensor detected a redundant FRU failure. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1. Instead of failing function codes, use the physical location code(s) from the diagnostic problem report screen to determine the FRUs.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
652-88x	G		Description: The CEC or SPCN reported a non-critical error. Action: Schedule deferred maintenance. If reference and location codes were reported with this SRN, refer to this system unit's system service guide with the reference and location codes for the necessary repair action. If the reference and location codes were NOT reported, then run Diagnostics in Problem Determination mode and record and report the reference and location codes for this SRN.
652-89x	G		Description: The CEC or SPCN reported a non-critical error. Action: Schedule deferred maintenance. Refer to the this system unit's system service guide, with the reference and location codes, for the necessary repair action. If the reference and location codes were NOT reported, then run Advanced Diagnostics in Problem Determination mode and record and report the reference and location codes for this SRN.
653-098	J	653 B88	Description: The disk drive indicates an error.
653-099	J	653 B88	Description: The disk drive not found.
653-102	D	653	Description: An unrecoverable media error occurred.
653-104	D	653	Description: The motor failed to restart.
653-105	D	653	Description: The drive did not become ready.
653-106	D	653	Description: The electronics card test failed.
653-108	D	653	Description: The bus test failed.
653-110	D	653	Description: The media format is corrupted.
653-112	D	653	Description: The diagnostic test failed.
653-114	D	653	Description: An unrecoverable hardware error.
653-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
653-117	D	653	Description: A write protect error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
653-118	D	653 B88	Description: A SCSI command time-out occurred.
653-120	D	653	Description: A SCSI busy or command error.
653-122	D	653	Description: A SCSI reservation conflict error.
653-124	D	653	Description: A SCSI check condition error occurred.
653-126	D	653 B88	Description: A software error was caused by a hardware failure.
653-128	G	653	Description: The error log analysis indicates a hardware failure.
653-129	G	190 653 B88 software	Description: Error log analysis indicates a SCSI bus problem.
653-130	G	653	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
653-132	D	653	Description: A disk drive hardware error occurred.
653-134	D	B88 software	Description: The adapter failed to configure.
653-135	D	653 B88 software	Description: The device failed to configure.
653-136	D	653	Description: The certify operation failed.
653-137	D	653 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
655-001	D	655 221 Monitor/ Cable	Description: Adapter problem
655-002	D	655 Monitor/ Cable	Description: Display problem
655-003	D	software 655	Description: Software error

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
657-001	D	software 657	Description: Adapter failed to configure.
657-002	D	657 software	Description: Adapter failed to configure.
657-003	D	657 227	Description: Software error
657-004	D	657 Monitor/ Cable	Description: Adapter failed to configure.
657-005	D	657 227 Monitor/ Cable	Description: Adapter failed to configure.
662-212	D	662	Description: FIFO empty bit set.
662-213	D	662	Description: FIFO empty bit clear.
662-214	D	662	Description: FIFO full bit set.
662-215	D	662	Description: FIFO full bit clear.
662-216	D	662	Description: FIFO data miscompare.
662-217	D	662	Description: SCSI FIFO data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
662-218	D	662	Description: SCSI FIFO underflow.
662-219	D	662	Description: SCSI parity error.
662-220	D	662	Description: SCSI FIFO flags error.
662-221	D	662 221	Description: Miscompare during the write/read of the configuration register.
662-222	D	662	Description: Error during the write/read of the memory register.
662-223	D	662	Description: Miscompare during the write/read of the memory I/O register.
662-224	D	662 221	Description: Error reading the PCI configuration register.
662-225	D	662	Description: Adapter POST failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
662-230	D	190 662	Description: Arbitration test failed. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
662-231	D	190 662	Description: Function could not complete. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
662-232	D	190 662	Description: SCSI bus data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
662-240	D	190 662	Description: No terminal power. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
662-242	D	221 662	Description: SCSI bus problem. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
662-301	D	662 221	Description: The parent device open failed
662-600	G	662	Description: Error log analysis indicates a PCI SCSI adapter failure.
662-601	G	662	Description: Error log analysis indicates a PCI SCSI adapter failure.
662-602	G	662	Description: Error log analysis indicates a PCI SCSI adapter failure.
662-603	G	662	Description: Error log analysis indicates a PCI SCSI adapter failure.
662-604	G	662	Description: Error log analysis indicates a PCI SCSI adapter failure.
662-605	G	662	Description: Error log analysis indicates a PCI SCSI adapter failure.
662-606	G	662	Description: Error log analysis indicates a PCI SCSI adapter failure.
662-607	G	662	Description: Error log analysis indicates a PCI SCSI adapter failure.
662-701	G	662 221	Description: Error log analysis indicates a PCI SCSI adapter failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
662-702	G	662 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
662-703	G	662 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
662-704	G	662 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
662-800	G	SCSI Subsys	Description: Error log analysis indicates a PCI SCSI adapter PTC failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
662-802	G	SCSI Subsys	Description: Error log analysis indicates a PCI SCSI bus failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
663-101	D	663 C94 C95	Description: IBM ARTIC960RxD PCI Adapter Central Processing Unit (CPU) test failure. Action: Use MAP 0210.
663-102	D	663 C94 C95	Description: IBM ARTIC960RxD PCI Adapter Timer test failure. Action: Use MAP 0210.
663-103	D	663 C94 C95	Description: IBM ARTIC960RxD PCI Adapter Bus Interface test failure. Action: Use MAP 0210.
663-104	D	C94 663 C95	Description: IBM ARTIC960RxD PCI Adapter Dynamic Random Access Memory (DRAM) test failure. Action: Use MAP 0210.
663-105	D	663 C94 C95	Description: IBM ARTIC960RxD PCI Adapter Memory Protection test failure. Action: Use MAP 0210.
663-106	D	663 C94 C95	Description: IBM ARTIC960RxD PCI Adapter Debug Port test failure. Action: Use MAP 0210.
663-107	D	C95 663 C97	Description: Interface board wrap test failure. Action: Use MAP 0210.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
663-110	D	C94 663 C95	Description: IBM ARTIC960RxD PCI Adapter Download Diagnostics test failure. Action: Use MAP 0210.
663-123	D	C95 663 C94	Description: Interface board non-wrap test failure. Action: Use MAP 0210.
663-150	D	663 software 227	Description: Device configuration failure. Action: Use MAP 0210.
663-151	D	663 software 227	Description: Device driver indicates a hardware failure. Action: Use MAP 0210.
663-152	D	663	Description: Failure and error in determining which type of IBM ARTIC960RxD PCI Adapter. Action: Use MAP 0210.
663-153	D	663 227 C94 software	Description: Error log analysis indicates a IBM ARTIC960RxD PCI Adapter failure. Action: Use the **errpt** command to check error log.
663-154	D	C94 663 C95	Description: IBM ARTIC960RxD PCI Adapter initialization failure. Action: Use MAP 0210.
663-155	D	663 C94 C95	Description: IBM ARTIC960RxD PCI Adapter initialization failure. Action: Use MAP 0210.
663-156	D	C95 663 C94	Description: IBM ARTIC960RxD PCI Adapter initialization failure. Action: Use MAP 0210.
663-157	D	C98 C97 C95	Description: Cable wrap test failure. Action: Use MAP 0210.
664-098	J	664 B88 221	Description: IPLROS detected a problem with the CD-ROM drive
664-099	J	664 B88	Description: IPLROS detected a problem with the CD-ROM drive

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
664-111	D	664 B88	Description: Unable to reserve device.
664-112	D	664 B88	Description: Unable to do configuration.
664-113	D	664 B88	Description: Unable to open the device driver.
664-121	D	664	Description: The CD-ROM drive indicates an error.
664-122	D	664	Description: The CD-ROM drive indicates an error.
664-123	D	664	Description: The CD-ROM drive indicates an error.
664-125	D	664 B88	Description: The CD-ROM drive indicates an error.
664-126	D	664	Description: The CD-ROM drive indicates an error.
664-127	D	664	Description: The CD-ROM drive indicates an error.
664-128	D	664	Description: The CD-ROM drive indicates an error.
664-129	D	664	Description: The CD-ROM drive indicates an error.
664-150	D	Test Disc 664	Description: A media error was detected.
664-151	D	664 B88	Description: A command timeout was detected.
664-152	D	664	Description: A command reservation conflict was detected.
664-162	D	664	Description: The CD-ROM drive indicates an error.
664-171	D	664	Description: Unable to reserve device.
664-172	D	664	Description: Unable to do configuration.
664-173	D	664	Description: Unable to open device driver.
664-175	D	664	Description: The CD-ROM drive indicates an error.
664-198	D	664 B88	Description: Undefined error detected.
664-199	D	664	Description: Undefined error detected.
664-211	D	664	Description: The LED test failed.
664-281	D	664	Description: No tone during audio test.
664-301	G	664	Description: Errors found during ELA.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
664-302	G	664 B88	Description: Errors found during ELA.
667-101	D	667 227	Description: The PCI wrap test failed
667-102	D	667	Description: The POST indicates an adapter failure.
667-103	D	667	Description: The POST indicates an adapter channel failure.
667-104	D	277	Description: The POST indicates a defective cable.
667-105	D	199 807	Description: The POST indicates a defective backplane or external enclosure.
667-106	D	Disk	Description: The POST indicates a disk failure. Action: Contact support personnel with the part number of the latest physical disk that was reconnected.
667-109	D	667	Description: The NVRAM test indicates an adapter failure.
667-110	D	Disk	Description: The disk reported a Predictive Failure Analysis error (PFA).
667-111	D	Disk	Description: The disk drive has been failed by the adapter.
667-112	G	Disk	Description: ELA indicates that the disk reported a hard data error.
667-113	G	Disk	Description: ELA indicates that the disk reported a hard equipment error.
667-114	G	E29	Description: ELA indicates a cache failure
667-115	G	E30	Description: ELA indicates that the cache battery is either low on power or has failed.
667-116	D	667	Description: Failed to display data scrub.
667-117	D	E29	Description: POST indicates cache failure
667-118	D	E29	Description: NVRAM test indicates cache failure.
667-119	D	E29	Description: NVRAM test indicates that write cache is missing.
667-120	D	E29	Description: NVRAM test indicates that cache size is invalid

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
667-121	D	E30	Description: NVRAM test indicates that the cache battery is low on power.
667-122	D	E30	Description: NVRAM test indicates cache battery failure.
667-400	D	667 277 199 807 Disk	Description: The PCI wrap test failed.
669-201	D	669 221	Description: Configuration register test failure
669-202	D	669 221	Description: I/O register test failure
669-203	D	669 221	Description: Adapter memory test failure
669-204	D	669 221	Description: Adapter initialization test failure
669-205	D	669 221	Description: Internal loopback test failure
669-206	D	669 221	Description: External loopback test failure
669-701	G	669	Description: Error log analysis indicates that this device failed to initialize because it is not the IBM version of the adapter. AIX cannot configure the non-IBM version of this adapter
669-702	G	669 221	Description: Error Log Analysis indicates that this device failed to initialize due to a problem with the EEPROM on the adapter.
669-703	G	669 221	Description: Error Log Analysis indicates that this device has failed to initialize due to a self-test failure.
669-704	D	669 221	Description: Error Log Analysis indicates that this device has failed to initialize due to firmware download error.
674-101	D	674 C94 C95	Description: IBM ARTIC960Rx PCI Adapter Central Processing Unit (CPU) test failure. Action: Use MAP 0210.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
674-102	D	674 C94 C95	Description: IBM ARTIC960Rx PCI Adapter Timer test failure. Action: Use MAP 0210.
674-103	D	674 C94 C95	Description: IBM ARTIC960Rx PCI Adapter Bus Interface test failure. Action: Use MAP 0210.
674-104	D	C94 674 C95	Description: IBM ARTIC960Rx PCI Adapter Dynamic Random Access Memory (DRAM) test failure. Action: Use MAP 0210.
674-105	D	674 C94 C95	Description: IBM ARTIC960Rx PCI Adapter Memory Protection test failure. Action: Use MAP 0210.
674-106	D	674 C94 C95	Description: IBM ARTIC960Rx PCI Adapter Debug Port test failure. Action: Use MAP 0210.
674-107	D	C95 674 C97	Description: Interface board wrap test failure. Action: Use MAP 0210.
674-110	D	C94 674 C95	Description: IBM ARTIC960Rx PCI Adapter Download Diagnostics test failure. Action: Use MAP 0210.
674-123	D	C95 C97	Description: Interface board non-wrap test failure. Action: Use MAP 0210.
674-150	D	674 software 227	Description: Device configuration failure. Action: Use MAP 0210.
674-151	D	674 software 227	Description: Device driver indicates a hardware failure. Action: Use MAP 0210.
674-152	D	674	Description: Failure and error in determining which type of IBM ARTIC960Rx PCI Adapter. Action: Use MAP 0210.
674-153	D	674 227 C94 software	Description: Error log analysis indicates a IBM ARTIC960Rx PCI Adapter failure. Action: Use the **errpt** command to check error log.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
674-154	D	C94 674 C95	Description: IBM ARTIC960Rx PCI Adapter initialization failure. Action: Use MAP 0210.
674-155	D	674 C94 C95	Description: IBM ARTIC960Rx PCI Adapter initialization failure. Action: Use MAP 0210.
674-156	D	C95 674 C94	Description: IBM ARTIC960Rx PCI Adapter initialization failure. Action: Use MAP 0210.
674-157	D	C97 C95	Description: Cable wrap test failure. Action: Use MAP 0210.
675-101	D	675 C94 C95	Description: IBM ARTIC960Hx Adapter Central Processing Unit (CPU) test failure. Action: Use MAP 0210.
675-102	D	675 C94 C95	Description: IBM ARTIC960Hx Adapter Timer test failure. Action: Use MAP 0210.
675-103	D	675 C94 C95	Description: IBM ARTIC960Hx Adapter Bus Interface test failure. Action: Use MAP 0210.
675-104	D	C94 675 C95	Description: IBM ARTIC960Hx Adapter Dynamic Random Access Memory (DRAM) test failure. Action: Use MAP 0210.
675-105	D	675 C94 C95	Description: IBM ARTIC960Hx Adapter Memory Protection test failure. Action: Use MAP 0210.
675-106	D	675 C94 C95	Description: IBM ARTIC960Hx Adapter Debug Port test failure. Action: Use MAP 0210.
675-107	D	C95 675 C97	Description: Interface board wrap test failure. Action: Use MAP 0210.
675-110	D	C94 675 C95	Description: IBM ARTIC960Hx Adapter Download Diagnostics test failure. Action: Use MAP 0210.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
675-123	D	C95 C98 C97	Description: Interface board non-wrap test failure. Action: Use MAP 0210.
675-150	D	675 software 227	Description: Device configuration failure. Action: Use MAP 0210.
675-151	D	675 software 227	Description: Device driver indicates a hardware failure. Action: Use MAP 0210.
675-152	D	675	Description: Failure and error in determining which type of IBM ARTIC960Hx Adapter. Action: Use MAP 0210.
675-153	D	675 227 C94 software	Description: Error log analysis indicates a IBM ARTIC960Hx Adapter failure. Action: Use the **errpt** command to check error log.
675-154	D	C94 675 C95	Description: IBM ARTIC960Hx Adapter initialization failure. Action: Use MAP 0210.
675-155	D	675 C94 C95	Description: IBM ARTIC960Hx Adapter initialization failure. Action: Use MAP 0210.
675-156	D	C95 675 C94	Description: IBM ARTIC960Hx Adapter initialization failure. Action: Use MAP 0210.
675-157	D	C98 C97 C95	Description: Cable wrap test failure. Action: Use MAP 0210.
677-101	D	677	Description: The Fibre Channel Adapter configuration failed. Action: Use MAP 0210.
677-102	D	677	Description: The Reset test failed. Action: Use MAP 0210.
677-103	D	677	Description: The Register test failed. Action: Use MAP 0210.
677-104	D	677	Description: The SRAM test failed. Action: Use MAP 0210.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
677-105	D	677	Description: The Internal Wrap test failed. Action: Use MAP 0210.
677-106	D	677	Description: The Gigabaud Link Module (GLM) failed Action: Use MAP 0210.
677-107	D	677	Description: The External Wrap test failed. Action: Use MAP 0210.
677-201	D	677 221	Description: The Configuration Register test failed. Action: Use MAP 0210.
677-202	D	677 221	Description: The Interrupt test failed. Action: Use MAP 0210.
677-203	D	677 221	Description: The PCI Wrap test failed. Action: Use MAP 0210.
677-204	D	677 221	Description: The DMA test failed. Action: Use MAP 0210.
677-205	D	677 221	Description: I/O error on a read/write operation. Action: Use MAP 0210.
677-701	G	677 221	Description: Error log analysis indicates that an error has occurred with the adapter. Action: Use MAP 0210.
677-702	G	Microcode 677	Description: Error log analysis indicates that an adapter microcode error has occurred Action: Use MAP 0210.
677-703	G	677	Description: Error log analysis indicates that an unknown adapter error has occurred Action: Use MAP 0210.
678-098	J	678	Description: Tape drive indicates an error.
678-099	J	678 B88	Description: Tape drive not found.
678-101	D	678	Description: Timeout while attempting to communicate with SCSI device.
678-102	D	678	Description: The SCSI device indicates busy.
678-103	D	678	Description: The SCSI device indicates a reservation conflict.
678-104	D	678	Description: The SCSI device indicates a check condition.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
678-105	D	678	Description: An error is detected in request sense data.
678-107	D	678	Description: Sense data from the SCSI drive has unexpected data.
678-110	D	678	Description: The Reserve command failed.
678-111	D	678	Description: Invalid condition from the drive after a reserve.
678-112	D	678	Description: The write protect sensor test failed.
678-113	D	678	Description: Invalid condition from drive after a request sense.
678-114	D	678	Description: Timeout while attempting to communicate with the SCSI device.
678-120	D	678	Description: The **Inquiry** command failed.
678-130	D	678 media	Description: The **Load** command failed.
678-134	D	B88 software	Description: The adapter failed to configure.
678-135	D	678 media	Description: The **Unload** command failed.
678-140	D	678	Description: The **Mode Select** command failed.
678-150	D	678 media	Description: The **Test Unit Ready** command failed.
678-160	D	678 media	Description: The **Send Diagnostic** command failed.
678-161	D	678 B88	Description: Invalid condition from the drive after a reserve.
678-163	D	678 B88	Description: Invalid condition from the drive after a request sense.
678-164	D	678 B88	Description: Timeout while attempting to communicate with the SCSI device.
678-165	D	678 B88 276	Description: Write, Read and Compare Test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
678-166	D	678 B88 software	Description: Unable to configure the device.
678-167	D	678 B88	Description: An unexpected SCSI error occurred.
678-168	D	B88 software	Description: The adapter failed to configure.
678-169	D	678 media	Description: The send diagnostic command failed.
678-170	D	678 B88 media	Description: The Read, Write and Compare test failed.
678-180	D	678 media	Description: The **Load** command failed.
678-185	D	678 media	Description: The **Unload** command failed.
678-190	D	678	Description: The **Mode Select** command failed.
678-200	D	678 media	Description: The **Test Unit Ready** command failed.
678-201	G	678 B88	Description: Error diagnosed from error log analysis.
678-210	D	678 B88	Description: The device configuration failed.
678-211	D	678 B88	Description: The device open failed.
678-220	D	678	Description: The **Release** command failed.
678-230	D	678	Description: The **Request Sense** command failed.
678-240	D	678	Description: The **Openx** command failed.
678-260	D	678	Description: The device configuration failed.
678-261	D	678	Description: The device open failed.
678-300	D	678 software	Description: The device configuration failed.
678-310	D	B88 678 software	Description: SCSI adapter configuration failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
678-320	G	678 media	Description: Error log analysis indicates a failure.
678-411 to 678-423	D	678 B88 software	Description: A reservation conflict occurred.
678-511 to 678-523	D	678 B88	Description: The drive returned bad or non-extended sense data.
678-611 to 678-623	D	678 B88 software	Description: An adapter or bus I/O error occurred.
678-711 to 678-723	D	678 B88 software	Description: A device timeout error occurred.
679-098	J	679 B88	Description: The disk drive indicates an error.
679-099	J	679 B88	Description: The disk drive not found.
679-102	D	679	Description: An unrecoverable media error occurred.
679-104	D	679	Description: The motor failed to restart.
679-105	D	679	Description: The drive did not become ready.
679-106	D	679	Description: The electronics card test failed.
679-108	D	679	Description: The bus test failed.
679-110	D	679	Description: The media format is corrupted.
679-112	D	679	Description: The diagnostic test failed.
679-114	D	679	Description: An unrecoverable hardware error.
679-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
679-117	D	679	Description: A write protect error occurred.
679-118	D	679 B88	Description: A SCSI command time-out occurred.
679-120	D	679	Description: A SCSI busy or command error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
679-122	D	679	Description: A SCSI reservation conflict error.
679-124	D	679	Description: A SCSI check condition error occurred.
679-126	D	679 B88	Description: A software error was caused by a hardware failure.
679-128	G	679	Description: The error log analysis indicates a hardware failure.
679-129	G	190 679 B88 software	Description: Error log analysis indicates a SCSI bus problem.
679-130	G	679	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
679-132	D	679	Description: A disk drive hardware error occurred.
679-134	D	B88 software	Description: The adapter failed to configure.
679-135	D	679 B88 software	Description: The device failed to configure.
679-136	D	679	Description: The certify operation failed. save
679-137	D	679 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
681-098	J	681 B88	Description: The disk drive indicates an error.
681-099	J	681 B88	Description: The disk drive not found.
681-102	D	681	Description: An unrecoverable media error occurred.
681-104	D	681	Description: The motor failed to restart.
681-105	D	681	Description: The drive did not become ready.
681-106	D	681	Description: The electronics card test failed.
681-108	D	681	Description: The bus test failed.
681-110	D	681	Description: The media format is corrupted.
681-112	D	681	Description: The diagnostic test failed.
681-114	D	681	Description: An unrecoverable hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
681-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
681-117	D	681	Description: A write protect error occurred.
681-118	D	681 B88	Description: A SCSI command time-out occurred.
681-120	D	681	Description: A SCSI busy or command error.
681-122	D	681	Description: A SCSI reservation conflict error.
681-124	D	681	Description: A SCSI check condition error occurred.
681-126	D	681 B88	Description: A software error was caused by a hardware failure.
681-128	G	681	Description: The error log analysis indicates a hardware failure.
681-129	G	190 681 B88 software	Description: Error log analysis indicates a SCSI bus problem.
681-130	G	681	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
681-132	D	681	Description: A disk drive hardware error occurred.
681-134	D	B88 software	Description: The adapter failed to configure.
681-135	D	681 B88 software	Description: The device failed to configure.
681-136	D	681	Description: The certify operation failed.
681-137	D	681 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
682-098	J	682 B88 221	Description: IPLROS detected a problem with the CD-ROM drive

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
682-099	J	682 B88	Description: IPLROS detected a problem with the CD-ROM drive
682-111	D	682 B88	Description: Unable to reserve device.
682-112	D	682 B88	Description: Unable to do configuration.
682-113	D	682 B88	Description: Unable to open the device driver.
682-121	D	682	Description: The CD-ROM drive indicates an error.
682-122	D	682	Description: The CD-ROM drive indicates an error.
682-123	D	682	Description: The CD-ROM drive indicates an error.
682-125	D	682 B88	Description: The CD-ROM drive indicates an error.
682-126	D	682	Description: The CD-ROM drive indicates an error.
682-127	D	682	Description: The CD-ROM drive indicates an error.
682-128	D	682	Description: The CD-ROM drive indicates an error.
682-129	D	682	Description: The CD-ROM drive indicates an error.
682-150	D	Test Disc 682	Description: A media error was detected.
682-151	D	682 B88	Description: A command timeout was detected.
682-152	D	682	Description: A command reservation conflict was detected.
682-162	D	682	Description: The CD-ROM drive indicates an error.
682-171	D	682	Description: Unable to reserve device.
682-172	D	682	Description: Unable to do configuration.
682-173	D	682	Description: Unable to open device driver.
682-175	D	682	Description: The CD-ROM drive indicates an error.
682-198	D	682 B88	Description: Undefined error detected.
682-199	D	682	Description: Undefined error detected.
682-211	D	682	Description: The LED test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
682-281	D	682	Description: No tone during audio test.
682-301	G	682	Description: Errors found during ELA.
682-302	G	682 B88	Description: Errors found during ELA.
683-128	G	683	Description: Error Log Analysis Indicates hardware failure VSS2105 Model B09.
685-001	D	685 Monitor/ cable	Description: RGB_SCREEN_USER_FAIL
685-040	D	685 227 Monitor/ cable	Description: STATUS_POLL_TIMEOUT_ERROR
685-041	D	685 227 Monitor/ cable	Description: CRC_POLL_TIMEOUT_ERROR
685-060	D	software 685	Description: SVC_AIDS_INPUT_ERROR
685-081	D	software 685	Description: LOOP_COUNT_WAS_ZERO
685-082	D	software 685	Description: INVALID_TU_NUMBER
685-0B0	D	software 685	Description: ROM test failed
685-0B1	D	software 685	Description: ROM test failed
685-0D0	D	software 685	Description: INTERNAL_ERROR_DATA_SIZE_0
685-0D1	D	software 685	Description: INTERNAL_ERROR_DATA_SIZE_1
685-0D2	D	software 685	Description: INTERNAL_ERROR_DATA_SIZE_2
685-0D3	D	software 685	Description: INTERNAL_ERROR_DATA_SIZE_3

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
685-0D5	D	software 685	Description: ODM INIT FAILED
685-0D6	D	software 685	Description: ODM_OBJECT_SEARCH_FAILED
685-0D8	D	software 685	Description: ODM_GET_OBJECT_FAILED
685-0D9	D	software 685	Description: ODM_TERM_FAILED
685-0DB	D	software 685	Description: ILLEGAL_RESOLUTION_SPECIFIED
685-0E5	D	software 685	Description: AIXGSC_MGA_START_INTERRUPT_FAILED
685-0E6	D	software 685	Description: AIXGSC_MGA_STOP_INTERRUPT_FAILED
685-0E7	D	software 685	Description: MDD_OPEN_BUS_FAILED
685-0E8	D	software 685	Description: MDD_IOCTL_ERROR
685-0E9	D	software 685	Description: OPEN_RCM_ERROR
685-0EA	D	software 685	Description: IOCTL_GSC_HANDLE_FAILED
685-0EB	D	software 685	Description: AIXGSC_MAKE_GP_FAILED
685-0EC	D	software 685	Description: AIXGSC_UNMAKE_GP_FAILED
685-0ED	D	software 685	Description: DEVICE_BUSY_ERROR
685-0EE	D	software 685	Description: AIXGSC_MGA_SET_DISPLAY_FAILED
685-100	D	685 227 Monitor/ cable	Description: REG_32_BIT_PRTN_ERROR

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
685-101	D	685 227 Monitor/ cable	Description: REG_32_BIT_ADDR_UNIQ_ERROR
685-102	D	685 227 Monitor/ cable	Description: REG_8_BIT_PTRN_ERROR
685-103	D	685 227 Monitor/ cable	Description: REG_8_BIT_ADDR_UNIQ_ERROR
685-104	D	685 227 Monitor/ cable	Description: CRTC_REGS_PTRN_ERROR
685-105	D	685 227 Monitor/ cable	Description: CRTC_REGS_ADDR_UNIQ_ERROR
685-106	D	685 227 Monitor/ cable	Description: CRTCEXT_REGS_PTRN_ERROR
685-107	D	685 227 Monitor/ cable	Description: CRTCEXT_REGS_ADDR_UNIQ_ERROR
685-108	D	685 227 Monitor/ cable	Description: RAMDAC_REGS_PTRN_ERROR
685-109	D	685 227 Monitor/ cable	Description: RAMDAC_REGS_ADDR_UNIQ_ERROR

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
685-10A	D	685 227 Monitor/ cable	Description: PALETTE_REGS_PTRN_ERROR
685-10B	D	685 227 Monitor/ cable	Description: PALETTE_REGS_ADDR_UNIQ_ERROR
685-200	D	685 227	Description: ROM test failed
685-201	D	685 227	Description: ROM test failed
685-202	D	685 227	Description: ROM test failed
685-203	D	685 227	Description: ROM test failed
685-204	D	685 227	Description: ROM test failed
685-205	D	685 227	Description: ROM test failed
685-206	D	685 227	Description: ROM test failed
685-207	D	685 227	Description: ROM test failed
685-208	D	685 227	Description: ROM test failed
685-209	D	685 227	Description: ROM test failed
685-20B	D	685 227	Description: ROM test failed
685-400	D	685 227 Monitor/ cable	Description: SGRAM_RED_SCREEN_ERROR

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
685-401	D	685 227 Monitor/ cable	Description: SGRAM_GREEN_SCREEN_ERROR
685-402	D	685 227 Monitor/ cable	Description: SGRAM_BLUE_SCREEN_ERROR
685-403	D	685 227 Monitor/ cable	Description: SGRAM_WHITE_SCREEN_ERROR
685-404	D	685 227 Monitor/ cable	Description: SGRAM_INCREMENTING_SCREEN_ERROR
685-500	D	685 227 Monitor/ cable	Description: BLIT_TEST_ERROR_640 x 480
685-501	D	685 227 Monitor/ cable	Description: BLIT_TEST_ERROR_800 x 600
685-502	D	685 227 Monitor/ cable	Description: BLIT_TEST_ERROR_1024 x 768
685-503	D	685 227 Monitor/ cable	Description: BLIT_TEST_ERROR_1280 x 1024
685-504	D	software 685	Description: INTERNAL_ERROR_DATA_SIZE_4
685-600	D	685 227 Monitor/ cable	Description: DRAW_TEST_ERROR_640 x 480_A

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
685-601	D	685 227 Monitor/ cable	Description: DRAW_TEST_ERROR_800 x 600_A
685-602	D	685 227 Monitor/ cable	Description: DRAW_TEST_ERROR_1024 x 768_A
685-603	D	685 227 Monitor/ cable	Description: DRAW_TEST_ERROR_1280 x 1024_A
685-604	D	software 685	Description: INTERNAL_ERROR_DATA_SIZE_5
685-605	D	685 227 Monitor/ cable	Description: DRAW_TEST_ERROR_640 x 480_B
685-606	D	685 227 Monitor/ cable	Description: DRAW_TEST_ERROR_800 x 600_B
685-607	D	685 227 Monitor/ cable	Description: DRAW_TEST_ERROR_1024 x 768_B
685-608	D	685 227 Monitor/ cable	Description: DRAW_TEST_ERROR_1280 x 1024_B
685-609	D	software 685	Description: INTERNAL_ERROR_DATA_SIZE_6
685-60A	D	685 227 Monitor/ cable	Description: DRAW_TEST_ERROR_640 x 480_C

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
685-60B	D	685 227 Monitor/ cable	Description: DRAW_TEST_ERROR_800 x 600_C
685-60C	D	685 227 Monitor/ cable	Description: DRAW_TEST_ERROR_1024 x 768_C
685-60D	D	685 227 Monitor/ cable	Description: DRAW_TEST_ERROR_1280 x 1024_C
685-60E	D	software 685	Description: INTERNAL_ERROR_DATA_SIZE_7
686-114	D	686	Description: The register verification test failed.
686-124	D	686	Description: The adapter RAM verification test failed.
686-152	D	686 D57	Description: The data wrap communication test failed.
686-153	D	686	Description: The modem control line test failed.
686-252	D	686	Description: The data wrap communication test failed.
686-253	D	686	Description: The modem control line test failed.
686-501	D	686	Description: Adapter Reset failed
686-511	D	686	Description: Adapter to host memory test failed (byte tag test)
686-512	D	686	Description: Adapter to host memory test failed (word tag test)
686-513	D	686	Description: Adapter to host memory test failed (byte pattern test)
686-514	D	686	Description: Adapter to host memory test failed (word pattern test)
686-521	D	686	Description: Adapter BIOS POST CPU failed
686-522	D	686	Description: Adapter BIOS POST Checksum failed
686-523	D	686	Description: Adapter BIOS POST Timer failed
686-524	D	686	Description: Adapter BIOS POST RAM failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
686-526	D	686	Description: Adapter BIOS POST Async Ports failed
686-527	D	686	Description: Adapter BIOS test failed
686-528	D	686	Description: Adapter BIOS Reset failed
686-529	D	686	Description: Adapter BIOS Download failed
686-531	D	686	Description: Adapter BIOS Command failed
686-533	D	686	Description: Adapter BIOS Timer test failed
686-534	D	686	Description: Adapter BIOS RAM test failed
686-541	D	686	Description: Port async internal loopback test failed (general)
686-542	D	686	Description: Port async internal loopback test failed (no response from the port)
686-551	D	686	Description: Port async external loopback test failed (general)
686-552	D	686	Description: Port async external loopback test failed (data signals)
686-553	D	686	Description: Port async external loopback test failed (control signals)
686-554	D	686	Description: Port async external loopback test failed (modem signals)
686-555	D	686	Description: Port async external loopback test failed (no response from port)
686-901 to 686-920	D	software 686	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 686; otherwise, suspect a software problem.
686-921	D	686 software	Description: The adapter failed to configure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
686-922 to 686-924	D	software 686	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 686; otherwise, suspect a software problem.
686-925	D	686	Description: The adapter failed to configure. software
686-926 to 686-950	D	software 686	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 686; otherwise, suspect a software problem.
687-114	D	687	Description: The register verification test failed.
687-124	D	687	Description: The adapter RAM verification test failed.
687-144	D	687	Description: The sync line test failed.
687-152	D	837 684 687 152	Description: The data wrap communication test failed.
687-153	D	687	Description: The modem control line test failed.
687-244	D	687	Description: The sync line test failed.
687-252	D	687	Description: The data wrap communication test failed.
687-253	D	687	Description: The modem control line test failed.
687-501	D	687	Description: Adapter Reset failed
687-502	D	687	Description: Adapter Fuse failed
687-511	D	687	Description: Adapter to host memory test failed (byte tag test)
687-512	D	687	Description: Adapter to host memory test failed (word tag test)

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
687-513	D	687	Description: Adapter to host memory test failed (byte pattern test)
687-514	D	687	Description: Adapter to host memory test failed (word pattern test)
687-521	D	687	Description: Adapter BIOS POST CPU failed
687-522	D	687	Description: Adapter BIOS POST Checksum failed
687-523	D	687	Description: Adapter BIOS POST Timer failed
687-524	D	687	Description: Adapter BIOS POST RAM failed
687-525	D	687	Description: Adapter BIOS POST Sync Line failed
687-527	D	687	Description: Adapter BIOS test failed
687-528	D	687	Description: Adapter BIOS Reset failed
687-529	D	687	Description: Adapter BIOS Download failed
687-531	D	687	Description: Adapter BIOS Command failed
687-533	D	687	Description: Adapter BIOS Timer test failed
687-534	D	687	Description: Adapter BIOS RAM test failed
687-541	D	687	Description: Port sync internal loopback test failed
687-551	D	687	Description: Port sync external loopback test failed
687-600	D	837	Description: 232RAN status test failed
687-700	D	684	Description: 422RAN status test failed
687-901 to 687-920	D	software 687	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 687; otherwise, suspect a software problem.
687-921	D	software 687	Description: The adapter failed to configure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
687-922 to 687-924	D	software 687	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 687; otherwise, suspect a software problem.
687-925	D	687 software	Description: The adapter failed to configure.
687-926 to 687-950	D	software 687	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 687; otherwise, suspect a software problem.
689-098	J	689 B88	Description: The disk drive indicates an error.
689-099	J	689 B88	Description: The disk drive not found.
689-102	D	689	Description: An unrecoverable media error occurred.
689-104	D	689	Description: The motor failed to restart.
689-105	D	689	Description: The drive did not become ready.
689-106	D	689	Description: The electronics card test failed.
689-108	D	689	Description: The bus test failed.
689-110	D	689	Description: The media format is corrupted.
689-112	D	689	Description: The diagnostic test failed.
689-114	D	689	Description: An unrecoverable hardware error.
689-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
689-117	D	689	Description: A write protect error occurred.
689-118	D	689 B88	Description: A SCSI command time-out occurred.
689-120	D	689	Description: A SCSI busy or command error.
689-122	D	689	Description: A SCSI reservation conflict error.
689-124	D	689	Description: A SCSI check condition error occurred.
689-126	D	689 B88	Description: A software error was caused by a hardware failure.
689-128	G	689	Description: The error log analysis indicates a hardware failure.
689-129	G	190 689 B88 software	Description: Error log analysis indicates a SCSI bus problem.
689-130	G	689	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
689-132	D	689	Description: A disk drive hardware error occurred.
689-134	D	B88 software	Description: The adapter failed to configure.
689-135	D	689 B88 software	Description: The device failed to configure.
689-136	D	689	Description: The certify operation failed. save
689-137	D	689 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
690-098	J	690 B88	Description: The disk drive indicates an error.
690-099	J	690 B88	Description: The disk drive not found.
690-102	D	690	Description: An unrecoverable media error occurred.
690-104	D	690	Description: The motor failed to restart.
690-105	D	690	Description: The drive did not become ready.
690-106	D	690	Description: The electronics card test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
690-108	D	690	Description: The bus test failed.
690-110	D	690	Description: The media format is corrupted.
690-112	D	690	Description: The diagnostic test failed.
690-114	D	690	Description: An unrecoverable hardware error.
690-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
690-117	D	690	Description: A write protect error occurred.
690-118	D	690 B88	Description: A SCSI command time-out occurred.
690-120	D	690	Description: A SCSI busy or command error.
690-122	D	690	Description: A SCSI reservation conflict error.
690-124	D	690	Description: A SCSI check condition error occurred.
690-126	D	690 B88	Description: A software error was caused by a hardware failure.
690-128	G	690	Description: The error log analysis indicates a hardware failure.
690-129	G	190 690 B88 software	Description: Error log analysis indicates a SCSI bus problem.
690-130	G	690	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
690-132	D	690	Description: A disk drive hardware error occurred.
690-134	D	B88 software	Description: The adapter failed to configure.
690-135	D	690 B88 software	Description: The device failed to configure.
690-136	D	690	Description: The certify operation failed.
690-137	D	690 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
691-200	D	691 227	Description: The ATM 25Mbps Adapter open test failed.
691-202	D	691 227	Description: The ATM 25Mbps Adapter register test failed.
691-203	D	691 227	Description: The ATM 25Mbps Adapter memory test failed.
691-204	D	691 227	Description: The ATM 25Mbps Adapter NVRAM test failed.
691-205	D	691 227	Description: The ATM 25Mbps Adapter interrupt test failed.
691-206	D	691 227	Description: The ATM 25Mbps Adapter wrap test failed.
691-210	D	691 227	Description: The ATM 25Mbps Adapter close test failed.
691-220	D	691 227	Description: The ATM 25Mbps Adapter was not found. Action: Re-install the ATM 25Mbps Adapter and re-run the test. If the error continues, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
691-300	D	Wrap Plug 691 227	Description: The ATM 25Mbps Adapter wrap test failed. Action: Re-install the wrap plug and re-run the test. If the error continues, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
691-700	G	691 227	Description: Error log analysis reported a hardware error.
692-110	D	692	Description: The Reserve command failed.
692-120	D	692	Description: The Inquiry command failed.
692-130	D	692 media	Description: The Load command failed.
692-135	D	692 media	Description: The Unload command failed.
692-140	D	692	Description: The Mode Select command failed.
692-150	D	692 media	Description: The Test Unit Ready command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
692-160	D	692 media	Description: The Send Diagnostic command failed.
692-169	D	692 media	Description: The send diagnostic command failed.
692-170	D	692 B88 media	Description: The Read, Write and Compare test failed.
692-180	D	692 media	Description: The Load command failed.
692-185	D	692 media	Description: The Unload command failed.
692-190	D	692	Description: The Mode Select command failed.
692-200	D	692 media	Description: The Test Unit Ready command failed.
692-210	D	692 B88	Description: The device configuration failed.
692-220	D	692	Description: The Release command failed.
692-230	D	692	Description: The Request Sense command failed.
692-240	D	692	Description: The Openx command failed.
692-300	D	692 software	Description: The device configuration failed.
692-310	D	B88 692 software	Description: SCSI adapter configuration failed.
692-320	G	692 media	Description: Error log analysis indicates a failure.
692-411 to 692-423	D	692 B88 software	Description: A reservation conflict occurred.
692-511 to 692-523	D	692 B88	Description: The drive returned bad or non-extended sense data.
692-611 to 692-623	D	692 B88 software	Description: An adapter or bus I/O error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
692-711 to 692-723	D	692 B88 software	Description: A device timeout error occurred.
693-100	D	693 227	Description: Adapter open failed.
693-101	D	693 227	Description: Adapter config register test failed.
693-102	D	693 227	Description: Adapter reset failed.
693-103	D	693 227	Description: Adapter I/O register test failed.
693-104	D	693 227	Description: Adapter microcode download test failed.
693-105	D	693 227	Description: Adapter internal wrap test failed.
693-106	D	693 227	Description: Adapter close failed.
697-100	D	697 software 227	Description: Charm memory write failure
697-101	D	697 software 227	Description: Charm memory read failure
697-102	D	697 software 227	Description: PCI configuration register write failure
697-103	D	697 software 227	Description: Charm software reset failure
697-104	D	697 software 227	Description: Packet memory error
697-105	D	697 software 227	Description: Control memory failure
697-106	D	697	Description: Link-R detected bad parity

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
697-107	D	697	Description: Suni detected bad parity
697-108	D	697	Description: Suni initialization failure
697-109	D	Wrap Plug 697	Description: Loss of light detected in Link test Action: Check wrap plug installation.
697-10B	D	Wrap Plug 697	Description: External Loopback failed Action: Check wrap plug installation.
697-10C	D	697 software 227	Description: Internal Loopback failed
697-10D	D	697 227 software	Description: DMS failed
697-1FF	D	697 software 227	Description: EPROM checksum failed
697-200	D	software 697 227	Description: Klog error
697-201	D	software 697 227	Description: ASL error
697-202	D	software 697 227	Description: ODM Initialization error
697-203	D	software 697 227	Description: Diagnostic configuration failure
697-205	D	software 697 227	Description: Error in diag open
697-206	D	software 697 227	Description: Error in releasing adapter
698-100	D	698 software 227	Description: Charm memory write failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
698-101	D	698 software 227	Description: Charm memory read failure
698-102	D	698 software 227	Description: PCI configuration register write failure
698-103	D	698 software 227	Description: Charm software reset failure
698-104	D	698 software 227	Description: Packet memory error
698-105	D	698 software 227	Description: Control memory failure
698-106	D	698	Description: Link-R detected bad parity
698-107	D	698	Description: Suni detected bad parity
698-108	D	698	Description: Suni initialization failure
698-109	D	Wrap Plug 698	Description: Loss of light detected in Link test Action: Check wrap plug installation.
698-10B	D	Wrap Plug 698	Description: External Loopback failed Action: Check wrap plug installation.
698-10C	D	698 software 227	Description: Internal Loopback failed
698-10D	D	698 227 software	Description: DMS failed
698-1FF	D	698 software 227	Description: EPROM checksum failed
698-200	D	software 698 227	Description: Klog error

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
698-201	D	software 698 227	Description: ASL error
698-202	D	software 698 227	Description: ODM Initialization error
698-203	D	software 698 227	Description: Diagnostic configuration failure
698-205	D	software 698 227	Description: Error in diag open
698-206	D	software 698 227	Description: Error in releasing adapter
699-100	D	699	Description: An error was found on the adapter
699-110	G	699	Description: Error Log analysis indicates a hardware error.
699-120	D	699	Description: Adapter hardware has caused a software failure.

Chapter 32. Six-Digit SRNs 700-102 through 89c-302

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
700-102 to 700-114	D	700	Description: 1.1GB single-ended disk drive problem.
700-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
700-117	D	700	Description: A write protect error occurred.
700-118	D	700 B88	Description: A SCSI command time-out.
700-120 to 700-124	D	700	Description: A SCSI error.
700-126	D	700 B88	Description: A software error was caused by a hardware failure.
700-128	G	700	Description: The error log analysis indicates a hardware failure.
700-129	G	190 700 B88 software	Description: Error log analysis indicates a SCSI bus problem.
700-130	G	700	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
700-132	D	700	Description: A disk drive hardware error occurred.
700-134	D	B88 software	Description: The adapter failed to configure.
700-135	D	700 B88 software	Description: The device failed to configure.
700-136	D	700	Description: The certify operation failed.
700-137	D	700 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
701-102 to 701-114	D	701	Description: 1.1GB 16-bit single-ended disk drive problem.
701-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
701-117	D	701	Description: A write protect error occurred.
701-118	D	701 B88	Description: A SCSI command time-out.
701-120 to 701-124	D	701	Description: A SCSI error.
701-126	D	701 B88	Description: A software error was caused by a hardware failure.
701-128	G	701	Description: The error log analysis indicates a hardware failure.
701-129	G	190 701 B88 software	Description: Error log analysis indicates a SCSI bus problem.
701-130	G	701	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
701-132	D	701	Description: A disk drive hardware error occurred.
701-134	D	B88 software	Description: The adapter failed to configure.
701-135	D	701 B88 software	Description: The device failed to configure.
701-136	D	701	Description: The certify operation failed.
701-137	D	701 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
702-102 to 702-114	D	702	Description: 1.1GB 16-bit differential disk drive problem.
702-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
702-117	D	702	Description: A write protect error occurred.
702-118	D	702 B88	Description: A SCSI command time-out.
702-120 to 702-124	D	702	Description: A SCSI error.
702-126	D	702 B88	Description: A software error was caused by a hardware failure.
702-128	G	702	Description: The error log analysis indicates a hardware failure.
702-129	G	190 702 B88 software	Description: Error log analysis indicates a SCSI bus problem.
702-130	G	702	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
702-132	D	702	Description: A disk drive hardware error occurred.
702-134	D	B88 software	Description: The adapter failed to configure.
702-135	D	702 B88 software	Description: The device failed to configure.
702-136	D	702	Description: The certify operation failed.
702-137	D	702 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
703-102 to 703-114	D	703	Description: 2.2GB single-ended disk drive problem.
703-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
703-117	D	703	Description: A write protect error occurred.
703-118	D	703 B88	Description: A SCSI command time-out.
703-120 to 703-124	D	703	Description: A SCSI error.
703-126	D	703 B88	Description: A software error was caused by a hardware failure.
703-128	G	703	Description: The error log analysis indicates a hardware failure.
703-129	G	190 703 B88 software	Description: Error log analysis indicates a SCSI bus problem.
703-130	G	703	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
703-132	D	703	Description: A disk drive hardware error occurred.
703-134	D	B88 software	Description: The adapter failed to configure.
703-135	D	703 B88 software	Description: The device failed to configure.
703-136	D	703	Description: The certify operation failed.
703-137	D	703 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
704-102 to 704-114	D	704	Description: 2.2GB 16-bit single-ended disk drive problem.
704-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
704-117	D	704	Description: A write protect error occurred.
704-118	D	704 B88	Description: A SCSI command time-out.
704-120 to 704-124	D	704	Description: A SCSI error.
704-126	D	704 B88	Description: A software error was caused by a hardware failure.
704-128	G	704	Description: The error log analysis indicates a hardware failure.
704-129	G	190 704 B88 software	Description: Error log analysis indicates a SCSI bus problem.
704-130	G	704	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
704-132	D	704	Description: A disk drive hardware error occurred.
704-134	D	B88 software	Description: The adapter failed to configure.
704-135	D	704 B88 software	Description: The device failed to configure.
704-136	D	704	Description: The certify operation failed.
704-137	D	704 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
705-102 to 705-114	D	705	Description: 2.2GB 16-bit differential disk drive problem.
705-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
705-117	D	705	Description: A write protect error occurred.
705-118	D	705 B88	Description: A SCSI command time-out.
705-120 to 705-124	D	705	Description: A SCSI error.
705-126	D	705 B88	Description: A software error was caused by a hardware failure.
705-128	G	705	Description: The error log analysis indicates a hardware failure.
705-129	G	190 705 B88 software	Description: Error log analysis indicates a SCSI bus problem.
705-130	G	705	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
705-132	D	705	Description: A disk drive hardware error occurred.
705-134	D	B88 software	Description: The adapter failed to configure.
705-135	D	705 B88 software	Description: The device failed to configure.
705-136	D	705	Description: The certify operation failed.
705-137	D	705 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
706-102 to 706-114	D	706	Description: 4.5GB 16-bit single-ended disk drive problem
706-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
706-117	D	706	Description: A write protect error occurred.
706-118	D	706 B88	Description: A SCSI command time-out.
706-120 to 706-124	D	706	Description: A SCSI error.
706-126	D	706 B88	Description: A software error was caused by a hardware failure.
706-128	G	706	Description: The error log analysis indicates a hardware failure.
706-129	G	190 706 B88 software	Description: Error log analysis indicates a SCSI bus problem.
706-130	G	706	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
706-132	D	706	Description: A disk drive hardware error occurred.
706-134	D	B88 software	Description: The adapter failed to configure.
706-135	D	706 B88 software	Description: The device failed to configure.
706-136	D	706	Description: The certify operation failed.
706-137	D	706 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
707-102 to 707-114	D	707	Description: Any of the following may have occurred: an unrecoverable media error, motor failed to restart, the drive did not become ready, electronics card test failed, bus test failed, media format failed, or diagnostic test failed.
707-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
707-117	D	707	Description: A write protect error occurred.
707-118	D	707 B88	Description: A SCSI command time-out.
707-120 to 707-124	D	707	Description: A SCSI error.
707-126	D	707 B88	Description: A software error was caused by a hardware failure.
707-128	G	707	Description: The error log analysis indicates a hardware failure.
707-129	G	190 707 B88 software	Description: Error log analysis indicates a SCSI bus problem.
707-130	G	707	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
707-132	D	707	Description: A disk drive hardware error occurred.
707-134	D	B88 software	Description: The adapter failed to configure.
707-135	D	707 B88 software	Description: The device failed to configure.
707-136	D	707	Description: The certify operation failed.
707-137	D	707 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
709-101	D	709	Description: Cannot run the test because the device driver detected a hardware error.
709-111	D	709 221	Description: Could not do the test because the device driver detected a hardware error.
709-112	D	709 221	Description: Unable to determine the type of adapter from the VPD.
709-113	D	709	Description: The VPD verification test failed.
709-114	D	709	Description: The register verification test failed.
709-115	D	709	Description: The VPD verification test failed.
709-116	D	D57 709	Description: The 128-port controller line test failed.
709-117	D	684	Diagnostics: Remote Async Node test failed.
709-118	D	837	Description: Remote async node test failed.
709-119	F	709	Description: Sync line termination test failed.
709-151	D	837	Description: Could not perform because the device driver detected a hardware error.
709-152	D	837 836	Description: The data wrap communication test failed.
709-153	D	837	Description: The modem control line test failed.
709-154	D	684 709	Diagnostics: Cannot run the test because the device driver detected a hardware error.
709-155	D	684 709 152	Diagnostics: The data wrap communications test failed.
709-161	D	266	Description: Could not perform because the device driver detected a hardware error.
709-162	D	266	Description: The data wrap communication test failed.
709-163	D	266	Description: The modem control line test failed.
709-164	D	D06	Description: The data wrap communication test failed.
709-171	D	259	Description: Could not perform because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
709-172	D	259	Description: The data wrap communication test failed.
709-173	D	259	Description: The modem control line test failed.
709-174	D	263	Description: Cannot run the test because the device driver detected a hardware error.
709-175	D	263	Description: The data wrap communications test failed.
709-181	D	261	Description: Could not perform because the device driver detected a hardware error.
709-182	D	261	Description: The data wrap communication test failed.
709-183	D	261	Description: The modem control line test failed.
709-251	D	709 837	Description: Could not perform because the device driver detected a hardware error.
709-252	D	709 837	Description: The data wrap communication test failed.
709-253	D	709 837	Description: The modem control line test failed.
709-254	D	709 684	Diagnostics: Cannot run the test because the device driver detected a hardware error while running the Remote Async Node wrap test.
709-255	D	709 684	Diagnostics: The data wrap communications test failed while running the Remote Async Node wrap test.
709-271	D	709 837	Description: Could not perform because the device driver detected a hardware error.
709-272	D	709 837	Description: The data wrap communication test failed.
709-273	D	709 837	Description: The modem control line test failed.
709-274	D	709 684	Diagnostics: Cannot run the test because the device driver detected a hardware error while running the Printer/Terminal cable wrap test.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
709-275	D	709 684	Diagnostics: The data wrap communications test failed while running the Printer/Terminal cable wrap test.
709-281	D	709 837	Description: Could not perform because the device driver detected a hardware error.
709-282	D	709 837	Description: The data wrap communication test failed.
709-283	D	709 837	Description: The modem control line test failed.
709-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.
709-482	D	D56	Description: The data wrap communication test failed.
709-483	D	D56	Description: The modem control line test failed.
709-901 to 709-920	D	software 709	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 709; otherwise, suspect a software problem.
709-921	D	709 software	Description: The adapter failed to configure
709-922 to 709-924	D	software 709	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 709; otherwise, suspect a software problem.
709-925	D	709 software	Description: The adapter failed to configure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
709-926 to 709-943	D	software 709	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 709; otherwise, suspect a software problem.
721-098	J	721 B88	Description: The disk drive indicates an error.
721-099	J	721 B88	Description: The disk drive not found.
721-102	D	721	Description: An unrecoverable media error occurred.
721-104	D	721	Description: The motor failed to restart.
721-105	D	721	Description: The drive did not become ready.
721-106	D	721	Description: The electronics card test failed.
721-108	D	721	Description: The bus test failed.
721-110	D	721	Description: The media format is corrupted.
721-112	D	721	Description: The diagnostic test failed.
721-114	D	721	Description: An unrecoverable hardware error.
721-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
721-117	D	721	Description: A write protect error occurred.
721-118	D	721 B88	Description: A SCSI command time-out occurred.
721-120	D	721	Description: A SCSI busy or command error.
721-122	D	721	Description: A SCSI reservation conflict error.
721-124	D	721	Description: A SCSI check condition error occurred.
721-126	D	721 B88	Description: A software error was caused by a hardware failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
721-128	G	721	Description: The error log analysis indicates a hardware failure.
721-129	G	190 721 B88 software	Description: Error log analysis indicates a SCSI bus problem.
721-130	G	721	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
721-132	D	721	Description: A disk drive hardware error occurred.
721-134	D	B88 software	Description: The adapter failed to configure.
721-135	D	721 B88 software	Description: The device failed to configure.
721-136	D	721	Description: The certify operation failed. save
721-137	D	721 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
722-xxx	D	722	Description: Unknown disk drive type is failing.
723-xxx	D	723	Description: Unknown CD-ROM type is failing.
724-xxx	D	724	Description: Unknown tape drive failure.
733-110 to 733-120	D	733	Description: The Reserve command failed, or the Inquiry command failed.
733-130 to 733-135	D	733 media	Description: The Load command failed, or the Unload command failed.
733-140	D	733	Description: The Mode Select command failed.
733-150 to 733-169	D	733 media	Description: The Test Unit Ready command failed, or the Send Diagnostic command failed.
733-170	D	733 B88 media	Description: The Read, Write and Compare test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
733-180 to 733-185	D	733 media	Description: The Load command failed, or the Unload command failed.
733-190	D	733	Description: The Mode Select command failed.
733-200	D	733 media	Description: The Test Unit Ready command failed.
733-210	D	733 B88	Description: The device configuration failed.
733-220 to 733-240	D	733	Description: 140GB 8mm tape drive failed.
733-300	D	733 software	Description: The device configuration failed.
733-310	D	B88 733 software	Description: SCSI adapter configuration failed.
733-320	G	733 media	Description: Error log analysis indicates a failure.
733-411 to 733-423	D	733 B88 software	Description: A reservation conflict occurred.
733-511 to 733-523	D	733 B88	Description: The drive returned bad or non-extended sense data.
733-611 to 733-723	D	733 B88 software	Description: An adapter, device, or bus I/O error occurred.
734-111	D	734 B88	Description: Unable to reserve device.
734-112	D	734 B88	Description: Unable to do configuration.
734-113	D	734 B88	Description: Unable to open the device driver.
734-121	D	734	Description: The CD-ROM drive indicates an error.
734-122	D	734	Description: The CD-ROM drive indicates an error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
734-123	D	734	Description: The CD-ROM drive indicates an error.
734-125	D	734 B88	Description: The CD-ROM drive indicates an error.
734-126	D	734	Description: The CD-ROM drive indicates an error.
734-127	D	734	Description: The CD-ROM drive indicates an error.
734-128	D	734	Description: The CD-ROM drive indicates an error.
734-129	D	734	Description: The CD-ROM drive indicates an error.
734-150	D	Test Disc 734	Description: A media error was detected.
734-151	D	734 B88	Description: A command timeout was detected.
734-152	D	734	Description: A command reservation conflict was detected.
734-162	D	734	Description: The CD-ROM drive indicates an error.
734-171	D	734	Description: Unable to reserve device.
734-172	D	734	Description: Unable to do configuration.
734-173	D	734	Description: Unable to open device driver.
734-175	D	734	Description: The CD-ROM drive indicates an error.
734-198	D	734 B88	Description: Undefined error detected.
734-199	D	734	Description: Undefined error detected.
734-211	D	734	Description: The LED test failed.
734-281	D	734	Description: No tone during audio test.
734-301	G	734	Description: Errors found during ELA.
734-302	G	734 B88	Description: Errors found during ELA.
736-101	D	821	Description: An unexpected adapter error occurred.
736-102	D	736 821	Description: An unexpected device or adapter error occurred.
736-103	D	736 821	Description: The keyboard reset failed.
736-104	D	736	Description: Unknown keyboard.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
736-105	D	736 821	Description: The keyboard light on test failed.
736-106	D	736 821	Description: The keyboard light off test failed.
736-201	D	821	Description: An unexpected adapter error occurred.
736-202	D	736 821	Description: An unexpected device or adapter error occurred.
736-203	D	736 821	Description: The read keyboard ID test failed.
736-204	D	736	Description: The keyboard layout ID test failed.
736-205	D	736 821	Description: The keyboard echo test failed.
736-206	D	736 821	Description: The select scan code set test failed.
736-301	D	821	Description: An unexpected adapter error occurred.
736-302	D	736	Description: An unexpected device or adapter error occurred.
736-303	D	736	Description: An error occurred in turning on the lamps.
736-304	D	736	Description: An error occurred in turning off the lamps.
736-401	D	821	Description: An unexpected adapter error occurred.
736-402	D	736 821	Description: An unexpected device or adapter error occurred.
736-403	D	736	Description: Unable to recognize the keyboard.
736-404	D	736 821	Description: The keyboard is failing.
736-701	D	736 821	Description: Error configuring the device.
736-901	G	821	Description: The error log analysis indicates an adapter failure.
736-902	G	736 821	Description: The error log analysis indicates a device failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
736-903	G	736 821	Description: The error log analysis indicates an unknown failure.
741-102 to 741-114	D	741	Description: SCSI disk drive problems.
741-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
741-117	D	741	Description: A write protect error occurred.
741-118	D	741 B88	Description: A SCSI command timeout.
741-120 to 741-124	D	741	Description: SCSI disk drive problems.
741-126	D	741 B88	Description: A software error was caused by a hardware failure.
741-128	G	741	Description: The error log analysis indicates a hardware failure.
741-129	G	190 741 B88 software	Description: Error log analysis indicates a SCSI bus problem.
741-130	G	741	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
741-132	D	741	Description: A disk drive hardware error occurred.
741-134	D	B88 software	Description: The adapter failed to configure.
741-135	D	741 B88 software	Description: The device failed to configure.
741-137	D	741 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
742-101	D	742	Description: Configuration register test failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
742-102	D	742	Description: I/O register test failed
742-104	D	742	Description: Internal loopback test failed
742-105	D	742	Description: Internal loopback test failed
742-106	D	742	Description: External loopback test failed
742-121	D	D59	Description: Configuration register test failed
742-122	D	D59	Description: I/O register test failed
742-124	D	D59	Description: Internal loopback test failed
742-125	D	D59	Description: Internal loopback test failed
742-126	D	D59	Description: External loopback test failed
742-141	D	D60	Description: Configuration register test failed
742-142	D	D60	Description: I/O register test failed
742-144	D	D60	Description: Internal loopback test failed
742-145	D	D60	Description: Internal loopback test failed
742-160	D	B08	Description: 10Base-T transceiver test failed
742-161	D	B09	Description: 10Base-2 transceiver test failed
742-203	D	742 software	Description: Device configuration failed
742-223	D	D59 software	Description: Device configuration failed
742-224	D	B08 D59	Description: 10 Base-T transceiver test failed
742-225	D	B09 D59	Description: 10 Base-2 transceiver test failed
742-243	D	D60 software	Description: Device configuration failed
742-700	G	742 software	Description: Error log analysis indicates a hardware problem
742-720	G	D59 software	Description: Error log analysis indicates a hardware problem
742-740	G	D60 software	Description: Error log analysis indicates a hardware problem

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
745-100	D	media 745	Description: Recovered error. Action: No action required.
745-200	D	media 745	Description: Drive Not Ready. Action: Install media, refer to the tape autoloader service guide.
745-300 to 745-350	D	media 745	Description: 4mm Tape Auto Loader problem. Action: Replace media, clean drive, refer to the tape autoloader service guide.
745-400	D	745 magazine media	Description: General Hardware Failure. Action: Replace media, clean drive, refer to the tape autoloader service guide.
745-410 to 745-435	D	745 media	Description: Internal Hardware Failure Action: Replace drive, refer to the tape autoloader service guide.
745-440	D	745 SCSI Adapter	Description: SCSI Hardware Failure. Action: Replace drive, refer to the tape autoloader service guide.
745-441 to 745-443	D	745 media	Description: 4mm Tape Auto Loader problem. Action: Replace drive, refer to the tape autoloader service guide.
745-444	D	745 environ- ment media	Description: Humidity too High Action: Lower humidity, replace media, refer to the tape autoloader service guide.
745-445	D	clean media drive	Description: Drive Requires Cleaning Action: Clean drive, replace media, refer to the tape autoloader service guide.
745-460 to 745-465	D	745 magazine media	Description: Magazine Movement Failure Action: Check magazine and media, clean rollers, refer to the tape autoloader service guide.
745-470 to 745-475	D	745 magazine media	Description: Media Insert/Eject Failure Action: Check clean magazine and media, clean rollers, refer to the tape autoloader service guide.
745-480 to 745-485	D	745 magazine media	Description: Drawer Open/Close Failure Action: Check magazine and media, refer to the tape autoloader service guide.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
745-500	D	745 system	Description: Illegal request to drive Action: Software conflict, refer to the tape autoloader service guide.
745-600	D	745 system	Description: Unit Attention Action: Software conflict, media changed, refer to the tape autoloader service guide.
745-700	D	745 media	Description: Not Writeable Action: Check media for write protect, refer to the tape autoloader service guide.
745-800	D	745 media	Description: Blank Media Action: Check media, refer to the tape autoloader service guide.
745-B00	D	745 SCSI Adapter	Description: SCSI Interface Failure Action: Check SCSI interface, refer to the tape autoloader service guide.
745-D00	D	745 media	Description: Tape Full Action: Check replace media, refer to the tape autoloader service guide.
746-212	D	746	Description: FIFO empty bit set.
746-213	D	746	Description: FIFO empty bit clear.
746-214	D	746	Description: FIFO full bit set.
746-215	D	746	Description: FIFO full bit clear.
746-216	D	746	Description: FIFO data miscompare.
746-217	D	746	Description: SCSI FIFO data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
746-218	D	746	Description: SCSI FIFO underflow.
746-219	D	746	Description: SCSI parity error.
746-220	D	746	Description: SCSI FIFO flags error.
746-221	D	746 221	Description: Miscompare during the write/read of the configuration register.
746-222	D	746	Description: Error during the write/read of the memory register.
746-223	D	746	Description: Miscompare during the write/read of the memory I/O register.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
746-224	D	746 221	Description: Error reading the PCI configuration register.
746-225	D	746	Description: Adapter POST failed.
746-230	D	190 746	Description: Arbitration test failed. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
746-231	D	190 746	Description: Function could not complete. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
746-232	D	190 746	Description: SCSI bus data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
746-240	D	190 746	Description: No terminal power. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
746-242	D	221 746	Description: SCSI bus error. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
746-301	D	746 221	Description: The parent device open failed
746-600	G	746	Description: Error log analysis indicates a PCI SCSI adapter failure.
746-601	G	746	Description: Error log analysis indicates a PCI SCSI adapter failure.
746-602	G	746	Description: Error log analysis indicates a PCI SCSI adapter failure.
746-603	G	746	Description: Error log analysis indicates a PCI SCSI adapter failure.
746-604	G	746	Description: Error log analysis indicates a PCI SCSI adapter failure.
746-605	G	746	Description: Error log analysis indicates a PCI SCSI adapter failure.
746-606	G	746	Description: Error log analysis indicates a PCI SCSI adapter failure.
746-607	G	746	Description: Error log analysis indicates a PCI SCSI adapter failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
746-701	G	746 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
746-702	G	746 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
746-703	G	746 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
746-704	G	746 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
746-800	G	SCSI Subsys	Description: Error log analysis indicates a PCI SCSI adapter PTC failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
746-802	G	SCSI Subsys	Description: Error log analysis indicates a PCI SCSI bus failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
747-212	D	747	Description: FIFO empty bit set.
747-213	D	747	Description: FIFO empty bit clear.
747-214	D	747	Description: FIFO full bit set.
747-215	D	747	Description: FIFO full bit clear.
747-216	D	747	Description: FIFO data miscompare.
747-217	D	747	Description: SCSI FIFO data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
747-218	D	747	Description: SCSI FIFO underflow.
747-219	D	747	Description: SCSI parity error.
747-220	D	747	Description: SCSI FIFO flags error.
747-221	D	747 221	Description: Miscompare during the write/read of the configuration register.
747-222	D	747	Description: Error during the write/read of the memory register.
747-223	D	747	Description: Miscompare during the write/read of the memory I/O register.
747-224	D	747 221	Description: Error reading the PCI configuration register.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
747-225	D	747	Description: Adapter POST failed.
747-230	D	190 747	Description: Arbitration test failed. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
747-231	D	190 747	Description: Function could not complete. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
747-232	D	190 747	Description: SCSI bus data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
747-240	D	190 747	Description: No terminal power. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
747-242	D	221 747	Description: SCSI bus error. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
747-301	D	747 221	Description: The parent device open failed
747-600	G	747	Description: Error log analysis indicates a PCI SCSI adapter failure.
747-601	G	747	Description: Error log analysis indicates a PCI SCSI adapter failure.
747-602	G	747	Description: Error log analysis indicates a PCI SCSI adapter failure.
747-603	G	747	Description: Error log analysis indicates a PCI SCSI adapter failure.
747-604	G	747	Description: Error log analysis indicates a PCI SCSI adapter failure.
747-605	G	747	Description: Error log analysis indicates a PCI SCSI adapter failure.
747-606	G	747	Description: Error log analysis indicates a PCI SCSI adapter failure.
747-607	G	747	Description: Error log analysis indicates a PCI SCSI adapter failure.
747-701	G	747 221	Description: Error log analysis indicates a PCI SCSI adapter failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
747-702	G	747 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
747-703	G	747 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
747-704	G	747 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
747-800	G	SCSI Subsys	Description: Error log analysis indicates a PCI SCSI adapter PTC failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
747-802	G	SCSI Subsys	Description: Error log analysis indicates a PCI SCSI bus failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
749-xxx	D	749	Description: 7331 Model 205 Tape Library. Refer to service documentation for this device.
750-100	D	750	Description: The adapter open test failed.
750-200	D	750 221	Description: Config register test failed.
750-201	D	750 221	Description: I/O register test failed.
750-202	D	750 221	Description: Adapter self-test failed.
750-300	D	256 750 221	Description: The connect test failed.
750-301	D	256 750 221	Description: Token-ring internal wrap test failure.
750-302	D	256 750 221	Description: Token-ring external wrap failure
750-303	D	256 750 221	Description: Token-ring initialization test failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
750-400	D	240 256 750 221	Description: The connect test failed.
750-401	D	240 256 750 221	Token-ring internal wrap test failure
750-402	D	240 256 750 221	Token-ring external wrap test failure
750-403	D	240 256 750 221	Token-ring initialization test failure
750-700	G	750 221	Description: Error Log analysis indicated a hardware failure.
751-101	D	751 227	Description: The PCI wrap test failed
751-102	D	751	Description: The POST indicates an adapter failure.
751-103	D	751	Description: The POST indicates an adapter channel failure.
751-104	D	277	Description: The POST indicates a defective cable.
751-105	D	199 807	Description: The POST indicates a defective backplane or external enclosure. Action: If the disk devices are located in an external enclosure, refer to the service documentation for the external enclosure.
751-106	D	Disk	Description: The POST indicates a disk failure.
751-107	D	751	Description: The POST indicates a firmware failure.
751-108	D	751	Description: The NVRAM test indicates an adapter firmware failure.
751-109	D	751	Description: The NVRAM test indicates an adapter failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
751-110	D	Disk	Description: The disk reported a Predictive Failure Analysis error (PFA).
751-111	D	Disk	Description: The disk drive has been failed by the adapter.
751-112	G	Disk	Description: ELA indicates that the disk reported a hard data error.
751-113	G	Disk	Description: ELA indicates that the disk reported a hard equipment error.
751-114	G	E29	Description: ELA indicates a cache failure
751-115	G	E30	Description: ELA indicates that the cache battery is either low on power or has failed.
751-116	D	751	Description: Failed to display data scrub.
751-117	D	E29	Description: POST indicates cache failure
751-118	D	E29	Description: NVRAM test indicates cache failure.
751-119	D	E29	Description: NVRAM test indicates that write cache is missing.
751-120	D	E29	Description: NVRAM test indicates that cache size is invalid
751-121	D	E30	Description: NVRAM test indicates that the cache battery is low on power.
751-122	D	E30	Description: NVRAM test indicates cache battery failure.
757-110	D	757	Description: The Reserve command failed.
757-120	D	757	Description: The Inquiry command failed.
757-130	D	757 media	Description: The Load command failed.
757-135	D	757 media	Description: The Unload command failed.
757-140	D	757	Description: The Mode Select command failed.
757-150	D	757 media	Description: The Test Unit Ready command failed.
757-160	D	757 media	Description: The Send Diagnostic command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
757-169	D	757 media	Description: The send diagnostic command failed.
757-170	D	757 B88 media	Description: The Read, Write and Compare test failed.
757-180	D	757 media	Description: The Load command failed.
757-185	D	757 media	Description: The Unload command failed.
757-190	D	757	Description: The Mode Select command failed.
757-200	D	757 media	Description: The Test Unit Ready command failed.
757-210	D	757 B88	Description: The device configuration failed.
757-220	D	757	Description: The Release command failed.
757-230	D	757	Description: The Request Sense command failed.
757-240	D	757	Description: The Openx command failed.
757-300	D	757 software	Description: The device configuration failed.
757-310	D	B88 757 software	Description: SCSI adapter configuration failed.
757-320	D	757 media	Description: Error log analysis indicates a failure.
757-411 to 757-423	D	757 B88 software	Description: A reservation conflict occurred.
757-511 to 757-523	D	757 B88	Description: The drive returned bad or non-extended sense data.
757-611 to 757-623	D	757 B88 software	Description: An adapter or bus I/O error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
757-711 to 757-723	D	757 B88 software	Description: A device timeout error occurred.
763-1xx	D	763 software 221	Description: Problem detected with a device or device data corrupted. **Note:** You may need to reinstall **ssp.css** software.
763-200 to 763-299	D	ext clock 763 wrap plug	Description: Problem detected with the external clock (SP switch). **Notes:** • Refer to your *SP Maintenance Information* manual for the external clock FRU part number. • The wrap plug FRU part number is listed under the 763 FFC.
763-2A0 to 763-2A9	D	763	Description: Problem detected with the internal clock.
763-3xx	D	763 221	Description: Problem detected with the POS registers.
763-4xx	D	763 software	Description: TBIC test failed.
763-5xx	D	763	Description: SRAM test failed.
763-6xx	D	763	Description: Microprocessor test failed.
763-7xx	D	763	Description: Interrupt test failed.
763-8xx	D	763	Description: FIFO test failed.
763-9xx	D	763 221 Switch cable	Description: DMA engine test failed. **Note:** Refer to your *SP Maintenance Information* manual for the switch cable FRU part number.
763-Ax3	D	763 terminator	Description: Card wrap test failed. **Note:** The terminator FRU part number is listed under the 763 FFC.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
763-Ax4	D	Switch cable wrap plug	Description: Card wrap test failed. **Notes:** • Refer to your *SP Maintenance Information* manual for the switch cable FRU part number. • The wrap plug FRU part number is listed under the 763 FFC.
763-xx2	D	763	Description: Bad adapter card. (except for SRN 763-282) Action: Replace the SP Switch MX Adapter.
764-1xx	D	764 software 221	Description: Problem detected with a device or device data corrupted. **Note:** You may need to reinstall **ssp.css** software.
764-200 to 764-299	D	ext clock 764 wrap plug	Description: Problem detected with the external clock (SP switch). **Notes:** • Refer to your *SP Maintenance Information* manual for the external clock FRU part number. • The wrap plug FRU part number is listed under the 763 FFC.
764-2A0 to 764-2A9	D	764	Description: Problem detected with the internal clock.
764-3xx	D	764 221	Description: Problem detected with the POS registers.
764-4xx	D	764 software	Description: TBIC test failed.
764-5xx	D	764	Description: SRAM test failed.
764-6xx	D	764	Description: Microprocessor test failed.
764-7xx	D	764	Description: Interrupt test failed.
764-8xx	D	764	Description: FIFO test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
764-9xx	D	764 221 switch cable	Description: DMA engine test failed. **Note:** Refer to your *SP Maintenance Information* manual for the switch cable FRU part number.
764-Ax3	D	764 terminator	Description: Card wrap test failed. **Note:** The terminator FRU part number is listed under the 763 FFC.
764-Ax4	D	Switch cable wrap plug	Description: Card wrap test failed. **Notes:** • Refer to your *SP Maintenance Information* manual for the switch cable FRU part number. • The wrap plug FRU part number is listed under the 763 FFC.
764-xx2	D	764	Description: Bad adapter card. (except for SRN 764-282) Action: Replace the SP Switch MX Adapter.
772-098	J	772 B88	Description: Disk drive indicates an error.
772-099	J	772 B88	Description: Disk drive not found.
772-102	D	772	Description: An unrecoverable media error.
772-104	D	772	Description: The motor failed to restart.
772-105	D	772	Description: The drive did not become ready.
772-106	D	772	Description: The electronics card test failed.
772-108	D	772	Description: The bus test failed.
772-110	D	772	Description: The media format is corrupted.
772-112	D	772	Description: The diagnostic test failed.
772-114	D	772	Description: An unrecoverable hardware error.
772-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
772-117	D	772	Description: A write protect error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
772-118	D	772 B88	Description: A SCSI command time-out.
772-120	D	772	Description: A SCSI busy or command error.
772-122	D	772	Description: A SCSI reservation conflict error.
772-124	D	772	Description: A SCSI check condition error.
772-126	D	772 B88	Description: A software error was caused by a hardware failure.
772-128	G	772	Description: The error log analysis indicates a hardware failure.
772-129	G	190 772 B88 software	Description: Error log analysis indicates a SCSI bus problem.
772-130	G	772	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
772-132	D	772	Description: A disk drive hardware error occurred.
772-134	D	B88 software	Description: The adapter failed to configure.
772-135	D	772 B88 software	Description: The device failed to configure.
772-136	D	772	Description: The certify operation failed.
772-137	D	772 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
773-098	J	773 B88	Description: Disk drive indicates an error.
773-099	J	773 B88	Description: Disk drive not found.
773-102	D	773	Description: An unrecoverable media error.
773-104	D	773	Description: The motor failed to restart.
773-105	D	773	Description: The drive did not become ready.
773-106	D	773	Description: The electronics card test failed.
773-108	D	773	Description: The bus test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
773-110	D	773	Description: The media format is corrupted.
773-112	D	773	Description: The diagnostic test failed.
773-114	D	773	Description: An unrecoverable hardware error.
773-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
773-117	D	773	Description: A write protect error occurred.
773-118	D	773 B88	Description: A SCSI command time-out.
773-120	D	773	Description: A SCSI busy or command error.
773-122	D	773	Description: A SCSI reservation conflict error.
773-124	D	773	Description: A SCSI check condition error.
773-126	D	773 B88	Description: A software error was caused by a hardware failure.
773-128	G	773	Description: The error log analysis indicates a hardware failure.
773-129	G	190 773 B88 software	Description: Error log analysis indicates a SCSI bus problem.
773-130	G	773	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
773-132	D	773	Description: A disk drive hardware error occurred.
773-134	D	B88 software	Description: The adapter failed to configure.
773-135	D	773 B88 software	Description: The device failed to configure.
773-136	D	773	Description: The certify operation failed.
773-137	D	773 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
774-098	J	774 B88	Description: Disk drive indicates an error.
774-099	J	774 B88	Description: Disk drive not found.
774-102	D	774	Description: An unrecoverable media error.
774-104	D	774	Description: The motor failed to restart.
774-105	D	774	Description: The drive did not become ready.
774-106	D	774	Description: The electronics card test failed.
774-108	D	774	Description: The bus test failed.
774-110	D	774	Description: The media format is corrupted.
774-112	D	774	Description: The diagnostic test failed.
774-114	D	774	Description: An unrecoverable hardware error.
774-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
774-117	D	774	Description: A write protect error occurred.
774-118	D	774 B88	Description: A SCSI command time-out.
774-120	D	774	Description: A SCSI busy or command error.
774-122	D	774	Description: A SCSI reservation conflict error.
774-124	D	774	Description: A SCSI check condition error.
774-126	D	774 B88	Description: A software error was caused by a hardware failure.
774-128	G	774	Description: The error log analysis indicates a hardware failure.
774-129	G	190 774 B88 software	Description: Error log analysis indicates a SCSI bus problem.
774-130	G	774	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
774-132	D	774	Description: A disk drive hardware error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
774-134	D	B88 software	Description: The adapter failed to configure.
774-135	D	774 B88 software	Description: The device failed to configure.
774-136	D	774	Description: The certify operation failed.
774-137	D	774 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
775-001	D	775 227 Monitor	Description: "NO" to color panel
775-002	D	775 Monitor	Description: "NO" to cursor panel
775-007	D	Info code	Description: The EMC_SCROLLING_17_H_TEST failed
775-009	D	Info code	Description: The EMC_SCROLLING_21_H_TEST failed
775-064	D	775 227	Description: TRIO64V+_TIMEOUT
775-101	D	775 227	Description: Color miscompare
775-102	D	775 227	Description: Clipping error
775-103	D	775 227	Description: Rectangle fill test failed
775-128	D	software 775	Description: MALLOC_ERROR
775-161	D	software	Description: Loop count value in rules file is zero
775-191	D	775 227	Description: Red screen error
775-193	D	775 227	Description: Green screen error
775-1FF	D	775 227	Description: Rectangle fill test failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
775-201	D	775 227	Description: Color miscompare
775-202	D	775 227	Description: Clipping error
775-203	D	775 227	Description: Image transfer across Plane Test failed
775-211	D	software	Description: INTERNAL_ERROR_DATA_SIZE
775-212	D	software	Description: INTERNAL_ERROR_NO_ACCESS
775-215	D	775 227	Description: Black screen error
775-217	D	775 227	Description: 9 x 7 Cross hatch grid failed.
775-233	D	software	Description: OPEN_RCM_ERROR
775-234	D	software	Description: IOCTL_GSC_HANDLE_FAILED
775-235	D	software	Description: AIXGSC_MAKE_GP_FAILED
775-236	D	software	Description: AIXGSC_UNMAKE_GP_FAILED
775-237	D	software	Description: DEVICE_BUSY_ERROR
775-241	D	Info code	Description: The SCROLLING_17_H_TEST failed.
775-263	D	Info code	Description: The EMC_SCROLLING_21_H_TEST failed
775-2FF	D	775 227	Description: Image transfer across Plane Test failed
775-301	D	775 227	Description: A write of "0x00" to the palette register failed
775-302	D	775 227	Description: A write of "0x15" to the palette register failed
775-303	D	775 227	Description: A write of "0x2A" to the palette register failed
775-304	D	775 227	Description: A write of "0x3F" to the palette register failed
775-305	D	775 227	Description: The test of the palette registers failed
775-3FF	D	775 227	Description: The test of the palette registers failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
775-401	D	775 227	Description: Frame buffer base address inconsistent
775-402	D	775 227	Description: VRAM inaccessible
775-403	D	775 227	Description: Miscompare found in VRAM
775-404	D	775 227	Description: The test of the VRAM failed
775-447	D	775 227	Description: Green screen error
775-449	D	775 227	Description: Blue Screen error
775-471	D	775 227	Description: 9 x 7 Cross hatch grid failed.
775-473	D	775 227	Description: 11 x 9 Cross hatch grid failed.
775-495	D	Info code	Description: The SCROLLING_17_H_TEST failed.
775-497	D	Info code	Description: The SCROLLING_21_H_TEST failed.
775-4FF	D	775 227	Description: The test of the VRAM failed
775-501	D	775 227	Description: Color miscompare
775-502	D	775 227	Description: Clipping error
775-503	D	775 227	Description: Direct Frame Buffer test failed
775-5FF	D	775 227	Description: Direct Frame Buffer test failed
775-601	D	775 227	Description: Video Stream Register test failed
775-602	D	775 227	Description: Video Stream hardware test failed
775-6FF	D	775 227	Description: Video Stream hardware test failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
775-701	D	775 227	Description: 0 Degree Short Stroke Draw failed
775-702	D	775 227	Description: 45 Degree Short Stroke Draw failed
775-703	D	775 227	Description: Blue Screen error, or 90 Degree Short Stroke Draw failed
775-704	D	775 227	Description: 135 Degree Short Stroke Draw failed
775-705	D	775 227	Description: White screen error, or 180 Degree Short Stroke Draw failed
775-706	D	775 227	Description: 225 Degree Short Stroke Draw failed
775-707	D	775 227	Description: 270 Degree Short Stroke Draw failed
775-708	D	775 227	Description: 315 Degree Short Stroke Draw failed
775-709	D	775 227	Description: Short Stroke Vector Function test failed
775-727	D	775 227	Description: 11 x 9 Cross hatch grid failed.
775-750	D	Info code	Description: The SCROLLING_21_H_TEST failed.
775-753	D	Info code	Description: The EMC_SCROLLING_17_H_TEST failed
775-7FE	D	775 227	Description: Short Stroke Vector Function test failed
775-7FF	D	software 775 227	Description: Bad vector detected
775-801	D	775 227	Description: Color for PatBlt thru screen failed
775-802	D	775 227	Description: Clipping for PatBlt thru screen failed
775-803	D	775 227	Description: Color for PatBlt Across screen failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
775-804	D	775 227	Description: Clipping for PatBlt Across screen failed
775-805	D	775 227	Description: Pattern Fill Across the Plane test failed
775-8FF	D	775 227	Description: Pattern Fill Across the Plane test failed
775-901	D	775 227	Description: Color miscompare of white boxes detected
775-902	D	775 227	Description: Clipping error of white boxes detected
775-903	D	775 227	Description: Color miscompare of color bars detected
775-904	D	775 227	Description: Clipping error of white boxes detected
775-905	D	775 227	Description: Color miscompare of white boxes detected
775-906	D	775 227	Description: Clipping error of white boxes detected
775-907	D	775 227	Description: Color miscompare of white boxes detected
775-908	D	775 227	Description: Clipping miscompare of white boxes detected
775-909	D	775 227	Description: The Area fill test (color bars) failed
775-937	D	775 227	Description: Red screen error
775-959	D	775 227	Description: White screen error
775-961	D	775 227	Description: Black screen error
775-9FF	D	775 227	Description: The Area fill test (color bars) failed
775-A01	D	775 227	Description: Color miscompare of horizontal top line

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
775-A02	D	775 227	Description: Clipping error of horizontal top line
775-A03	D	775 227	Description: Color miscompare of vertical right line
775-A04	D	775 227	Description: Clipping error of vertical right line
775-A05	D	775 227	Description: Color miscompare of horizontal bottom line
775-A06	D	775 227	Description: Clipping error of horizontal bottom line
775-A07	D	775 227	Description: Color miscompare of vertical left line
775-A08	D	775 227	Description: Clipping error of vertical left line
775-A09	D	775 227	Description: Color miscompare of horizontal center line
775-A0A	D	775 227	Description: Clipping error of horizontal center line
775-A0B	D	775 227	Description: Color miscompare of vertical center line
775-A0C	D	775 227	Description: Clipping error of vertical center line
775-A0D	D	775 227	Description: Reserved
775-A0F	D	775 227	Description: Reserved
775-A10	D	775 227	Description: Color miscompare of textured top line
775-A11	D	775 227	Description: Clipping error of textured top line
775-A12	D	775 227	Description: Line Drawing Function test failed
775-AFF	D	775 227	Description: Line Drawing Function test failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
775-B01	D	775 227	Description: Rectangle Area Color miscompare detected
775-B02	D	775 227	Description: Rectangle Area Clip error detected
775-B03	D	775 227	Description: Clipped Area Horizontal color miscompare (background line color wrong)
775-B04	D	775 227	Description: Clipped Area Horizontal clip miscompare (clip of background line wrong)
775-B05	D	775 227	Description: Clipped Area Vertical color miscompare (background line color wrong)
775-B06	D	775 227	Description: Clipped Area Vertical clip error (clip of background line wrong)
775-B07	D	775 227	Description: The clipping function test failed.
775-BFF	D	775 227	Description: The clipping function test failed.
775-C01	D	775 227	Description: The BIOS read failed.
775-C02	D	775 227	Description: The BIOS function test failed.
775-CFF	D	775 227	Description: The BIOS function test failed.
775-D01	D	775 227	Description: The HW cursor function test failed.
775-DFF	D	775 227	Description: The HW cursor function test failed.
776-101	D	D46	Description: External Test Failure
776-102	D	240	Description: External Test Failure
776-103	D	776	Description: I/O Test Failure
776-104	D	776	Description: Adapter On-card Test Failure
776-105	D	776	Description: Wrap Test Failure
776-106	D	D46	Description: Wrap Test Failure
776-201	D	776 221	Description: Configuration Register Test Failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
776-202	D	776 221	Description: Wrap Test Failure
776-203	D	D46 776	Description: Wrap Test Failure
776-204	D	776 221	Description: Connect Test Failure
776-205	F	D46 776	Description: External Test Failure **Action:** Run advanced diagnostics with wrap test for this resource to obtain correct problem isolation.
776-206	D	776 221	Description: Wrap Test Failure
776-301	D	D46 240 776	Description: External Test Failure
776-302	F	D46 776 221	Description: External Test Failure **Action:** Run advanced diagnostics with wrap test for this resource to obtain correct problem isolation.
776-303	F	240 D46 776	Description: External Test Failure **Action:** Run advanced diagnostics with wrap test for this resource to obtain correct problem isolation.
776-304	D	D46 776 221	Description: Connect Wrap Test Failure
776-305	D	D46 776 221	Description: Wrap Test Failure
776-306	D	D46 776 221	Description: Wrap Test Failure
776-401	F	240 D46 776 221	Description: External Test Failure **Action:** Run advanced diagnostics with wrap test for this resource to obtain correct problem isolation.
776-404	D	240 D46 776 221	Description: Connect Test Failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
776-405	D	240 D46 776 221	Description: Wrap Test Failure
776-406	D	240 D46 776 221	Description: Wrap Test Failure.
776-414	F	240 D46 776 221	Description: Connect Test Failure. This failure occurs if not connected to a functional Token-Ring network. Action: Run advanced diagnostics for this resource to obtain correct problem isolation.
776-415	F	240 D46 776 221	Description: Wrap Test Failure. This failure occurs if not connected to a functional Token-Ring network. Action: Run advanced diagnostics for this resource to obtain correct problem isolation.
776-416	F	240 D46 776 221	Description: Wrap Test Failure. This failure occurs if not connected to a functional Token-Ring network. Action: Run advanced diagnostics for this resource to obtain correct problem isolation.
776-701	G	776	Description: ELA indicates an adapter error occurred.
776-702	G	776 221	Description: ELA indicates an adapter check occurred.
776-703	G	776 221	Description: ELA indicates a DMA failure occurred.
776-704	G	776 221	Description: ELA indicates a PCI bus failure occurred.
776-705	G	776 221	Description: ELA indicates a Programmed I/O failure occurred.
776-706	G	776	Description: ELA indicates a command write failure occurred.
776-707	G	776	Description: ELA indicates an internal adapter error has occurred.
777-201	D	777 221	Description: Configuration Register Test Failure
777-202	D	777 221	Description: I/O Test Failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
777-203	D	777 221	Description: Adapter initialization test failure
777-204	D	777 221	Description: Internal wrap test failure
777-205	D	777 221	Description: Internal wrap test failure
777-206	D	777 221	Description: External wrap (10 Mbps) test failure
777-207	D	777 221	Description: Internal wrap test failure
777-208	D	777 221	Description: External wrap (100 Mbps) test failure
777-701	G	777 221	Description: Error log analysis indicates that the adapter is not responding to initialization commands.
777-702	G	777 221	Description: Error Log Analysis indicates that the device driver has detected a PIO error which it was unable to correct.
777-703	G	777 221	Description: Error log analysis indicates that the adapter has been shut down due to an unrecoverable error.
777-704	G	777 221	Description: Error Log Analysis indicates a problem with the EEPROM on the adapter
778-002	D	software 778	Description: Software error
778-004	D	software 778	Description: Software error
778-009	D	software 778	Description: Software error
778-011	D	software 778	Description: Software error
778-017	D	software 778	Description: Software error
778-019	D	778 software	Description: Adapter failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
778-030	D	778 221	Description: Adapter failure
778-032	D	software 778	Description: Software error
778-033	D	software 778	Description: Software error
778-035	D	778 software	Description: Adapter failure
778-036 to 778-072	D	software 778	Description: Software error
778-073	D	778 221	Description: Adapter failure
778-075	D	software 778	Description: Software error
778-076	D	778 software	Description: Software error.
778-301 to 778-D02	D	778 221	Description: Adapter failure
778-E01	D	software 778	Description: Software error
778-E02 to 778-1401	D	778 221	Description: Adapter failure
778-1402	D	software 778	Description: Software error
778-1403 to 778-1405	D	778 221	Description: Adapter failure
778-1500	D	778 software	Description: Adapter failure
778-1600 to 778-1604	D	778 902	Description: Adapter failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
778-2501 to 778-2508	D	778 221	Description: Adapter error
778-2509 to 778-2511	D	software 778	Description: Software error
778-2601 to 778-2602	D	778 221	Description: Adapter error
778-2603	D	software 778	Description: Software error
780-101	D	780 227	Description: Adapter logic test failure.
780-102	D	780	Description: Adapter logic test failure.
780-109	D	780	Description: Adapter channel Input/Output test failure.
780-113	D	780	Description: Adapter Serial Communication Controller (SCC) test failure.
780-114	D	780 227	Description: Adapter logic test failure.
780-120	D	780 227 software	Description: Adapter could not be detected or configured.
780-140	D	271 780	Description: An error was found with the X.21 interface adapter cable.
780-150	D	272 780	Description: An error was found with the X.24 interface adapter cable.
780-160	D	273 780	Description: An error was found with the X.35 interface adapter cable.
780-170	D	780	Description: The adapter hardware failed.
780-180	D	780	Description: The adapter hardware failed.
780-190	D	780	Description: The adapter hardware failed.
780-210	D	780 185	Description: An error was found on the adapter.
780-211	D	780 227	Description: The adapter card POST test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
780-230	D	780	Description: The adapter card hardware failed.
780-232	D	849 227	Description: The adapter card hardware failed.
780-240	D	780	Description: The adapter card hardware failed.
780-250	D	185 780	Description: An error was found on the adapter.
780-260	D	780	Description: The adapter card hardware failed.
780-270	D	780	Description: The adapter card hardware failed.
780-280	D	780	Description: The adapter card hardware failed.
780-290	D	780	Description: The adapter card hardware failed.
780-300	G	780	Description: An adapter error was found during error log analysis.
780-310	G	780 185	Description: An adapter error was found during error log analysis.
780-320	G	780 227	Description: An adapter error was found during error log analysis.
780-330	G	780 227	Description: Error log analysis indicates a hardware problem.
780-400	D	780 227	Description: A software error was caused by a hardware failure.
780-700	D	780 227 software	Description: The adapter failed to configure.
780-720	D	780	Description: Cable wrap test failed.
780-721	D	780	Description: Port wrap test failed.
780-722	D	780	Description: Cable wrap test failed.
781-101	D	781 227	Description: ROS POST adapter software initialization error.
781-102	D	781	Description: Extended DRAM SIP test failed.
781-103	D	781	Description: ROS checksum test failed.
781-104	D	781 227	Adapter download diagnostics failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
781-105	D	781 227	Description: Memory size test failed.
781-106	D	781 227	Description: Interface ID test failed.
781-107	D	781 227	Description: EIB ID test failed.
781-108	D	781 227	Description: ROS version test failed.
781-109	D	781	Description: DUSCC register test failed.
781-111	D	781	Description: DMA register test failed.
781-112	D	781	Description: X.21 PAL test failed.
781-113	D	781	Description: External wrap test failed.
781-114	D	781 227	Description: Twin tail logic test failed.
781-116	D	254	Description: The RS-232 cable wrap test failed.
781-117	D	253	Description: The RS-422A cable wrap test failed.
781-118	D	257	Description: The V.35 cable wrap test failed.
781-119	D	260	Description: The X.21 cable wrap test failed.
781-120	D	781 227 software	Description: The adapter was not detected or could not be configured. test failed.
781-121	D	781 227 software	Description: The 4-port jumper cable assembly wrap test failed.
781-200	G	781	Description: The error log analysis indicates the adapter failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
781-221	G	781 227	Description: The error log analysis indicates the adapter hardware failed.
781-231	D	855 227	Description: No interface card detected.
781-501	D	B77 B69 227	Description: The power-on self-test (POST) failed.
781-502	D	B77	Description: The memory module failed.
781-503	D	781 227	Description: Adapter hardware failure.
781-504	D	B69	Description: Adapter hardware failure.
781-505	D	B71 B69	Description: Adapter hardware failure.
781-506	D	B72 B69	Description: Adapter hardware failure.
781-507	D	B73 B69	Description: Adapter hardware failure.
781-508	D	B74 B69	Description: Adapter hardware failure.
781-516	D	B77 B69	Description: Adapter Test Failure
781-517	D	B69 B77	Description: Adapter Test Failure
781-720	D	258 781	4-port multiprotocol cable
783-110	D	783	Description: The Reserve command failed.
783-120	D	783	Description: The Inquiry command failed.
783-130	D	783 media	Description: The Load command failed.
783-135	D	783 media	Description: The Unload command failed.
783-140	D	783	Description: The Mode Select command failed.
783-150	D	783 media	Description: The Test Unit Ready command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
783-160	D	783 media	Description: The Send Diagnostic command failed.
783-169	D	783 media	Description: The send diagnostic command failed.
783-170	D	783 B88 media	Description: The Read, Write and Compare test failed.
783-180	D	783 media	Description: The Load command failed.
783-185	D	783 media	Description: The Unload command failed.
783-190	D	783	Description: The Mode Select command failed.
783-200	D	783 media	Description: The Test Unit Ready command failed.
783-210	D	783 B88	Description: The device configuration failed.
783-220	D	783	Description: The Release command failed.
783-230	D	783	Description: The Request Sense command failed.
783-240	D	783	Description: The Openx command failed.
783-300	D	783 software	Description: The device configuration failed.
783-310	D	B88 783 software	Description: SCSI adapter configuration failed.
783-320	G	783 media	Description: Error log analysis indicates a failure.
783-411 to 783-423	D	783 B88 software	Description: A reservation conflict occurred.
783-511 to 783-523	D	783 B88	Description: The drive returned bad or non-extended sense data.
783-611 to 783-623	D	783 B88 software	Description: An adapter or bus I/O error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
783-711 to 783-723	D	783 B88 software	Description: A device timeout error occurred.
784-102	D	784	Description: An unrecoverable media error.
784-104	D	784	Description: The motor failed to restart.
784-105	D	784	Description: The drive did not become ready.
784-106	D	784	Description: The electronics card test failed.
784-108	D	784	Description: The bus test failed.
784-110	D	784	Description: The media format is corrupted.
784-112	D	784	Description: The diagnostic test failed.
784-114	D	784	Description: An unrecoverable hardware error.
784-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
784-117	D	784	Description: A write protect error occurred.
784-118	D	784 B88	Description: A SCSI command time-out.
784-120	D	784	Description: A SCSI busy or command error.
784-122	D	784	Description: A SCSI reservation conflict error.
784-124	D	784	Description: A SCSI check condition error.
784-126	D	784 B88	Description: A software error was caused by a hardware failure.
784-128	G	784	Description: The error log analysis indicates a hardware failure.
784-129	G	190 784 B88 software	Description: Error log analysis indicates a SCSI bus problem.
784-130	G	784	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
784-132	D	784	Description: A disk drive hardware error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
784-134	D	B88 software	Description: The adapter failed to configure.
784-135	D	784 B88 software	Description: The device failed to configure.
784-136	D	784	Description: The certify operation failed.
784-137	D	784 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
785-111	D	785 227	Could not do the test because the device driver detected a hardware error.
785-114	D	785	The register verification test failed.
785-121	D	785 227	Could not do the test because the device driver detected a hardware error.
785-122	D	785 227	The data wrap communication test failed.
785-123	D	785 227	The modem control line test failed.
785-124	D	785	The memory test failed.
785-151	D	785 D57	Could not do the test because the device driver detected a hardware error.
785-152	D	785 D57	The data wrap communication test failed.
785-153	D	785 D57	The modem control line test failed.
785-171	D	259	Could not do the test because the device driver detected a hardware error.
785-172	D	259	The data wrap communication test failed.
785-173	D	259	The modem control line test failed.
785-181	D	261	Could not do the test because the device driver detected a hardware error.
785-182	D	261	The data wrap communication test failed.
785-183	D	261	The modem control line test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
785-251	D	785 D57	Could not perform because the device driver detected a hardware error.
785-252	D	785 D57	The data wrap communication test failed.
785-253	D	785 D57	The modem control line test failed.
785-271	D	785 D57	Could not perform because the device driver detected a hardware error.
785-272	D	785 D57	The data wrap communication test failed.
785-273	D	785 D57	The modem control line test failed.
785-281	D	785 D57	Could not perform because the device driver detected a hardware error.
785-282	D	785 D57	The data wrap communication test failed.
785-283	D	785 D57	The modem control line test failed.
785-481	D	D57	Could not do the test because the device driver detected a hardware error.
785-482	D	D57	The data wrap communication test failed.
785-483	D	D57	The modem control line test failed.
785-901 to 785-920	D	software 785	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 785; otherwise, suspect a software problem.
785-921	D	785 software	Description: The adapter failed to configure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
785-922 to 785-924	D	software 785	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 785; otherwise, suspect a software problem.
785-925	D	785 software	Description: The adapter failed to configure
785-926 to 785-943	D	software 785	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 785; otherwise, suspect a software problem.
786-200	D	786 D96 227	Description: Initiation failed **Note:** You must determine which of the first two FFCs is installed in the system unit.
786-210	D	786 227	Description: The adapter test failed
786-211	D	D96 227	Description: The adapter test failed
786-220	D	786 Cable Monitor	Description: The display test failed
786-221	D	D96 Cable Monitor	Description: The display test failed
786-710	D	786 227	Description: The ELA indicates HW failure
786-711	D	D96 227	The ELA indicates HW failure
787-100	D	787	GXT500P Graphics Adapter

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
787-101	D	787 227	Description: GXT500P Graphics Adapter
787-1AA	D	787 RGB Cable Display	Description: GXT500P Graphics Adapter
787-1xx	D	787	Description: GXT500P Graphics Adapter
787-200	D	D95	Description: GXT550P Graphics Adapter
787-201	D	D95 227	Description: GXT550P Graphics Adapter
787-2AA	D	D95 RGB Cable Display	Description: GXT550P Graphics Adapter
787-2xx	D	D95	Description: GXT550P Graphics Adapter
788-001	D	788 227	Description: Adapter Error
788-002	D	software 788	Description: System Error
788-003	D	software 788	Description: System Error
788-004	D	788 software	Description: System Error
789-101	D	789	Description: Failed to release the device.
789-102	D	789	Description: Failed to reserve the device.
789-103	D	789	Description: The device motor failed to start.
789-104	D	789	Description: Failed to make the device ready.
789-105	D	789	Description: Failed to get the inquiry data.
789-106	D	789	Description: The **Prevent Media Removal** command failed.
789-107	D	789	Description: The **Allow Media Removal** command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
789-200	D	789 Optical Disk	Description: The optical disk failed to load. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the error reoccurs use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1; otherwise, replace the media.
789-201	D	789 Optical Disk	Description: Failed to unload the optical disk. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the errors reoccur use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1; otherwise, replace the media.
789-202	D	789 Optical Disk	Description: The diagnostic test failed. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If errors do not reoccur, replace the media; otherwise, run the drive cleaning procedures if applicable and rerun the diagnostics. If errors reoccur, or the drive does not support the cleaning procedures use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
789-204	D	789 B88	Description: The device failed to configure.
789-205	D	789 Optical Disk	Description: The **Test Unit Ready** command failed. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the error reoccurs, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1; otherwise, replace the media.
789-206	D	789 Optical Disk	Description: The random write, read and compare test failed. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the errors do not reoccur, replace the media; otherwise, run the drive cleaning procedures if applicable, and rerun diagnostics. If the errors reoccur, or the drive does not support cleaning procedures, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
789-207	D	789 Optical Disk	Description: A hardware error occurred. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the errors do not reoccur, replace the media; otherwise, run the drive cleaning procedures if applicable, and rerun diagnostics. If the errors reoccur, or the drive does not support cleaning procedures, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
789-208	D	789 Optical Disk	Description: The **Mode Sense** command failed. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the errors do not reoccur, replace the media; otherwise, run the drive cleaning procedures if applicable, and rerun diagnostics. If the errors reoccur, or the drive does not support cleaning procedures, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
789-209	D	789 Optical Disk	Description: The **Mode Select** command failed. Action: Change the media. Run diagnostics on the changed media in System Verification mode. If the errors do not reoccur, replace the media; otherwise, run the drive cleaning procedures if applicable, and rerun diagnostics. If the errors reoccur, or the drive does not support cleaning procedures, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
789-300	D	789 B88 software	Description: A SCSI reservation conflict has occurred.
789-400	D	789 B88 Cables software	Description: A SCSI command time out has occurred.
789-401	D	Optical Disk 190 B88 software	Description: An unknown error has occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
789-402	D	Optical Disk 190 B88 software	Description: Unit attention condition has occurred.
789-600	G	Optical Disk	Description: ELA indicates that the spare sectors on the disk are exhausted. Action: Backup the media and replace it. **Note:** Use the time when the error occurred and the "Spare Sector Availability" service aid to identify the disk that has the error.
789-700	G	789 Optical Disk	Description: The ELA indicates an equipment error. Action: Run diagnostics in System Verification mode to isolate the problem. If errors are reported, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1; otherwise, the error is due to faulty media. Backup the media and then replace it. **Note:** Use the time when the error occurred to identify the faulty media.
789-701	G	Optical Disk 789	Description: ELA indicates an irrecoverable data error. Action: Run diagnostics in System Verification mode to isolate the problem. If errors are reported, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1; otherwise, the error is due to faulty media. Backup the media and then replace it. **Note:** Use the time when the error occurred to identify the faulty media.
789-702	G	789 B88 Cables	Description: ELA indicates that the adapter detected an error. Action: Use the 7209 Installation and Service Guide. If the unit checks out to be good, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
790-101	D	790	Description: Configuration Register Test failure
790-102	D	790	Description: I/O test failure
790-103	D	790	Description: Adapter initialization test failure
790-104	D	790	Description: Internal wrap test failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
790-105	D	790	Description: Internal wrap test failure
790-106	D	790	Description: External wrap (10 Mbps) test failure
790-107	D	790	Description: Internal wrap test failure
790-108	D	790	Description: External wrap (100 Mbps) test failure
790-109	D	790	Description: External wrap (10 Mbps) test failure
790-121	D	790	Description: Configuration register test failure
790-122	D	790	Description: I/O register test failure
790-124	D	790	Description: Internal loopback test failure
790-125	D	790	Description: Internal loopback test failure
790-126	D	790	Description: External loopback test failure
790-150	D	B08	Description: 10Base-T transceiver test failure
790-151	D	B09	Description: 10Base-2 transceiver test failure
790-223	D	790 software	Description: Device configuration failure
790-224	D	B08 790	Description: 10 Base-T transceiver test failure
790-225	D	B09 790	Description: 10 Base-2 transceiver test failure
790-250	D	B08 790	Description: 10 Base-T transceiver test failure
790-251	D	B09 790	Description: 10 Base-2 transceiver test failure
790-701	G	790	Description: Error Log Analysis indicates that the adapter is not responding to initialization commands.
790-702	G	790	Description: Error Log Analysis indicates that the device driver has detected a PIO error which it was unable to correct.
790-703	G	790	Description: Error Log Analysis indicates that the adapter has been shutdown due to an unrecoverable error.
790-704	G	790	Description: Error Log Analysis indicates a problem with EEPROM on the adapter.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
790-720	G	790 software	Description: Error log analysis indicates a hardware problem
791-098	J	791 B88	Description: The disk drive indicates an error.
791-099	J	791 B88	Description: The disk drive not found.
791-102	D	791	Description: An unrecoverable media error occurred.
791-104	D	791	Description: The motor failed to restart.
791-105	D	791	Description: The drive did not become ready.
791-106	D	791	Description: The electronics card test failed.
791-108	D	791	Description: The bus test failed.
791-110	D	791	Description: The media format is corrupted.
791-112	D	791	Description: The diagnostic test failed.
791-114	D	791	Description: An unrecoverable hardware error.
791-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
791-117	D	791	Description: A write protect error occurred.
791-118	D	791 B88	Description: A SCSI command time-out occurred.
791-120	D	791	Description: A SCSI busy or command error.
791-122	D	791	Description: A SCSI reservation conflict error.
791-124	D	791	Description: A SCSI check condition error occurred.
791-126	D	791 B88	Description: A software error was caused by a hardware failure.
791-128	G	791	Description: The error log analysis indicates a hardware failure.
791-129	G	190 791 B88 software	Description: Error log analysis indicates a SCSI bus problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
791-130	G	791	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
791-132	D	791	Description: A disk drive hardware error occurred.
791-134	D	B88 software	Description: The adapter failed to configure.
791-135	D	791 B88 software	Description: The device failed to configure.
791-136	D	791	Description: The certify operation failed.
791-137	D	791 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
792-098	J	792 B88	Description: The disk drive indicates an error.
792-099	J	792 B88	Description: The disk drive not found.
792-102	D	792	Description: An unrecoverable media error occurred.
792-104	D	792	Description: The motor failed to restart.
792-105	D	792	Description: The drive did not become ready.
792-106	D	792	Description: The electronics card test failed.
792-108	D	792	Description: The bus test failed.
792-110	D	792	Description: The media format is corrupted.
792-112	D	792	Description: The diagnostic test failed.
792-114	D	792	Description: An unrecoverable hardware error.
792-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
792-117	D	792	Description: A write protect error occurred.
792-118	D	792 B88	Description: A SCSI command time-out occurred.
792-120	D	792	Description: A SCSI busy or command error.
792-122	D	792	Description: A SCSI reservation conflict error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
792-124	D	792	Description: A SCSI check condition error occurred.
792-126	D	792 B88	Description: A software error was caused by a hardware failure.
792-128	G	792	Description: The error log analysis indicates a hardware failure.
792-129	G	190 792 B88 software	Description: Error log analysis indicates a SCSI bus problem.
792-130	G	792	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
792-132	D	792	Description: A disk drive hardware error occurred.
792-134	D	B88 software	Description: The adapter failed to configure.
792-135	D	792 B88 software	Description: The device failed to configure.
792-136	D	792	Description: The certify operation failed.
792-137	D	792 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
793-098	J	793 B88	Description: The disk drive indicates an error.
793-099	J	793 B88	Description: The disk drive not found.
793-102	D	793	Description: An unrecoverable media error occurred.
793-104	D	793	Description: The motor failed to restart.
793-105	D	793	Description: The drive did not become ready.
793-106	D	793	Description: The electronics card test failed.
793-108	D	793	Description: The bus test failed.
793-110	D	793	Description: The media format is corrupted.
793-112	D	793	Description: The diagnostic test failed.
793-114	D	793	Description: An unrecoverable hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
793-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
793-117	D	793	Description: A write protect error occurred.
793-118	D	793 B88	Description: A SCSI command time-out occurred.
793-120	D	793	Description: A SCSI busy or command error.
793-122	D	793	Description: A SCSI reservation conflict error.
793-124	D	793	Description: A SCSI check condition error occurred.
793-126	D	793 B88	Description: A software error was caused by a hardware failure.
793-128	G	793	Description: The error log analysis indicates a hardware failure.
793-129	G	190 793 B88 software	Description: Error log analysis indicates a SCSI bus problem.
793-130	G	793	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
793-132	D	793	Description: A disk drive hardware error occurred.
793-134	D	B88 software	Description: The adapter failed to configure.
793-135	D	793 B88 software	Description: The device failed to configure.
793-136	D	793	Description: The certify operation failed.
793-137	D	793 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
795-201	D	795	Description: Config register test failure
795-202	D	795	Description: PROM check test failure
795-203	D	795	Description: Timer and IRQ test failure
795-204	D	795	Description: Adapter RAM check failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
795-205	D	795 227	Description: ASIC test failure
795-206	D	795	Description: High memory (ISA) test failure
795-207	D	795	Description: RAM check via DMA test failure
795-208	D	795	Description: FORMAC register test failure
795-209	D	795 221	Description: PLC1 test failure
795-210	D	795 227	Description: PLC2 test failure
795-211	D	795	Description: FORMAC Ring_Op test failure
795-212	D	795	Description: Send long frame test failure
795-213	D	795	Description: Restricted Token Monitor test failure
795-214	D	795 227	Description: Receive queue handling test failure
795-215	D	795 221	Description: FORMAC loopback test failure
795-216	D	795 221	Description: FORMAC loopback with master access test failure
795-217	D	795	Description: DMA measurement test failure
795-218	D	795	Description: Special test failure
795-219	D	795	Description: Bypass test failure
795-301	D	795	Description: PLC1 FDDI external wrap failure
795-302	D	795	Description: PLC2 FDDI external wrap failure
795-303	D	795	Description: Send long frame FDDI external wrap failure
795-304	D	795	Description: FORMAC loopback external wrap failure
795-700	D	795	Description: Error log analysis indicates hardware failure
799-101	D	2C3 799	Description: External wrap test failed on port 0
799-102	D	2C3 799	Description: External wrap test failed on port 1

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
799-201	D	799 227	Description: Internal adapter test failed
799-202	D	799 227	Description: External wrap test failed on port 0
799-203	D	799 227	Description: External wrap test failed on port 1
799-204	D	2C3 799	Description: External wrap test failed on port 0
799-205	D	2C3 799	Description: External wrap test failed on port 1
799-206	D	2C3 799 software	Description: External wrap test failed on port 0
799-207	D	2C3 799 software	Description: External wrap test failed on port 1
799-301	D	799 227 software	Description: Internal adapter test failed
799-302	D	799 227 software	Description: External wrap test failed on port 0
799-303	D	799 227 software	Description: External wrap test failed on port 1
799-304	D	2C3 799 software	Description: External wrap test failed on port 0
799-305	D	2C3 799 software	Description: External wrap test failed on port 1
799-700	D	799 software	Description: Error log analysis indicates a hardware problem
7C1-101	D	7C1 software	Description: Audio Subsystem failed
7C1-102	D	7C1	Description: CS4232 Failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
7C1-103	D	7C1	Description: Clock control failed
7C1-107	D	7C1	Description: SoundBlaster interface failed
7C1-108	D	7C1	Description: Loop back failed
7C1-109	D	7C1	Description: CODEC ID invalid
7C1-117	D	D97	Description: Internal speaker failed
801-101 to 801-102	C		Description: The diagnostics did not detect an installed resource. Action: Ensure supplemental diskettes have been read, if applicable, then use Chapter 20, "MAP 0290: Missing Resource Problem Resolution" on page 20-1.
802-655	C	655	Description: A resource was not detected that was previously installed
802-657	C	657	Description: A resource was not detected that was previously installed
802-751	C		Description: A potential problem exists with your enclosure. If the system has an external 2104 enclosure, refer to the 2104 service documentation or the service documentation for the disk subsystem.
802-787	C	787 D95	Description: The diagnostics did not detect an installed resource.
802-78C	C		Description: A system bus problem exists. Action: Use Chapter 12, "MAP 0080 System Bus Problem Isolation" on page 12-1.
802-80c	C	80c	Description: A potential problem with a SSA adapter exists. If the system has external SSA drives refer to the *SSA Adapters User's Guide and Maintenance Information* or the service guide for your disk subsystem. If the system has internal SSA drives, go to the SSA MAP in either the system unit's service guide or user's guide.
802-837	C	837 687 E10 227	Description: A potential problem with the Enhanced Remote Async Node exists.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
802-xxx	C	xxx E10 227	Description: The diagnostics did not detect an installed resource. **Note:** To obtain the FFC substitute the last three digits of the SRN for xxx. (The substituted xxx is the FFC.)
803-xxx **(See note in Action column.)**	D	Use the xxx number	Description: An error occurred while running the diagnostics. Action: Run nondisk-based diagnostics where possible. If this SRN was generated from the nondisk-based diagnostic package, or it is not possible to use the nondisk-based package, go to Chapter 17, "MAP 0250: Unexpected System Halts During Diagnostics" on page 17-1. If the problem occurs only from disk-or server-based diagnostics, suspect a software problem. **Notes:** a. If your 803-xxx SRN is listed in this section, use the procedure for that SRN instead of this one. b. If the xxx FFC is not listed in the FFC list, Use MAP 1540 to determine the failing FRU.
804-111	D	804 B88	Description: Unable to reserve device.
804-112	D	804 B88	Description: Unable to do configuration.
804-113	D	804 B88	Description: Unable to open the device driver.
804-121	D	804	Description: The CD-ROM drive indicates an error.
804-122	D	804	Description: The CD-ROM drive indicates an error.
804-123	D	804	Description: The CD-ROM drive indicates an error.
804-125	D	804 B88	Description: The CD-ROM drive indicates an error.
804-126	D	804	Description: The CD-ROM drive indicates an error.
804-127	D	804	Description: The CD-ROM drive indicates an error.
804-128	D	804	Description: The CD-ROM drive indicates an error.
804-129	D	804	Description: The CD-ROM drive indicates an error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
804-150	D	Test Disc 804	Description: A media error was detected.
804-151	D	804 B88	Description: A command timeout was detected.
804-152	D	804	Description: A command reservation conflict was detected.
804-162	D	804	Description: The CD-ROM drive indicates an error.
804-171	D	804	Description: Unable to reserve device.
804-172	D	804	Description: Unable to do configuration.
804-173	D	804	Description: Unable to open device driver.
804-175	D	804	Description: The CD-ROM drive indicates an error.
804-198	D	804 B88	Description: Undefined error detected.
804-199	D	804	Description: Undefined error detected.
804-211	D	804	Description: The LED test failed.
804-281	D	804	Description: No tone during audio test.
804-301	G	804	Description: Errors found during ELA.
804-302	G	804 B88	Description: Errors found during ELA.
804-xxx	H	Use the xxx number	Description: An unexpected halt occurred while running the diagnostics. **Note:** If your 804-xxx SRN is listed in this section, use the procedure for that SRN instead of this one. Action: Use Chapter 17, "MAP 0250: Unexpected System Halts During Diagnostics" on page 17-1.
805-110	G	D67	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-111	G	D83	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
805-120	G	D68	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-121	G	D84	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-130	G	D69	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-131	G	D85	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-140	G	D70	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-141	G	D86	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-150	G	E11	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-151	G	E14	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-210	G	D71	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
805-211	G	D87	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-220	G	D72	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-221	G	D88	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-230	G	D73	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-231	G	D89	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-240	G	D74	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-241	G	D90	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-250	G	E12	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-251	G	E15	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
805-310	G	D75	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-311	G	D91	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-320	G	D76	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-321	G	D92	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-331	G	D93	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-340	G	D78	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-341	G	D94	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-350	G	E13	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-351	G	E16	Description: Error log analysis indicates a machine check due to uncorrectable memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
805-600	G		Description: Error log analysis indicates a machine check due to uncorrectable memory error or unsupported memory. Action: Examine the memory modules and determine if they are supported types. If the modules are supported, then replace the appropriate memory module(s). Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
805-601	G	210	Description: Error log analysis indicates a machine check due to CPU internal cache error.
805-602	G	214 D01	Description: Error log analysis indicates a machine check due to CPU address/data bus parity error.
805-603	G	210 214 D01	Description: Error log analysis indicates a machine check due to CPU bus transfer error.
805-604	G	210 D01	Description: Error log analysis indicates a machine check due to CPU address/data bus parity error.
805-605	G	210	Description: Error log analysis indicates a machine check due to CPU bus transfer error.
805-606	G	214	Description: Error log analysis indicates a machine check due to memory controller internal error.
805-607	G	210 214	Description: Error log analysis indicates a machine check due to memory address error.
805-608	G	214 217	Description: Error log analysis indicates a machine check due to a Flash ROM error.
805-609	G	D01	Description: Error log analysis indicates a machine check due to a L2 parity error.
805-610	G		Description: Error log analysis indicates a machine check due to ISA device error, but the device could not be identified. Action: Run diagnostics on the ISA devices.
805-611	G		Description: Error log analysis indicates a machine check due to EISA/ISA bus time out error, but the device could not be identified. Action: Run diagnostics on the ISA devices. If multiple devices fail, use FFC 295.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
805-612	G	214	Description: Error log analysis indicates a machine check due to an Illegal L2 copy-back operation.
805-616	G	software	Description: Error log analysis indicates a machine check due to software.
805-617	G		Description: Error log analysis indicates a machine check of unknown origin. Action: If the problem is persistent, use MAP 1540.
805-618	G		Description: Error log analysis indicates multiple instances of machine check of unknown origin. Action: If the problem is persistent, use MAP 1540.
805-619	G	221	Description: Error log analysis indicates a machine check due to an unidentified source on the I/O subsystem. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
805-621	G	292	Description: Error log analysis indicates a machine check due to Integrated PCI device does not respond.
805-622	G	293	Description: Error log analysis indicates a machine check due to Integrated PCI device does not respond.
805-623	G	294	Description: Error log analysis indicates a machine check due to Integrated PCI device does not respond.
805-624	G	295	Description: Error log analysis indicates a machine check due to Integrated PCI device does not respond.
805-625	G	868	Description: Error log analysis indicates a machine check due to Integrated PCI device does not respond.
805-631	G	292	Description: Error log analysis indicates a machine check due to Internal error from PCI device.
805-632	G	293	Description: Error log analysis indicates a machine check due to Internal error from PCI device.
805-633	G	294	Description: Error log analysis indicates a machine check due to Internal error from PCI device.
805-634	G	295	Description: Error log analysis indicates a machine check due to Internal error from PCI device.
805-635	G	868	Description: Error log analysis indicates a machine check due to Internal error from PCI device.
805-640	G	2E8 214	Description: Error log analysis indicates a machine check due to a system bus error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
805-641	G	2E8 210	Description: Error log analysis indicates a machine check due to a processor bus error.
805-642	G	2E8	Description: Error log analysis indicates a machine check due to a directory parity error.
805-643	G	2E8	Description: Error log analysis indicates a machine check due to a cache paradox.
805-644	G	2E8	Description: Error log analysis indicates a machine check due to an internal error.
805-645	G	2E8	Description: Error log analysis indicates a machine check due to a detected L2 hit signal.
805-646	G	2E8 214	Description: Error log analysis indicates a machine check due to an address/data bus parity error.
805-649	G	software	Description: Error log analysis indicates a machine check due to a disabled I/O address space. Action: Run Standalone Diagnostics on all devices. Use any SRN reported. If no other SRN is reported, suspect a software problem.
805-801	G	166 221	Description: Slow fan or defective thermal sensor. Action: 1) Check spacing around system enclosure, 2) check for obstructions to cooling air flow, 3) check that all fans can rotate freely, and spin with power applied. If reasons 1, 2 and 3 can be ruled out, then replace the listed FRUs.
805-802	G	152 210	Description: Over/Under voltage condition. Action: Check AC line voltage per the Power MAP in your service guide. If the AC line voltage is correct replace the listed FRUs.
805-803	G	2E1 210	Description: System shutdown due to non-critical over temperature condition. Action: 1) check for obstructions to cooling air flow, 2) check for accumulated dust on the CPU and planar. If reasons 1 and 2 can be ruled out, then replace the listed FRUs.
805-804	G	166 2E1 152	Description: System shutdown due to critical over temperature condition. Action: Check to ensure fans are connected. If fans are connected, then replace the listed FRUs.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
805-805	G	152	Description: System shutdown due to loss of AC power. Action: Check the voltage range switch, if present, on the power supply and ensure that it is set to match the AC input voltage. If the range switch is set correctly or is not present refer to "MAP 1520: Power" in the Service Guide for your system.
805-807	G	166	Description: System shutdown due to an inoperative fan. Action: Check to ensure fans are connected. If fans are connected replace the listed FRU.
805-811	D	166	Description: Slow fan or defective thermal sensor. Action: 1. Check spacing around system enclosure 2. Check for obstructions to cooling air flow 3. Check that all fans rotate freely, and spin when power is applied. If reasons 1, 2, and 3 can be ruled out, then replace the listed FRUs.
805-812	D	152 210	Description: Over/Under voltage condition. Action: Check the AC line voltage per the Power MAP in your service guide. If the AC line voltage is correct replace the listed FRUs.
805-813	D	2E1 210	Description: System shutdown due to non-critical over temperature condition. Action: 1. Check for obstructions to cooling air flow. 2. Check for accumulated dust on the CPU and planar. If reasons 1 and 2 can be ruled out, then replace the listed FRUs.
806-001 thru 806-017	D	806	Description: GXT800P Graphics Adapter
806-018	D	806	Description: GXT800P Graphics Adapter Monitor/Display Cable
806-100	D	806	Description: GXT800P Graphics Adapter

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
806-505	D	806 298	Description: GXT800P Graphics Adapter GXT800P Base Memory in slot 0, 1, 2, 3, or 4
806-515	D	806 297	Description: GXT800P Graphics Adapter GXT800P Base and Texture Memory in slot 0, 1, 2, 3, or 4
806-619	G	221	Description: Error log analysis indicates a machine check due to an unidentified source on the I/O subsystem.
806-700	D	298	Description: GXT800P Base Memory in slot 0
806-701	D	298	Description: GXT800P Base Memory in slot 1
806-702	D	298	Description: GXT800P Base Memory in slot 2
806-703	D	298	Description: GXT800P Base Memory in slot 3
806-704	D	298	Description: GXT800P Base Memory in slot 4
806-710	D	297	Description: GXT800P Base and Texture Memory in slot 0
806-711	D	297	Description: GXT800P Base and Texture Memory in slot 1
806-712	D	297	Description: GXT800P Base and Texture Memory in slot 2
806-713	D	297	Description: GXT800P Base and Texture Memory in slot 3
806-714	D	297	Description: GXT800P Base and Texture Memory in slot 4
806-e00	D	298	Description: GXT800P Base Memory in slot 0
806-e01	D	298	Description: GXT800P Base Memory in slot 1
806-e02	D	298	Description: GXT800P Base Memory in slot 2
806-e03	D	298	Description: GXT800P Base Memory in slot 3
806-e04	D	298	Description: GXT800P Base Memory in slot 4
806-e10	D	297	Description: GXT800P Base and Texture Memory in slot 0
806-e11	D	297	Description: GXT800P Base and Texture Memory in slot 1
806-e12	D	297	Description: GXT800P Base and Texture Memory in slot 2

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
806-e13	D	297	Description: GXT800P Base and Texture Memory in slot 3
806-e14	D	297	Description: GXT800P Base and Texture Memory in slot 4
807-201	D	199 891	Description: Device configuration error
807-202	D	199 891	Description: Enclosure failed to open
807-203	D	199 891	Description: Enclosure failed to return inquiry data
807-204	D	152 166	Description: Redundant power supply or fan failure
807-205	D	152 166	Description: Critical power supply or fan failure
814-112	D	814	Description: The NVRAM test failed.
814-113	D	221	Description: The VPD test failed.
814-114	D	814	Description: I/O Card NVRAM test failed.
815-100	D	815	Description: The floating-point processor test failed.
815-101	D	815	Description: Floating point processor failed.
815-102	D	815	Description: Floating point processor failed.
815-200	D	815 7C0	Description: Floating point processor failed.
816-140	D	165 816	Description: The four-digit display test failed.
817-123	D	817	Description: The I/O planar time-of-day clock test failed.
817-124	D	817	Description: Time of day RAM test failed.
817-210	D	817	Description: The time-of-day clock is at POR.
817-211	D	817 169	Description: Time of day POR test failed.
817-212	D	151 816	Description: The battery is low.
817-213	D	817	Description: The real-time clock is not running.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
817-215	D	817	Description: Time of day clock not running test failed.
817-217	D	817 169	Description: Time of day clock not running.
821-111	D	821 B31	Description: Unexpected results from the test.
821-332	D	821 software	Description: Cannot open device.
823-111	D	823	Description: Standard Mouse adapter failed.
823-134	D	823 software	Description: Cannot open device.
823-211	D	925 823	Description: Standard mouse adapter failed.
824-220	D	B10 824	Description: The tablet adapter fuse failed.
824-331	D	824 227	Description: An unexpected error occurred.
824-332	D	824 227	Description: The enable/disable device test failed. **Note:**Ensure that the wrap plug was not attached when the test was run. If the wrap plug was attached, remove it, and rerun the test.
824-333	D	824	Description: The internal wrap test failed.
824-334	D	B10 824	Description: The tablet adapter fuse failed.
824-441	D	824	Description: An unexpected error occurred.
824-442	D	824	Description: The wrap test failed.
824-450	D	227	Description: Software error caused by hardware failure.
824-461	G	227	Description: The error log analysis indicates a hardware failure.
824-511	D	824	Description: An unexpected error occurred.
824-512	D	824	Description: Tablet adapter reset test failed.
824-522	D	B10 824	Description: Adapter fuse failure.
824-523	D	824	Description: Device cannot be configured.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
824-524	D	824 software	Description: Cannot open device.
826-111	D	221	Description: Cannot run the test because the device driver detected a hardware error.
826-112	D	221	Description: Unable to determine the type of adapter from the VPD.
826-113	D	826	Description: The VPD verification test failed.
826-114	D	826	Description: The register verification test failed.
826-121	D	221	Description: Cannot run the test because the device driver detected a hardware error.
826-122	D	221	Description: The data-wrap communications test failed.
826-123	D	221	Description: The modem control line test failed.
826-131	D	221	Description: Cannot run the test because the device driver detected a hardware error.
826-132	D	221	Description: The data wrap communications test failed.
826-133	D	221	Description: The modem control line test failed.
826-161	D	252	Description: Cannot run the test because the device driver detected a hardware error.
826-162	D	252	Description: The data wrap communications test failed.
826-163	D	252	Description: The modem control line test failed.
826-171	D	259	Description: Cannot run the test because the device driver detected a hardware error.
826-172	D	259	Description: The data wrap communications test failed.
826-173	D	259	Description: The modem control line test failed.
826-181	D	261	Description: Cannot run the test because the device driver detected a hardware error.
826-182	D	261	Description: The data wrap communications test failed.
826-183	D	261	Description: The modem control line test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
826-271	D	826 259	Description: Cannot run the test because the device driver detected a hardware error.
826-272	D	826 259	Description: The data wrap communications test failed.
826-273	D	826 259	Description: The modem control line test failed.
826-281	D	826 259	Description: Cannot run the test because the device driver detected a hardware error.
826-282	D	826 259	Description: The data wrap communications test failed.
826-283	D	826 259	Description: The modem control line test failed.
826-321	D	826	Description: Cannot run the test because the device driver detected a hardware error.
826-322	D	826	Description: The data wrap communications test failed.
826-323	D	826	Description: The modem control line test failed.
826-331	D	826	Description: Cannot run the test because the device driver detected a hardware error.
826-332	D	826	Description: The data wrap communications test failed.
826-333	D	826	Description: The modem control line test failed.
826-371	D	826	Description: Cannot run the test because the device driver detected a hardware error.
826-372	D	826	Description: The data wrap communications test failed.
826-373	D	826	Description: The modem control line test failed.
826-381	D	826	Description: Could not do the test because the device driver detected a hardware error.
826-382	D	826	Description: The data wrap communication test failed.
826-383	D	826	Description: The modem control line test failed.
826-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
826-482	D	D56	Description: The data wrap communication test failed.
826-483	D	D56	Description: The modem control line test failed.
826-581	D	826 D56	Description: Could not do the test because the device driver detected a hardware error.
826-582	D	826 D56	Description: The data wrap communication test failed.
826-583	D	826 D56	Description: The modem control line test failed.
826-901 to 826-920	D	software 826	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 826; otherwise, suspect a software problem.
826-921	D	826 software	Description: The adapter failed to configure
826-922 to 826-924	D	software 826	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 826; otherwise, suspect a software problem.
826-925	D	826 software	Description: The adapter failed to configure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
826-926 to 826-943	D	software 826	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 826; otherwise, suspect a software problem.
827-112	D	221	Description: The parallel port data register write/read test failed.
827-121	D	827	Description: Cannot run the test because the device driver detected a hardware error.
827-122	D	827	Description: The parallel port data register write/read test failed.
827-123	D	827	Description: The parallel port control register write/read test failed.
827-124	D	827	Description: The parallel port data register read test failed.
827-125	D	827	Description: The parallel port control register read test failed.
827-126	D	827	Description: The parallel port control register read test failed.
827-131	D	827	Description: Cannot run the test because the device driver detected a hardware error.
827-132	D	827	Description: The control port register direction bit (write) test with BIDI enabled failed.
827-133	D	827	Description: The control port register direction bit (read) test with BIDI enabled failed.
827-141	D	827	Description: Cannot run the test because the device driver detected a hardware error.
827-142	D	827	Description: The parallel port control register write/read test with BIDI enabled failed.
827-151	D	221	Description: Cannot run the test because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
827-152	D	827	Description: The parallel port status register read test failed.
827-161	D	827	Description: Cannot run the test because the device driver detected a hardware error.
827-162	D	221	Description: The parallel port interrupt test failed.
827-163	D	221	Description: The parallel port interrupt test failed.
827-201	D	827	Description: The extend control register of the parallel port failed a read/write test.
827-202	D	827	Description: Input/output to the FIFO (without interrupts) failed.
827-203	D	827	Description: Input/output to the FIFO (with interrupts) failed.
827-204	D	827	Description: Direct memory access to the FIFO failed.
828-501	D	828	Description: The diskette adapter test failed.
82C-102	D	82C	Description: Adapter test failed.
82C-104	D	82C 725	Description: Display test failed.
830-111	D	830 227	Description: Could not do the test because the device driver detected a hardware error.
830-114	D	830	Description: The register verification test failed.
830-121	D	830 227	Description: Could not do the test because the device driver detected a hardware problem.
830-122	D	830 227	Description: The data wrap communication test failed.
830-123	D	830 227	Description: The modem control line test failed.
830-124	D	830	Description: The memory test failed.
830-151	D	B54 830	Description: Could not do the test because the device driver detected a hardware error.
830-152	D	B54 830	Description: The data wrap communication test failed.
830-153	D	D54 830	Description: The modem control line test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
830-171	D	259	Description: Could not run the test because the device driver detected a hardware error.
830-172	D	259	The data wrap communication test failed.
830-173	D	259	Description: The modem control line test failed.
830-181	D	261	Description: Could not do the test because the device driver detected a hardware error.
830-182	D	261	Description: The data wrap communication test failed.
830-183	D	261	Description: Interposer Wrap test failed.
830-251	D	830 D57	Description: Could not perform because the device driver detected a hardware error.
830-252	D	830 B54	Description: The data wrap communication test failed.
830-253	D	830 B54	Description: The modem control line test failed.
830-271	D	830 B54	Description: Could not perform because the device driver detected a hardware error.
830-272	D	830 B54	Description: The data wrap communication test failed.
830-273	D	830 B54	Description: The modem control line test failed
830-281	D	830 D57	Could not perform the test because the device driver detected a hardware error.
830-282	D	830 B54	Description: The data wrap communication test failed.
830-283	D	830 B54	Description: The modem control line test failed.
830-481	D	B54	Description: Could not do the test because the device driver detected a hardware error.
830-482	D	B54	Description: The data wrap communication test failed.
830-483	D	B54	Description: Async Cable Wrap Test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
830-901 to 830-920	D	software 830	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 830; otherwise, suspect a software problem.
830-921	D	830 software	Description: The adapter failed to configure
830-922 to 830-924	D	software 830	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 830; otherwise, suspect a software problem.
830-925	D	830 software	Description: The adapter failed to configure
830-926 to 830-943	D	software 830	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 830; otherwise, suspect a software problem.
831-111	D	221	Description: Cannot run the test because the device driver detected a hardware error.
831-112	D	221	Description: Unable to determine the type of adapter from the VPD.
831-113	D	831	Description: The VPD verification test failed.
831-114	D	831	Description: The register verification test failed.
831-121	D	221	Description: Cannot run the test because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
831-122	D	221	Description: The data wrap communications test failed.
831-123	D	221	Description: The modem control line test failed.
831-131	D	221	Description: Cannot run the test because the device driver detected a hardware error.
831-132	D	221	Description: The data wrap communications test failed.
831-133	D	221	Description: The modem control line test failed.
831-161	D	252	Description: Cannot run the test because the device driver detected a hardware error.
831-162	D	252	Description: The data wrap communications test failed.
831-163	D	252	Description: The modem control line test failed.
831-164	D	221 252	Description: Cannot run the test because the device driver detected a hardware error.
831-165	D	221 252	Description: The data wrap communications test failed.
831-166	D	221 252	Description: The modem control line test failed.
831-171	D	259	Description: Cannot run the test because the device driver detected a hardware error.
831-172	D	259	Description: The data wrap communications test failed.
831-173	D	259	Description: The modem control line test failed.
831-181	D	261	Description: Cannot run the test because the device driver detected a hardware error.
831-182	D	261	Description: The data wrap communications test failed.
831-183	D	261	Description: The modem control line test failed.
831-271	D	831 259	Description: Cannot run the test because the device driver detected a hardware error.
831-272	D	831 259	Description: The data wrap communication test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
831-273	D	831 259	Description: The modem control line test failed.
831-281	D	831 259	Description: Cannot run the test because the device driver detected a hardware error.
831-282	D	831 259	Description: The data wrap communications test failed.
831-283	D	831 259	Description: The modem control line test failed.
831-321	D	831	Description: Cannot run the test because the device driver detected a hardware error.
831-322	D	831	Description: The data wrap communications test failed.
831-323	D	831	Description: The modem control line test failed.
831-331	D	831	Description: Cannot run the test because the device driver detected a hardware error.
831-332	D	831	Description: The data wrap communications test failed.
831-333	D	831	Description: The modem control line test failed.
831-371	D	831	Description: Cannot run the test because the device driver detected a hardware error.
831-372	D	831	Description: The data wrap communications test failed.
831-373	D	831	Description: The modem control line test failed.
831-381	D	831	Description: Cannot run the test because the device driver detected a hardware error.
831-382	D	831	Description: The data wrap communications test failed.
831-383	D	831	Description: The modem control line test failed.
831-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.
831-482	D	D56	Description: The data wrap communication test failed.
831-483	D	D56	Description: The modem control line test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
831-581	D	831 D56	Description: Could not do the test because the device driver detected a hardware error.
831-582	D	831 D56	Description: The data wrap communication test failed.
831-583	D	831 D56	Description: The modem control line test failed.
831-901 to 831-920	D	software 831	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 831; otherwise, suspect a software problem.
831-921	D	831 software	Description: The adapter failed to configure
831-922 to 831-924	D	software 831	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 831; otherwise, suspect a software problem.
831-925	D	831 software	Description: The adapter failed to configure
831-926 to 831-943	D	software 831	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 831; otherwise, suspect a software problem.
832-xxx	G	xxx	Description: I/O bridge/device internal error **Note:** xxx represents the last 3 digits of the SRN.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
833-xxx	G	xxx 296 2C9	Description: PCI device address parity error, PCI device data parity error, or PCI device abort error. The diagnostics screen indicates the actual error. **Note:** xxx represents the last 3 digits of the SRN.
836-101	D	836	Description: Cannot run the test because the device driver detected a hardware error.
836-111	D	836 227	Description: Cannot run test because the device driver detected a hardware error.
836-112	D	836 227	Description: Unable to determine the type of adapter from the VPD.
836-113	D	836	Description: The VPD verification test failed.
836-114	D	836	Description: The register verification test failed.
836-115	D	836	Description: The VPD verification test failed.
836-116	D	B54 836	Description: The 128-port controller line test failed.
836-117	D	684	Description: Remote Async Node test failed.
836-118	D	837	Description: Remote async node test failed.
836-119	F	836	Description: Sync line termination test failed.
836-151	D	837	Description: Cannot run the test because the device driver detected a hardware error.
836-152	D	837	Description: The data wrap communications test failed.
836-153	D	837	Description: The modem control line test failed.
836-154	D	684 836	Description: Cannot run the test because the device driver detected a hardware error.
836-155	D	684 836 152	Description: The data wrap communications test failed.
836-161	D	C22	Description: Cannot run the test because the device driver detected a hardware error.
836-162	D	C22	Description: The data wrap communications test failed.
836-163	D	C22	Description: The modem control line test failed.
836-164	D	D06	Description: The data wrap communication test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
836-171	D	259	Description: Cannot run the test because the device driver detected a hardware error.
836-172	D	259	Description: The data wrap communications test failed.
836-173	D	259	Description: The modem control line test failed.
836-174	D	263	Description: Cannot run the test because the device driver detected a hardware error while running the Printer/Terminal cable wrap test.
836-175	D	263	Description: The data wrap communications test failed while running the Printer/Terminal cable wrap test.
836-181	D	261	Description: Cannot run the test because the device driver detected a hardware error.
836-182	D	261	Description: The data wrap communications test failed.
836-183	D	261	Description: The modem control line test failed.
836-251	D	836 837	Description: Cannot run the test because the device driver detected a hardware error.
836-252	D	836 837	Description: The data wrap communications test failed.
836-253	D	836 837	Description: The modem control line test failed.
836-254	D	836 684	Description: Cannot run the test because the device driver detected a hardware error while running the Remote Async Node wrap test.
836-255	D	836 684	Description: The data wrap communications test failed while running the Remote Async Node wrap test.
836-271	D	836 837	Description: Cannot run the test because the device driver detected a hardware error.
836-272	D	836 837	Description: The data wrap communications test failed.
836-273	D	836 837	Description: The modem control line test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
836-274	D	836 684	Description: Cannot run the test because the device driver detected a hardware error while running the Printer/Terminal cable wrap test.
836-275	D	836 684	Description: The data wrap communications test failed while running the Printer/Terminal cable wrap test.
836-281	D	836 837	Description: Cannot run the test because the device driver detected a hardware error.
836-282	D	836 837	Description: The data wrap communication test failed.
836-283	D	836 837	Description: The modem control line test failed.
836-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.
836-482	D	D56	Description: The data wrap communication test failed.
836-483	D	D56	Description: The modem control line test failed.
836-901 to 836-920	D	software 836	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 836; otherwise, suspect a software problem.
836-921	D	836 software	Description: The adapter failed to configure
836-922 to 836-924	D	software 836	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 836; otherwise, suspect a software problem.
836-925	D	836 software	Description: The adapter failed to configure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
836-926 to 836-943	D	software 836	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 836; otherwise, suspect a software problem.
840-212	D	840	Description: FIFO empty bit set.
840-213	D	840	Description: FIFO empty bit clear.
840-214	D	840	Description: FIFO full bit set.
840-215	D	840	Description: FIFO full bit clear.
840-216	D	840	Description: FIFO data miscompare.
840-217	D	840	Description: SCSI FIFO data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
840-218	D	840	Description: SCSI FIFO underflow.
840-219	D	840	Description: SCSI parity error.
840-220	D	840	Description: SCSI FIFO flags error.
840-221	D	840 221	Description: Miscompare during the write/read of the configuration register.
840-222	D	840	Description: Error during the write/read of the memory register.
840-223	D	840	Description: Miscompare during the write/read of the memory I/O register.
840-224	D	840 221	Description: Error reading the PCI configuration register.
840-225	D	840	Description: Adapter POST failed.
840-230	D	190 840	Description: Arbitration test failed. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
840-231	D	190 840	Description: Function could not complete. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
840-232	D	190 840	Description: SCSI bus data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
840-240	D	190 840	Description: No terminal power. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
840-242	D	190 840	Description: SCSI bus error. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
840-301	D	840 221	Description: The parent device open failed
840-600	G	840	Description: Error log analysis indicates a PCI SCSI adapter failure.
840-601	G	840	Description: Error log analysis indicates a PCI SCSI adapter failure.
840-602	G	840	Description: Error log analysis indicates a PCI SCSI adapter failure.
840-603	G	840	Description: Error log analysis indicates a PCI SCSI adapter failure.
840-604	G	840	Description: Error log analysis indicates a PCI SCSI adapter failure.
840-605	G	840	Description: Error log analysis indicates a PCI SCSI adapter failure.
840-606	G	840	Description: Error log analysis indicates a PCI SCSI adapter failure.
840-607	G	840	Description: Error log analysis indicates a PCI SCSI adapter failure.
840-701	G	840 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
840-702	G	840 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
840-703	G	840 221	Description: Error log analysis indicates a PCI SCSI adapter failure.
840-704	G	840 221	Description: Error log analysis indicates a PCI SCSI adapter failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
840-800	G	SCSI Subsys	Description: Error log analysis indicates a PCI SCSI adapter PTC failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
840-802	G	SCSI Subsys	Description: Error log analysis indicates a PCI SCSI bus failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
844-xxx series	D	844	Description: A 7135 controller problem is indicated. Action: Use 7135 documentation.
845-xxx series	D	845	Description: A 7135 DASD drawer problem is indicated. Action: Use 7135 documentation.
846-xxx series	D	846	Description: A 7135 DASD drawer problem is indicated. Action: Use 7135 documentation.
868-110	D	221	Description: The adapter diagnostic subcommand test failed.
868-130	D	279	Description: The adapter fuse test failed.
868-140	D	868	Description: The wrap test failed.
868-150	D	868	Description: The BCR registers write/read test failed.
868-160	D	868	Description: The POS registers write/read test failed.
868-170	D	868	Description: The internal/external reset test failed.
868-180	D	279 868	Description: The adapter command timed out. **Note:** Check the fuse before replacing.
868-190	D	221	Description: A software error was caused by a hardware failure.
868-191	G	868	Description: Analysis of the error log indicates a problem with the hardware.
868-192	G	221	Description: Analysis of the error log indicates a problem with the hardware.
868-193	G	279	Description: Analysis of the error log indicates a problem with the hardware.
868-194	G	868	Description: Analysis of the error log indicates a problem with the hardware.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
868-200	D	868	Description: ROM CRC error.
868-201	D	868	Description: Adapter RAM error.
868-202	D	868	Description: The control logic failed.
868-203	D	868	Description: The control logic failed.
868-204	D	868	Description: The control logic failed.
868-205	D	868	Description: The control logic failed.
868-206	D	868	Description: Diagnostics completed with a previous error.
868-211	D	279 868 software	Description: The device failed to configure.
868-212	D	221	Description: FIFO empty bit set. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-213	D	221	Description: FIFO empty bit clear. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-214	D	221	Description: FIFO full bit set. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-215	D	221	Description: FIFO full bit clear. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-216	D	221	Description: FIFO data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-217	D	221	Description: SCSI FIFO data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-218	D	221	Description: SCSI FIFO underflow. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-219	D	221	Description: SCSI parity error. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
868-220	D	221	Description: SCSI FIFO flags error. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-221	D	221	Description: Miscompare during the write/read of the configuration register. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-222	D	221	Description: Error during the write/read of the memory register. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-223	D	221	Description: Miscompare during the write/read of the memory I/O register. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-224	D	221	Description: Error reading the PCI configuration register. Action: Use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
868-225	D	221	Description: POST failed.
868-230	D	190 868	Description: Arbitration test failed. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-231	D	150 868	Description: Function could not complete. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-232	D	190 868	Description: SCSI bus data miscompare. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-240	D	221	Description: No terminal power. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-242	D	221 868	Description: SCSI bus error. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-301	D	868 190 software	Description: Configuration open failed for parent bus.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
868-700	G	868 software	Description: Error log analysis indicates a PCI SCSI adapter failure.
868-701	G	868 software	Description: Error log analysis indicates a PCI SCSI adapter failure.
868-702	G	868 software	Description: Error log analysis indicates a PCI SCSI adapter failure.
868-703	G	868 software	Description: Error log analysis indicates a PCI SCSI adapter failure.
868-704	G	868 software	Description: Error log analysis indicates a PCI SCSI adapter failure.
868-705	G	868 software	Description: Error log analysis indicates a PCI SCSI adapter failure.
868-800	G	868	Description: Error log analysis indicates a PCI SCSI adapter PTC failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
868-802	G	868	Description: Error log analysis indicates a PCI SCSI bus failure. Action: Go to Chapter 7, "MAP 0050: SCSI Problems Isolation Procedure" on page 7-1.
887-101	D	887	Description: POS register test failed.
887-102	D	887	Description: I/O register test failed.
887-103	D	887	Description: Local RAM test failed.
887-104	D	887	Description: Vital Product Data (VPD) failed.
887-105	D	887	Description: LAN coprocessor internal tests failed.
887-106	D	887	Description: Internal loopback test failed.
887-107	D	887	Description: External loopback test failed.
887-108	D	887	Description: External loopback test failed.
887-109	D	887	Description: External loopback parity tests failed.
887-110	D	887	Description: External loopback fairness test failed.
887-111	D	887	Description: External loopback fairness and parity tests failed.
887-112	D	887	Description: External loopback (twisted pair) test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
887-113	D	887	Description: External loopback (twisted pair) parity test failed.
887-114	D	887	Description: Ethernet loopback (twisted pair) fairness test failed.
887-115	D	887	Description: External loopback (twisted pair) fairness and parity tests failed.
887-116	D	887	Description: Twisted pair wrap data failed).
887-117	D	887 software	Description: Device configuration fails.
887-118	D	887	Description: Device driver indicates a hardware problem.
887-120	D	887	Description: Device driver indicates a hardware problem.
887-121	D	B08	Description: Ethernet transceiver test failed.
887-122		B09	Description: Ethernet 10 Base-2 transceiver test failed.
887-123	D	887	Description: Internal loopback test failed.
887-124	G	887 software	Description: Error log indicates a hardware problem.
887-125	G	887	Description: Fuse test failed.
887-202	D	887	Description: Vital product data test failed.
887-203	D	887	Description: Vital product data test failed.
887-209	D	887	Description: RJ-45 converter test failed.
887-304	D	887	Description: Coprocessor internal test failed.
887-305	D	887	Description: Internal loopback test failed.
887-306	D	887	Description: Internal loopback test failed.
887-307	D	887	Description: External loopback test failed.
887-319	D	887 software	Description: Device driver indicates a hardware failure.
887-400	D	887	Description: Fuse test failed.
887-401	D	887	Description: Circuit breaker for Ethernet test failed.
887-402	D	B09 887	Description: Ethernet 10 Base-2 transceiver test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
887-403	D	B08 887	Description: Ethernet 10 Base-T transceiver test failed.
887-404	D	C29 887	Description: RJ-45 converter test failed.
887-405	F	Ethernet network 887	Description: Rerun diagnostics in advanced mode for accurate problem determination.
89c-111	D	89c B88	Description: Unable to reserve device.
89c-112	D	89c B88	Description: Unable to do configuration.
89c-113	D	89c B88	Description: Unable to open the device driver.
89c-121	D	89c	Description: The CD-ROM drive indicates an error.
89c-122	D	89c	Description: The CD-ROM drive indicates an error.
89c-123	D	89c	Description: The CD-ROM drive indicates an error.
89c-125	D	89c B88	Description: The CD-ROM drive indicates an error.
89c-126	D	89c	Description: The CD-ROM drive indicates an error.
89c-127	D	89c	Description: The CD-ROM drive indicates an error.
89c-128	D	89c	Description: The CD-ROM drive indicates an error.
89c-129	D	89c	Description: The CD-ROM drive indicates an error.
89c-150	D	Test Disc 89c	Description: A media error was detected.
89c-151	D	89c D88	Description: A command timeout was detected.
89c-152	D	89c	Description: A command reservation conflict was detected.
89c-162	D	89c	Description: The CD-ROM drive indicates an error.
89c-171	D	89c	Description: Unable to reserve device.
89c-172	D	89c	Description: Unable to do configuration.
89c-173	D	89c	Description: Unable to open device driver.
89c-175	D	89c	Description: The CD-ROM drive indicates an error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
89c-198	D	89c B88	Description: Undefined error detected.
89c-199	D	89c	Description: Undefined error detected.
89c-211	D	89c	Description: The LED test failed.
89c-281	D	89c	Description: No tone during audio test.
89c-301	G	89c	Description: Errors found during ELA.
89c-302	G	89c B88	Description: Errors found during ELA.

Chapter 33. Six-Digit SRNs 900-001 through xxxxxxx

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
900-001	D	900 227 Monitor	Description: "NO" to color panel
900-002	D	900 Monitor	Description: "NO" to cursor panel
900-007	D	Info code	Description: The EMC_SCROLLING_17_H_TEST failed
900-009	D	Info code	Description: The EMC_SCROLLING_21_H_TEST failed
900-064	D	900 227	Description: TRIO64V+_TIMEOUT
900-101	D	900 227	Description: Color miscompare
900-102	D	900 227	Description: Clipping error
900-103	D	900 227	Description: Rectangle fill test failed
900-128	D	software 900	Description: MALLOC_ERROR
900-161	D	software	Description: Loop count value in rules file is zero
900-191	D	900 227	Description: Red screen error
900-193	D	900 227	Description: Green screen error
900-1FF	D	900 227	Description: Rectangle fill test failed
900-201	D	900 227	Description: Color miscompare
900-202	D	900 227	Description: Clipping error
900-203	D	900 227	Description: Image transfer across Plane Test failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
900-211	D	software	Description: INTERNAL_ERROR_DATA_SIZE
900-212	D	software	Description: INTERNAL_ERROR_NO_ACCESS
900-215	D	900 227	Description: Black screen error
900-217	D	900 227	Description: 9 x 7 Cross hatch grid failed.
900-233	D	software	Description: OPEN_RCM_ERROR
900-234	D	software	Description: IOCTL_GSC_HANDLE_FAILED
900-235	D	software	Description: AIXGSC_MAKE_GP_FAILED
900-236	D	software	Description: AIXGSC_UNMAKE_GP_FAILED
900-237	D	software	Description: DEVICE_BUSY_ERROR
900-241	D	Info code	Description: The SCROLLING_17_H_TEST failed.
900-263	D	Info code	Description: The EMC_SCROLLING_21_H_TEST failed
900-2FF	D	900 227	Description: Image transfer across Plane Test failed
900-301	D	900 227	Description: A write of "0x00" to the palette register failed
900-302	D	900 227	Description: A write of "0x15" to the palette register failed
900-303	D	900 227	Description: A write of "0x2A" to the palette register failed
900-304	D	900 227	Description: A write of "0x3F" to the palette register failed
900-305	D	900 227	Description: The test of the palette registers failed
900-3FF	D	900 227	Description: The test of the palette registers failed
900-401	D	900 227	Description: Frame buffer base address inconsistent
900-402	D	900 227	Description: VRAM inaccessible
900-403	D	900 227	Description: Miscompare found in VRAM

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
900-404	D	900 227	Description: The test of the VRAM failed
900-447	D	900 227	Description: Green screen error
900-449	D	900 227	Description: Blue Screen error
900-471	D	900 227	Description: 9 x 7 Cross hatch grid failed.
900-473	D	900 227	Description: 11 x 9 Cross hatch grid failed.
900-495	D	Info code	Description: The SCROLLING_17_H_TEST failed.
900-497	D	Info code	Description: The SCROLLING_21_H_TEST failed.
900-4FF	D	900 227	Description: The test of the VRAM failed
900-501	D	900 227	Description: Color miscompare
900-502	D	900 227	Description: Clipping error
900-503	D	900 227	Description: Direct Frame Buffer test failed
900-5FF	D	900 227	Description: Direct Frame Buffer test failed
900-601	D	900 227	Description: Video Stream Register test failed
900-602	D	900 227	Description: Video Stream hardware test failed
900-6FF	D	900 227	Description: Video Stream hardware test failed
900-701	D	900 227	Description: 0 Degree Short Stroke Draw failed
900-702	D	900 227	Description: 45 Degree Short Stroke Draw failed
900-703	D	900 227	Description: Blue Screen error, or 90 Degree Short Stroke Draw failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
900-704	D	900 227	Description: 135 Degree Short Stroke Draw failed
900-705	D	900 227	Description: White screen error, or 180 Degree Short Stroke Draw failed
900-706	D	900 227	Description: 225 Degree Short Stroke Draw failed
900-707	D	900 227	Description: 270 Degree Short Stroke Draw failed
900-708	D	900 227	Description: 315 Degree Short Stroke Draw failed
900-709	D	900 227	Description: Short Stroke Vector Function test failed
900-727	D	900 227	Description: 11 x 9 Cross hatch grid failed.
900-750	D	Info code	Description: The SCROLLING_21_H_TEST failed.
900-753	D	Info code	Description: The EMC_SCROLLING_17_H_TEST failed
900-7FE	D	900 227	Description: Short Stroke Vector Function test failed
900-7FF	D	software 900 227	Description: Bad vector detected
900-801	D	900 227	Description: Color for PatBlt thru screen failed
900-802	D	900 227	Description: Clipping for PatBlt thru screen failed
900-803	D	900 227	Description: Color for PatBlt Across screen failed
900-804	D	900 227	Description: Clipping for PatBlt Across screen failed
900-805	D	900 227	Description: Pattern Fill Across the Plane test failed
900-8FF	D	900 227	Description: Pattern Fill Across the Plane test failed

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
900-901	D	900 227	Description: Color miscompare of white boxes detected
900-902	D	900 227	Description: Clipping error of white boxes detected
900-903	D	900 227	Description: Color miscompare of color bars detected
900-904	D	900 227	Description: Clipping error of white boxes detected
900-905	D	900 227	Description: Color miscompare of white boxes detected
900-906	D	900 227	Description: Clipping error of white boxes detected
900-907	D	900 227	Description: Color miscompare of white boxes detected
900-908	D	900 227	Description: Clipping miscompare of white boxes detected
900-909	D	900 227	Description: The Area fill test (color bars) failed
900-937	D	900 227	Description: Red screen error
900-959	D	900 227	Description: White screen error
900-961	D	900 227	Description: Black screen error
900-9FF	D	900 227	Description: The Area fill test (color bars) failed
900-A01	D	900 227	Description: Color miscompare of horizontal top line
900-A02	D	900 227	Description: Clipping error of horizontal top line
900-A03	D	900 227	Description: Color miscompare of vertical right line
900-A04	D	900 227	Description: Clipping error of vertical right line

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
900-A05	D	900 227	Description: Color miscompare of horizontal bottom line
900-A06	D	900 227	Description: Clipping error of horizontal bottom line
900-A07	D	900 227	Description: Color miscompare of vertical left line
900-A08	D	900 227	Description: Clipping error of vertical left line
900-A09	D	900 227	Description: Color miscompare of horizontal center line
900-A0A	D	900 227	Description: Clipping error of horizontal center line
900-A0B	D	900 227	Description: Color miscompare of vertical center line
900-A0C	D	900 227	Description: Clipping error of vertical center line
900-A0D	D	900 227	Description: Reserved
900-A0F	D	900 227	Description: Reserved
900-A10	D	900 227	Description: Color miscompare of textured top line
900-A11	D	900 227	Description: Clipping error of textured top line
900-A12	D	900 227	Description: Line Drawing Function test failed
900-AFF	D	900 227	Description: Line Drawing Function test failed
900-B01	D	900 227	Description: Rectangle Area Color miscompare detected
900-B02	D	900 227	Description: Rectangle Area Clip error detected
900-B03	D	900 227	Description: Clipped Area Horizontal color miscompare (background line color wrong)

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
900-B04	D	900 227	Description: Clipped Area Horizontal clip miscompare (clip of background line wrong)
900-B05	D	900 227	Description: Clipped Area Vertical color miscompare (background line color wrong)
900-B06	D	900 227	Description: Clipped Area Vertical clip error (clip of background line wrong)
900-B07	D	900 227	Description: The clipping function test failed.
900-BFF	D	900 227	Description: The clipping function test failed.
900-C01	D	900 227	Description: The BIOS read failed.
900-C02	D	900 227	Description: The BIOS function test failed.
900-CFF	D	900 227	Description: The BIOS function test failed.
900-D01	D	900 227	Description: The HW cursor function test failed.
900-DFF	D	900 227	Description: The HW cursor function test failed.
901-xxx			Description: Vendor SCSI device problem. Refer to the service documentation for this device.
902-xxx			Description: Vendor display problem. Refer to the service documentation for this display.
903-xxx			Description: Vendor Async device problem. Refer to the service documentation for this device.
904-xxx			Description: Vendor Parallel device problem. Refer to the service documentation for this device.
905-xxx			Description: Vendor device problem. Refer to the service documentation for this device.
908-001 to 908-010	D	908 C33 C48	Description: Invalid function request or bad parameters passed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
908-016 to 908-019	D	908	Description: MCIC failed reading header.
908-020	D	C33 908 C36	Description: Error closing 7250 DD.
908-111	D	908 C33 C36	Description: Loader check sum error.
908-112	D	C33 908 C36 C34	Description: DMA failed to complete a transfer.
908-113	D	908 C33 C36	Description: Errors in loading ASCII registers.
908-114 to 908-118	D	C33 908 C36	Description: Errors in loading ASCII registers.
908-120 to 908-150	D	908 C33 C36	Description: DMA transfer or PFCA data error.
908-151 to 908-158	D	908	Description: SPAN board error.
908-160	D	908 C33 System C36	Description: 7250 is not available.
908-200 to 908-254	D	C33 908 C36	Description: GPSS board failure.
908-255	D	C33 C34 908 C48	Description: CP NMI bus timeout interrupt error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
908-256 to 908-454	D	C33 908 C36	Description: GPSS board failure.
908-455	D	C33 908 C34 C48	Description: CP NMI bus timeout interrupt error.
908-456 to 908-699	D	C33 908 C36	Description: GPSS board failure.
908-700 to 908-766	D	C34 C33 C48	Description: BLT or RATTLER error.
908-767 to 908-769	D	C35 C34 C44	Description: VOO feature error.
908-770 to 908-799	D	C34 C33 C48	Description: RSS BIST failure.
908-800	D	C46 D66	Description: Base 16M CHAP0 SIMM bad.
908-801	D	C45 D66	Description: RSS base 12M CHAP0 SIMM bad (801).
908-802	D	C46 D66	Description: RSS AG 16M CHAP0 SIMM bad (802).
908-803	D	C45 D66	Description: RSS AG 12M CHAP0 SIMM bad (803).
908-804	D	C47 D66	Description: RSS TX 16M CHAP0 SIMM bad (804).
908-805	D	C46 D66	Description: Base 16M CHAP 1 SIMM bad (805).
908-806	D	C45 D66	Description: RSS base 12M CHAP1 SIMM bad (806).
908-807	D	C46 D66	Description: RSS AG 16M CHAP1 SIMM bad (807).

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
908-808	D	C45 D66	Description: RSS AG 12M CHAP1 SIMM bad (808).
908-809	D	C47 D66	Description: RSS TX 16M CHAP1 SIMM bad (809).
908-810	D	C46 D66	Description: RSS base 16M CHAP2 SIMM bad (810).
908-811	D	C45 D66	Description: RSS base 12M CHAP2 SIMM bad (811).
908-812	D	C46 D66	Description: RSS AG 16M CHAP2 SIMM bad (812).
908-813	D	C45 D66	Description: RSS AG 12M CHAP2 SIMM bad (813).
908-814	D	C47 D66	Description: RSS TX 16M CHAP2 SIMM bad (814).
908-815	D	C46 D66	Description: RSS base 16M CHAP3 SIMM bad (815).
908-816	D	C45 D66	Description: RSS base 12M CHAP3 SIMM bad (816).
908-817	D	C46 D66	Description: RSS AG 16M CHAP3 SIMM bad (817).
908-818	D	C45 D66	Description: RSS AG 12M CHAP3 SIMM bad (818).
908-819	D	C47 D66	Description: RSS TX 16M CHAP3 SIMM bad (819).
908-820	D	C46 D66	Description: RSS base 16M CHAP4 SIMM bad (820).
908-821	D	C45 D66	Description: RSS base 12M CHAP4 SIMM bad (821).
908-822	D	C46 D66	Description: RSS AG 16M CHAP4 SIMM bad (822).
908-823	D	C45 D66	Description: RSS AG 12M CHAP4 SIMM bad (823).
908-824	D	C47 D66	Description: RSS TX 16M CHAP4 SIMM bad (824).
908-825	D	C34	Description: RSS error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
908-830 to 908-870	D	C34	Description: Multiple SIMMs failed.
908-871 to 908-899	D	D66	Description: RSS error.
908-900 to 908-966	D	D66 C33 C48	Description: RSS error.
908-967 to 908-969	D	C35 D66 C48	Description: VOO error.
908-970 to 908-999	D	D66 C33 C48	Description: RSS error.
912-102	D	912	Description: An unrecoverable media error.
912-104	D	912	Description: The motor failed to restart.
912-105	D	912	Description: The drive did not become ready.
912-106	D	912	Description: The electronics card test failed.
912-108	D	912	Description: The bus test failed.
912-110	D	912	Description: The media format is corrupted.
912-112	D	912	Description: The diagnostic test failed.
912-114	D	912	Description: An unrecoverable hardware error.
912-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
912-117	D	912	Description: A write protect error occurred.
912-118	D	912 B88	Description: A SCSI command time-out.
912-120	D	912	Description: A SCSI busy or command error.
912-122	D	912	Description: A SCSI reservation conflict error.
912-124	D	912	Description: A SCSI check condition error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
912-126	D	912 B88	Description: A software error was caused by a hardware failure.
912-128	G	912	Description: The error log analysis indicates a hardware failure.
912-129	G	190 912 B88 software	Description: Error log analysis indicates a SCSI bus problem.
912-130	G	912	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
912-132	D	912	Description: A disk drive hardware error occurred.
912-134	D	B88 software	Description: The adapter failed to configure.
912-137	D	912 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
913-102	D	913	Description: An unrecoverable media error.
913-104	D	913	Description: The motor failed to restart.
913-105	D	913	Description: The drive did not become ready.
913-106	D	913	Description: The electronics card test failed.
913-108	D	913	Description: The bus test failed.
913-110	D	913	Description: The media format is corrupted.
913-112	D	913	Description: The diagnostic test failed.
913-114	D	913	Description: An unrecoverable hardware error.
913-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
913-117	D	913	Description: A write protect error occurred.
913-118	D	913 B88	Description: A SCSI command time-out.
913-120	D	913	Description: A SCSI busy or command error.
913-122	D	913	Description: A SCSI reservation conflict error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
913-124	D	913	Description: A SCSI check condition error.
913-126	D	913 B88	Description: A software error was caused by a hardware failure.
913-128	G	913	Description: The error log analysis indicates a hardware failure.
913-129	G	190 913 B88 software	Description: Error log analysis indicates a SCSI bus problem.
913-130	G	913	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
913-132	D	913	Description: A disk drive hardware error occurred.
913-134	D	B88 software	Description: The adapter failed to configure.
913-137	D	913 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
914-110	D	914	Description: The Reserve command failed.
914-120	D	914	Description: The Inquiry command failed.
914-130	D	914 media	Description: The Load command failed.
914-135	D	914 media	Description: The Unload command failed.
914-140	D	914	Description: The Mode Select command failed.
914-150	D	914 media	Description: The Test Unit Ready command failed.
914-160	D	914 media	Description: The Send Diagnostic command failed.
914-170	D	914 B88 media	Description: The Read, Write and Compare test failed.
914-180	D	914 media	Description: The Load command failed.
914-185	D	914 media	Description: The Unload command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
914-190	D	914	Description: The Mode Select command failed.
914-200	D	914 media	Description: The Test Unit Ready command failed.
914-210	D	914 B88	Description: The device configuration failed.
914-220	D	914	Description: The Release command failed.
914-230	D	914	Description: The Request Sense command failed.
914-240	D	914	Description: The Openx command failed.
914-300	D	914 software	Description: The device configuration failed.
914-310	D	B88 914 software	Description: SCSI adapter configuration failed.
914-320	G	914 media	Description: Error log analysis indicates a failure.
914-411 to 914-423	D	914 B88 software	Description: A reservation conflict occurred.
914-511 to 914-523	D	914 B88	Description: The drive returned bad or non-extended sense data.
914-611 to 914-623	D	914 B88 software	Description: An adapter or bus I/O error occurred.
914-711 to 914-723	D	914 B88 software	Description: A device timeout error occurred.
915-110	D	915	Description: The Reserve command is corrupted.
915-120	D	915	Description: The Inquiry command failed.
915-130	D	915 media	Description: The Load command failed.
915-135	D	915 media	Description: The Unload command failed.
915-140	D	915	Description: The Mode Select command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
915-150	D	915 media	Description: The Test Unit Ready command failed.
915-160	D	915 media	Description: The Send Diagnostic command failed.
915-169	D	915 media	Description: The send diagnostic command failed.
915-170	D	915 B88 media	Description: The Read, Write and Compare test failed.
915-180	D	915 media	Description: The Load command failed.
915-185	D	915 media	Description: The Unload command failed.
915-190	D	915	Description: The Mode Select command failed.
915-200	D	915 media	Description: The Test Unit Ready command failed.
915-210	D	915 B88	Description: The device configuration failed.
915-220	D	915	Description: The Replace command failed.
915-230	D	915	Description: The Request Sense command failed.
915-240	D	915	Description: The Openx command failed.
915-300	D	915 software	Description: The device configuration failed.
915-310	D	B88 915 software	Description: SCSI adapter configuration failed.
915-320	G	915 media	Description: Error log analysis indicates a failure.
915-411 to 915-423	D	915 B88 software	Description: A reservation conflict occurred.
915-511 to 915-523	D	915 B88	Description: The drive returned bad or non-extended sense data.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
915-611 to 915-623	D	915 B88 software	Description: An adapter or bus I/O error occurred.
915-711 to 915-723	D	915 B88 software	Description: A device timeout error occurred.
917-102	D	917	Description: An unrecoverable media error.
917-104	D	917	Description: The motor failed to restart.
917-105	D	917	Description: The drive did not become ready.
917-106	D	917	Description: The electronics card test failed.
917-108	D	917	Description: The bus test failed.
917-110	D	917	Description: The media format is corrupted.
917-112	D	917	Description: The diagnostic test failed.
917-114	D	917	Description: An unrecoverable hardware error.
917-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
917-117	D	917	Description: A write protect error occurred.
917-118	D	917 B88	Description: A SCSI command time-out.
917-120	D	917	Description: A SCSI busy or command error.
917-122	D	917	Description: A SCSI reservation conflict error.
917-124	D	917	Description: A SCSI check condition error.
917-126	D	917 B88	Description: A software error was caused by a hardware failure.
917-128	G	917	Description: The error log analysis indicates a hardware failure.
917-129	G	190 917 B88 software	Description: Error log analysis indicates a SCSI bus problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
917-130	G	917	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
917-132	D	917	Description: A disk drive hardware error occurred.
917-134	D	B88 software	Description: The adapter failed to configure.
917-135	D	917 B88 software	Description: The device failed to configure.
917-136	D	917	Description: The certify operation failed.
917-137	D	917 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
918-102	D	918	Description: An unrecoverable media error.
918-104	D	918	Description: The motor failed to restart.
918-105	D	918	Description: The drive did not become ready.
918-106	D	918	Description: The electronics card test failed.
918-108	D	918	Description: The bus test failed.
918-110	D	918	Description: The media format is corrupted.
918-112	D	918	Description: The diagnostic test failed.
918-114	D	918	Description: An unrecoverable hardware error.
918-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
918-117	D	918	Description: A write protect error occurred.
918-118	D	918 B88	Description: A SCSI command time-out.
918-120	D	918	Description: A SCSI busy or command error.
918-122	D	918	Description: A SCSI reservation conflict error.
918-124	D	918	Description: A SCSI check condition error.
918-126	D	918 B88	Description: A software error was caused by a hardware failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
918-128	G	918	Description: The error log analysis indicates a hardware failure.
918-129	G	190 918 B88 software	Description: Error log analysis indicates a SCSI bus problem.
918-130	G	918	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
918-132	D	918	Description: A disk drive hardware error occurred.
918-134	D	B88 software	Description: The adapter failed to configure.
918-135	D	918 B88 software	Description: The device failed to configure.
918-136	D	918	Description: The certify operation failed.
918-137	D	918 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
921-101	D	821	Description: An unexpected adapter error occurred.
921-102	D	921 821	Description: An unexpected device or adapter error occurred.
921-103	D	921 821	Description: The keyboard reset failed.
921-104	D	921	Description: Unknown keyboard.
921-105	D	921 821	Description: The keyboard light on test failed.
921-106	D	921 821	Description: The keyboard light off test failed.
921-201	D	821	Description: An unexpected adapter error occurred.
921-202	D	921 821	Description: An unexpected device or adapter error occurred.
921-203	D	921 821	Description: The read keyboard ID test failed.
921-204	D	921	Description: The keyboard layout ID test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
921-205	D	921 821	Description: The keyboard echo test failed.
921-206	D	921 821	Description: The select scan code set test failed.
921-301	D	821	Description: An unexpected adapter error occurred.
921-302	D	921	Description: An unexpected device or adapter error occurred.
921-303	D	921	Description: An error occurred in turning on the lamps.
921-304	D	921	Description: An error occurred in turning off the lamps.
921-401	D	821	Description: An unexpected adapter error occurred.
921-402	D	921 821	Description: An unexpected device or adapter error occurred.
921-403	D	921	Description: Unable to recognize the keyboard.
921-404	D	921 821	Description: The keyboard is failing.
921-501	D	821	Description: An unexpected adapter error occurred.
921-502	D	921 821	Description: An unexpected device or adapter error occurred.
921-503	D	921	Description: The auto-click cannot be disabled.
921-504	D	921	Description: The auto-click cannot be enabled.
921-505	D	921	Description: Unable to recognize the keyboard.
921-601	D	821	Description: An unexpected adapter error occurred.
921-602	D	921 821	Description: An unexpected device or adapter error occurred.
921-603	D	921	Description: The speaker test failed.
921-701	D	921 821	Description: Error configuring the device.
921-901	G	821	Description: The error log analysis indicates an adapter failure.
921-902	G	921 821	Description: The error log analysis indicates a device failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
921-903	G	921 821	Description: The error log analysis indicates an unknown failure.
922-101	D	821	Description: An unexpected adapter error occurred.
922-102	D	922 821	Description: An unexpected device or adapter error occurred.
922-103	D	922 821	Description: The keyboard reset failed.
922-104	D	922	Description: Unknown keyboard.
922-105	D	922 821	Description: The keyboard light on test failed.
922-106	D	922 821	Description: The keyboard light off test failed.
922-201	D	821	Description: An unexpected adapter error occurred.
922-202	D	922 821	Description: An unexpected device or adapter error occurred.
922-203	D	922 821	Description: The read keyboard id test failed.
922-204	D	922	Description: The keyboard layout id test failed.
922-205	D	922 821	Description: The keyboard echo test failed.
922-206	D	922 821	Description: The select scan code set test failed.
922-301	D	821	Description: An unexpected adapter error occurred.
922-302	D	922 821	Description: An unexpected device or adapter error occurred.
922-303	D	922	Description: An error occurred in turning on the lamps.
922-304	D	922	Description: An error occurred in turning off the lamps.
922-401	D	821	Description: An unexpected adapter error occurred.
922-402	D	922 821	Description: An unexpected device or adapter error occurred.
922-403	D	922	Description: The keyboard is failing.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
922-404	D	922 821	Description: Unable to recognize the keyboard.
922-501	D	821	Description: An unexpected adapter error occurred.
922-502	D	922 821	Description: An unexpected device or adapter error occurred.
922-503	D	921	Description: The auto-click cannot be disabled.
922-504	D	922	Description: The auto-click cannot be enabled.
922-505	D	922	Description: Unable to recognize the keyboard.
922-601	D	821	Description: An unexpected adapter error occurred.
922-602	D	922 821	Description: An unexpected device or adapter error occurred.
922-603	D	922	Description: The speaker test failed.
922-701	D	922 821	Description: Error configuring the device.
922-901	G	821	Description: The error log indicates an adapter failed.
922-902	G	922 821	Description: The error log indicates a device failed.
922-903	G	922 821	Description: The error log analysis indicates an unknown failure.
923-101	D	821	Description: An unexpected adapter error occurred.
923-102	D	923 821	Description: An unexpected device or adapter error occurred.
923-103	D	923 821	Description: The keyboard reset failed.
923-104	D	923	Description: Unknown keyboard.
923-105	D	923 821	Description: The keyboard light on test failed.
923-106	D	923 821	Description: The keyboard light off test failed.
923-201	D	821	Description: An unexpected adapter error occurred.
923-202	D	923 821	Description: An unexpected device or adapter error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
923-203	D	923 821	Description: The read keyboard id test failed.
923-204	D	923	Description: The keyboard layout id test failed.
923-205	D	923 821	Description: The keyboard echo test failed.
923-206	D	923 821	Description: The select scan code set test failed.
923-301	D	821	Description: An unexpected adapter error occurred.
923-302	D	923 821	Description: An unexpected device or adapter error occurred.
923-303	D	923	Description: An error occurred in turning on the lamps.
923-304	D	923	Description: An error occurred in turning off the lamps.
923-401	D	821	Description: An unexpected adapter error occurred.
923-402	D	923 821	Description: An unexpected device or adapter error occurred.
923-403	D	923	Description: The keyboard is failing.
923-404	D	923 821	Description: Unable to recognize the keyboard.
923-501	D	821	Description: An unexpected adapter error occurred.
923-502	D	923 821	Description: An unexpected device or adapter error occurred.
923-503	D	923	Description: The auto-click cannot be disabled.
923-504	D	923	Description: The auto-click cannot be enabled.
923-505	D	923	Description: Unable to recognize the keyboard.
923-601	D	821	Description: An unexpected adapter error occurred.
923-602	D	923 821	Description: An unexpected device or adapter error occurred.
923-603	D	923	Description: The speaker test failed.
922-701	D	923 821	Description: Error configuring the device.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
923-901	G	821	Description: The error log indicates an adapter failed.
923-902	G	923 821	Description: The error log analysis indicates a device failure.
923-903	G	923 821	Description: The error log analysis indicates an unknown failure.
925-111	D	925 823	Description: An unexpected device error occurred.
925-112	D	925 823	Description: The device disable test failed.
925-113	D	925	Description: Could not reset the device.
925-114	D	925 823	Description: The read status command failed.
925-115	D	925	Description: The device test failed.
925-116	D	925	Description: Unknown Mouse type.
925-117	D	925 823	Description: Mouse wrap mode failed.
925-118	D	925 823	Description: Error setting mouse parameters.
925-121 to 925-171	D	925	Description: The device test failed.
925-200	D	925 823	Description: A software error was caused by a hardware failure.
925-300	G	925	Description: The error log analysis indicates a hardware failure.
925-301	G	925 823	Description: The error log analysis indicates a hardware failure.
926-104	D	926 159	Description: Input device cable is not attached.
926-111	D	824	Description: Adapter error.
926-112 to 926-115	D	926 824	Description: Device, adapter or tablet reset failed.
926-116	D	159	Description: The input device cable is not attached.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
926-119	D	188	Description: The input device cable is not attached.
926-121	D	824	Description: Adapter error.
926-131	D	824 926	Description: Adapter error.
926-132 to 926-135	D	926	Description: Device or adapter error.
926-141	D	824 926	Description: Adapter error.
926-142 to 926-161	D	926	Description: Device or adapter error.
926-162	D	159 926	Description: Device or adapter error.
926-163	D	159 926	Description: Error in turning off input device LED.
926-164	D	159 926	Description: Error in turning off input device LED.
926-165	D	159	Description: The input device cable is not attached.
926-166	D	188 926	Description: Device or adapter error.
926-167	D	188 926	Description: Error in turning off input device LED.
926-168	D	188 926	Description: Error in turning on input device LED.
926-169	D	188	Description: The input device cable is not attached.
926-172	D	159 926	Description: Device or adapter error.
926-173	D	159 926	Description: Error in turning off input device switch.
926-174	D	159 926	Description: Error in turning on input device switch.
926-175	D	159	Description: The input device cable is not attached.
926-176	D	188 926	Description: Device or adapter error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
926-177	D	188 926	Description: Error in turning off input device switch.
926-178	D	188 926	Description: Error in turning on input device switch.
926-179	D	188	Description: The input device cable is not attached.
926-181	D	824 926	Description: Adapter error.
926-182	D	159 926	Description: Device or adapter error.
926-183	D	159 926	Description: Error in incremental data mode test.
926-184	D	159	Description: The input device cable is not attached.
926-186	D	188 926	Description: Device or adapter error.
926-187	D	188 926	Description: The incremental data mode test failed.
926-188	D	188	Description: The input device cable is not attached.
926-203	D	926 824	Description: Error in disabling tablet.
926-204	D	926 824	Description: Error in enabling tablet.
926-207	D	926 824	Description: Enabled/disabled test failed.
926-208	D	926 824	Description: Enabled/disabled test failed.
926-221	D	824	Description: Adapter error.
926-222	D	926 824	Description: Device or adapter error.
926-225	D	159	Description: The input device cable is not attached.
926-229	D	188	Description: The input device cable is not attached.
926-271	D	926	Description: Adapter error.
926-272	D	159 926	Description: Device or adapter error.
926-273	D	159	Description: Error in input device switch test.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
926-274	D	159	Description: The input device cable is not attached.
926-276	D	188 926	Description: Device or adapter error.
926-277	D	188 926	Description: Error in input device switch test.
926-278	D	188	Description: Input device cable is not attached.
926-281	D	824 926	Description: Adapter error.
926-282	D	159 926	Description: Device or adapter error.
926-283	D	159 926	Description: Error in incremental data mode test.
926-284	D	159	Description: The input device cable is not attached.
926-286	D	188 926	Description: Device or adapter error.
926-287	D	188 926	Description: Error in incremental data mode test.
926-288	D	188	Description: The input device cable is not attached.
927-104	D	927 159	Description: The input device cable is not attached.
927-111	D	824	Description: Adapter error.
927-112	D	927 824	Description: Device or adapter error.
927-113	D	927 824	Description: Tablet reset failed.
927-114	D	927 824	Description: The read configuration test failed.
927-115	D	927 824	Description: The read status test failed.
927-116	D	159	Description: The input device cable is not attached.
927-119	D	188	Description: The input device cable is not attached.
927-121	D	824	Description: Adapter error.
927-122	D	927 824	Description: Device or adapter error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
927-125	D	927 824	Description: The input device cable is not attached.
927-131	D	824 927	Description: Adapter error.
927-132	D	927	Description: Device or adapter error.
927-133	D	927	Description: The set conversion mode test failed.
927-134	D	927	Description: The set resolution test failed.
927-135	D	927	Description: The read status test failed.
927-141	D	824 927	Description: Adapter error.
927-142	D	927	Description: Device or adapter error.
927-143	D	927	Description: Error in tablet indicator.
927-161	D	927	Description: Adapter error.
927-162	D	159 927	Description: Device or adapter error.
927-163	D	159 927	Description: Error in turning off input device LED.
927-164	D	159 927	Description: Error in turning on input device LED.
927-165	D	159	Description: The input device cable is not attached.
927-166	D	188 927	Description: Device or adapter error.
927-167	D	188 927	Description: Error in turning off input device LED.
927-168	D	188 927	Description: Error in turning on input device LED.
927-169	D	188	Description: The input device cable is not attached.
927-171	D	927	Description: Adapter error.
927-172	D	159 927	Description: Device or adapter error.
927-173	D	159 927	Description: Error in turning off input device switch.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
927-174	D	159 927	Description: Error in turning on input device switch.
927-175	D	159	Description: The input device cable is not attached.
927-176	D	188 927	Description: Device or adapter error.
927-177	D	188 927	Description: Error in turning off input device switch.
927-178	D	188 927	Description: Error in turning on input device switch.
927-179	D	188	Description: The input device cable is not attached.
927-181	D	824 927	Description: Adapter error.
927-182	D	159 927	Description: Device or adapter error.
927-183	D	159 927	Description: Error in incremental data mode test.
927-184	D	159	Description: The input device cable is not attached.
927-186	D	188 927	Description: Device or adapter error.
927-187	D	188 927	Description: Error in incremental data mode test.
927-188	D	188	Description: The input device cable is not attached.
927-203	D	927 824	Description: Error in disabling tablet.
927-204	D	927 824	Description: Error in enabling tablet.
927-221	D	824	Description: Adapter error.
927-222	D	927 824	Description: Device or adapter error.
927-225	D	159	Description: The input device cable is not attached.
927-229	D	188	Description: The input device cable is not attached.
927-271	D	927	Description: Adapter error.
927-272	D	159 927	Description: Device or adapter error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
927-273	D	159 927	Description: Error in input device switch test.
927-274	D	159	Description: The input device cable is not attached.
927-276	D	188 927	Description: Device or adapter error.
927-277	D	188 927	Description: Error in input device switch test.
927-278	D	188	Description: The input device cable is not attached.
927-281	D	824 927	Description: Adapter error.
927-282	D	159 927	Description: Device or adapter error.
927-283	D	159 927	Description: Error in incremental data mode test.
927-284	D	159	Description: The input device cable is not attached.
927-286	D	188 927	Description: Device or adapter error.
927-287	D	188 927	Description: Error in incremental data mode test.
927-288	D	188	Description: The input device cable is not attached.
929-201	D	929	Description: Failed to register input ring
929-202	D	929	Description: Unable to read event from the device
929-203	D	929	Description: Unable to communicate with the device.
929-204	D	929	Description: Cannot set the device granularity
929-210	D	929	Description: Device or adapter failure
929-212	D	929	Description: Cannot set the device to HIGH granularity
929-213	D	929	Description: Cannot set the device to LOW granularity
929-299	D	software 929	Description: Error unconfiguring the device
929-301	D	software 929	Description: Error configuring the device
930-201	D	930	Description: Device or adapter failure

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
930-210	G	930	Description: Unable to turn the lights on
930-220	G	930	Description: Unable to turn the lights off hardware failure.
930-230	D	930	Description: Unable to turn the lights off
930-241	D	930	Description: Unable to turn a single light on
930-242	D	930	Description: Device or adapter failure
930-243	D	930	Description: Device or adapter failure
930-261	D	930	Description: Cable test failed
930-262	D	930	Description: Cable test failed
930-299	D	software 930	Description: Error unconfiguring the device
930-301	D	software 930	Description: Error configuring the device
935-101 to 935-102	D	935 828	Description: The diskette-drive select or deselect test failed.
935-103 to 935-107	D	935 828	Description: The diskette failed.
935-108	D	935	Description: The diskette read test failed.
935-109 to 935-110	D	935 828	Description: The read/write on the diskette drive failed.
935-111 to 935-114	D	935	Description: A diskette drive test failed.
935-115 to 935-121	D	935 828	Description: The diskette drive test failed.
935-122	G	935 828	Description: The error log analysis indicates a hardware failure.
935-123	G	935	Description: The error log analysis indicates a hardware failure.
935-124	D	935 software	Description: Unable to configure the device.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
938-101	D	938 227	Description: Hippi Adapter test failed.
938-104	D	938 227	Description: Hippi Adapter test failed.
938-105	D	938 227	Description: Hippi Adapter test failed.
938-108	D	938 227	Description: Hippi Adapter test failed.
938-109	D	938 227	Description: Hippi Adapter test failed.
938-10A	D	938 227	Description: Hippi Adapter test failed.
938-10B	D	938 227	Description: Hippi Adapter test failed.
938-10C	D	Wrap Plug 938	Description: Hippi Adapter test failed.
938-124	D	938 227	Description: Hippi Adapter test failed.
938-600	D	938 227 software	Description: Hippi Adapter test failed.
938-800	D	938 227	Description: Hippi Adapter test failed.
945-102 to 945-114	D	990	Description: 1GB 16-bit SCSI differential disk drive problem.
945-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
945-117	D	990	Description: A write protect error occurred.
945-118	D	990 B88	Description: A SCSI command time-out.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
945-120 to 945-124	D	990	Description: 1GB 16-bit SCSI differential disk drive problem.
945-126	D	990 B88	Description: A software error was caused by a hardware failure.
945-128	G	990	Description: The error log analysis indicates a hardware failure.
945-129	G	950 B88 software	Description: Error log analysis indicates a SCSI bus problem.
945-132	D	990	Description: A disk drive hardware error occurred.
945-134	D	B88 software	Description: The adapter failed to configure.
945-136	D	990	Description: The certify operation failed.
946-111	D	946 227	Description: Cannot run the test because the device driver detected a hardware error.
946-114	D	946	Description: The register verification test failed.
946-121	D	946 227	Description: Cannot run the test because the device driver detected a hardware error.
946-122	D	946 227	Description: The data wrap communications test failed.
946-123	D	946 227	Description: The modem control line test failed.
946-131	D	946	Description: Cannot run the test because the device driver detected a hardware error.
946-132	D	946 227	Description: The data wrap communications test failed.
946-133	D	946	Description: The modem control line test failed.
946-161	D	252	Description: Could not do the test because the device driver detected a hardware error.
946-162	D	252	Description: The data wrap communication test failed.
946-163	D	252	Description: The modem control line test failed.
946-171	D	259	Description: Cannot run the test because the device driver detected a hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
946-172	D	259	Description: The data wrap communications test failed.
946-173	D	259	Description: The modem control line test failed.
946-181	D	261	Description: Cannot run the test because the device driver detected a hardware error.
946-182	D	261	Description: The data wrap communications test failed.
946-183	D	261	Description: The modem control line test failed.
946-271	D	946 259	Description: Cannot run the test because the device driver detected a hardware error.
946-272	D	946 259	Description: The data wrap communication test failed.
946-273	D	946 259	Description: The modem control line test failed.
946-281	D	946 261	Description: Cannot run the test because the device driver detected a hardware error.
946-282	D	946 261	Description: The data wrap communications test failed.
946-283	D	946 261	Description: The modem control line test failed.
946-321	D	946	Description: Cannot run the test because the device driver detected a hardware error.
946-322	D	946	Description: The data wrap communications test failed.
946-323	D	946	Description: The modem control line test failed.
946-331	D	946	Description: Cannot run the test because the device driver detected a hardware error.
946-332	D	946	Description: The data wrap communications test failed.
946-333	D	946	Description: The modem control line test failed.
946-371	D	946	Description: Cannot run the test because the device driver detected a hardware error.
946-372	D	946	Description: The data wrap communications test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
946-373	D	946	Description: The modem control line test failed.
946-381	D	946	Description: Cannot run the test because the device driver detected a hardware error.
946-382	D	946	Description: The data wrap communications test failed.
946-383	D	946	Description: The modem control line test failed.
946-481	D	D56	Description: Could not do the test because the device driver detected a hardware error.
946-482	D	D56	Description: The data wrap communication test failed.
946-483	D	D56	Description: The modem control line test failed.
946-581	D	946 D56	Description: Could not do the test because the device driver detected a hardware error.
946-582	D	946 D56	Description: The data wrap communication test failed.
946-583	D	946 D56	Description: The modem control line test failed.
946-901 to 946-920	D	software 946	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 946; otherwise, suspect a software problem.
946-921	D	946 software	Description: The adapter failed to configure
946-922 to 946-924	D	software 946	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 946; otherwise, suspect a software problem.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
946-925	D	946 software	Description: The adapter failed to configure
946-926 to 946-943	D	software 946	Description: An unexpected error occurred that can be attributed to software or hardware. Action: Run diagnostics from a source other than from the disk or a network. If the same error occurs or if the original SRN was not obtained from disk or a network based diagnostics, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1 with a FFC of 946; otherwise, suspect a software problem.
950-100	C	192	Description: Power supply problem. Action: Use the service documentation for the portable disk.
950-101	F	2C9 153	Description: PCI bus was not found. Action: Rerun diagnostics in Advanced Mode for additional problem isolation.
950-102	C	2C9	Description: PCI bus was not found.
950-103	C	2C9	Description: Multiple adapters on bus were not found.
950-105	C	2C9 221	Description: PCI bus was not found.
950-106	C	2C9	Description: PCI bus was not found.
950-107	C	153 165	Description: The device is not responding Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
950-108	C	201 199 153 165	Description: The device is not responding. Action: For devices located in drawer/deskside units, use the service documentation for the drawer/deskside unit. For all other locations, use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.
950-200	C	152	Description: Power supply problem. Action: Use the service documentation for the external device.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
950-201	C	SCSI Bus	Description: SCSI bus problem. Action: Refer to MAP 2010 in the *7134 High Density SCSI Disk Subsystem Installation and Service Guide*.
950-400	C	153	Description: Power supply problem. Action: Use the service documentation for the drawer/tower containing the failing power supply. If the drawer/deskside unit service documentation does not isolate the problem, go to MAP 1520 in the system unit installation and service guide.
950-440	C	440 B88 190 199 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-441	C	441 B88 190 199 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-442	C	442 B88 190 199 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-443	C	443 B88 190 199 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-500	C	152	Description: Power supply problem. Action: Use the service documentation for either the system unit, rack or drawer/deskside unit the missing device is located in.
950-638	C	638 B88 277 199 152	Description: The SCSI device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
950-639	C	639 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-640	C	640 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-664	C	664 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-678	C	678 B88 190 199 152	Description: The SCSI Tape Drive is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-679	C	679 B88 190 199 152	Description: The SCSI Disk Drive is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-681	C	681 2E7 190 152	Description: The SCSI Disk Drive is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-700	C	700 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-701	C	701 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-702	C	702 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-703	C	703 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-704	C	704 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
950-705	C	705 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-706	C	706 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-707	C	707 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-721	C	721 B88 190 199 152	Description: An unknown drive type is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-722	C	722 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-723	C	723 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-724	C	724 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-734	C	734 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-741	C	741 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-772	C	772 B88 199 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-773	C	773 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
950-789	C	789 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-792	C	792 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-793	C	793 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-804	C	804 B88 152	Description: The device is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-912	C	912 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-914	C	914 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-915	C	915 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-917	C	917 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-918	C	918 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-935	C	935 828 152 199	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-936	C	936 828 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-951	C	951 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
950-952	C	952 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-953	C	953 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-954	C	954 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-955	C	955 B88 141 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-956	C	956 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-959	C	959 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-960	C	960 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-964	C	964 B88 190 199 152	Description: The SCSI Tape Drive is not responding. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-968	C	968 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-970	C	970 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-971	C	971 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
950-972	C	972 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-974	C	974 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-981	C	981 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-984	C	984 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-986	C	986 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-987	C	974 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-989	C	989 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-990	C	990 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-991	C	991 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-994	C	994 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-995	C	995 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.
950-998	C	998 B88 152	Description: Device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
950-xxx (See note in the Action col.)	C	xxx B88 152	Description: The device does not respond. Action: Use Chapter 21, "MAP 0291: Missing Device Problem Resolution" on page 21-1. **Note:** If your 950-xxx SRN is listed in this section, use the procedure for that SRN instead of this one. Otherwise, to obtain the FFC substitute the last three digits of the SRN for xxx. (The substituted three digit number is the FFC.)
951-098	J	951	Description: Disk drive indicates an error.
951-099	J	951 B88	Description: Disk drive not found.
951-102	D	951	Description: An unrecoverable media error.
951-104	D	951	Description: The motor failed to restart.
951-105	D	951	Description: The drive did not become ready.
951-106	D	951	Description: The electronics card test failed.
951-108	D	951	Description: The bus test failed.
951-110	D	951	Description: The media format is corrupted.
951-112	D	951	Description: The diagnostic test failed.
951-114	D	951	Description: An unrecoverable hardware error.
951-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to ensure they are all compatible. If you do not find a problem, call your support person.
951-117	D	951	Description: A write protect error occurred.
951-118	D	951 B88	Description: A SCSI command timeout.
951-120	D	951	Description: A SCSI busy or command error.
951-122	D	951	Description: A SCSI reservation conflict error.
951-124	D	951	Description: A SCSI check condition error.
951-126	D	951 B88	Description: A software error was caused by a hardware failure.
951-128	G	951	Description: The error log analysis indicates a hardware failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
951-129	G	190 951 B88 software	Description: Error log analysis indicates a SCSI bus problem.
951-130	G	951	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
951-132	D	951	Description: A disk drive hardware error occurred.
951-134	D	B88 software	Description: The adapter failed to configure.
951-135	D	951 B88 software	Description: The device failed to configure.
951-136	D	951	Description: The certify operation failed.
951-137	D	951 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
952-098	J	952	Description: Disk drive indicates an error.
952-099	J	952 B88	Description: Disk drive not found.
952-102	D	952	Description: An unrecoverable media error.
952-104	D	952	Description: The motor failed to restart.
952-105	D	952	Description: The drive did not become ready.
952-106	D	952	Description: The electronics card test failed.
952-108	D	952	Description: The bus test failed.
952-110	D	952	Description: The media format is corrupted.
952-112	D	952	Description: The diagnostic test failed.
952-114	D	952	Description: An unrecoverable hardware error.
952-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
952-117	D	952	Description: A write protect error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
952-118	D	952 B88	Description: A SCSI command timeout.
952-120	D	952	Description: A SCSI busy or command error.
952-122	D	952	Description: A SCSI reservation conflict error.
952-124	D	952	Description: A SCSI check condition error.
952-126	D	952 B88	Description: A software error was caused by a hardware failure.
952-128	G	952	Description: The error log analysis indicates a hardware failure.
952-129	G	190 952 B88 software	Description: Error log analysis indicates a SCSI bus problem.
952-130	G	952	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
952-132	D	952	Description: A disk drive hardware error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
952-134	D	B88 software	Description: The adapter failed to configure.
952-135	D	952 B88 software	Description: The device failed to configure.
952-136	D	952	Description: The certify operation failed.
952-137	D	952 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
953-098	J	953	Description: Disk drive indicates an error.
953-099	J	953 B88	Description: Disk drive not found.
953-102	D	953	Description: An unrecoverable media error.
953-104	D	953	Description: The motor failed to restart.
953-105	D	953	Description: The disk drive did not become ready.
953-106	D	953	Description: The electronics card test failed.
953-108	D	953	Description: The bus test failed.
953-110	D	953	Description: The media format is corrupted.
953-112	D	953	Description: The diagnostic test failed.
953-114	D	953	Description: An unrecoverable hardware error.
953-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
953-117	D	953	Description: A write protect error.
953-118	D	953 B88	Description: A SCSI command timeout.
953-120	D	953	Description: A SCSI busy or command error.
953-122	D	953	Description: A SCSI reservation conflict error.
953-124	D	953	Description: A SCSI check condition error.
953-126	D	953 B88	Description: A software error was caused by a hardware failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
953-128	G	953	Description: The error log analysis indicates a hardware failure.
953-129	G	190 953 B88 software	Description: Error log analysis indicates a SCSI bus problem.
953-130	G	953	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
953-132	D	953	Description: A disk drive hardware error occurred.
953-134	D	B88 software	Description: The adapter failed to configure.
953-135	D	953 B88 software	Description: The device failed to configure.
953-136	D	953	Description: The certify operation failed.
953-137	D	953 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
954-098	J	954	Description: Disk drive indicates an error.
954-099	J	954 B88	Description: Disk drive not found.
954-102	D	954	Description: An unrecoverable media error.
954-104	D	954	Description: Motor failed to restart.
954-105	D	954	Description: The disk drive did not become ready.
954-106	D	954	Description: Electronics card failure.
954-108	D	954	Description: Bus failure.
954-110	D	954	Description: The media format is corrupted.
954-112	D	954	Description: Diagnostic failure.
954-114	D	954	Description: An unrecoverable hardware error.
954-116	D		Description: A protocol error was detected. Action: Check the levels of the device, adapter, diagnostic software, and application software, ensure that they are all compatible. If you do not find a problem, call your support person.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
954-117	D	954	Description: Write protect error.
954-118	D	954 B88	Description: SCSI command timeout.
954-120	D	954	Description: SCSI busy/command error.
954-122	D	954	Description: SCSI reservation conflict error.
954-124	D	954	Description: SCSI check condition error.
954-126	D	954 B88	Description: Software error caused by hardware failure.
954-128	G	954	Description: Error log analysis indicates hardware failure.
954-129	G	150 954 B88 software	Description: Error log analysis indicates a SCSI bus problem.
954-130	G	954	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
954-132	D	954	Description: A disk drive hardware error occurred.
954-134	D	B88 software	Description: The adapter failed to configure.
954-135	D	954 B88 software	Description: The device failed to configure.
954-136	D	954	Description: The certify operation failed.
954-137	D	954 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
955-098	J	955	Description: Disk drive indicates an error.
955-099	J	955 B88	Description: Disk drive not found.
955-102	D	955 141	Description: A media error was encountered.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
955-104	D	955 141	Description: The motor failed to restart. Action: For devices installed in a drawer/deskside unit, use the drawer/deskside unit documentation. Refer to "Drawer/Deskside Unit Documentation" under Hints in Chapter 1. For other locations, go to MAP 0210. If the electronics card has been exchanged, exchange the adapter first. If the drawer/deskside unit documentation does not isolate the problem, go to MAP 0210.
955-105	D	955 141	Description: The disk drive did not become ready.
955-106	D	955 141	Description: The electronics card failed.
955-108	D	955	Description: The bus test failed.
955-110	D	955 141	Description: The media format is corrupted.
955-112	D	955 141	Description: The diagnostic test failed.
955-114	D	955 141	Description: An unrecoverable hardware error.
955-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
955-118	D	955 B88	Description: A SCSI command timeout.
955-120	D	955 B88	Description: A SCSI busy or command error.
955-122	D	955	Description: A SCSI reservation conflict error.
955-124	D	955 B88	Description: A SCSI check condition error.
955-126	D	955 B88	Description: A software error was caused by a hardware failure.
955-128	G	955 141	Description: The error log analysis indicates a hardware failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
955-129	G	190 955 B88 software	Description: Error log analysis indicates a SCSI bus problem.
955-130	G	955	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
955-132	D	955	Description: A disk drive hardware error occurred.
955-134	D	B88 software	Description: The adapter failed to configure.
955-135	D	955 B88 software	Description: The device failed to configure.
955-136	D	955 141	Description: The certify operation failed.
955-137	D	955 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
956-102	D	956	Description: An unrecoverable media error.
956-104	D	956	Description: The motor failed to restart.
956-105	D	956	Description: The drive did not become ready.
956-106	D	956	Description: The electronics card test failed.
956-108	D	956	Description: The bus test failed.
956-110	D	956	Description: The media format is corrupted.
956-112	D	956	Description: The diagnostic test failed.
956-114	D	956	Description: An unrecoverable hardware error.
956-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
956-117	D	956	Description: A write protect error occurred.
956-118	D	956 B88	Description: A SCSI command time-out.
956-120	D	956	Description: A SCSI busy or command error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
956-122	D	956	Description: A SCSI reservation conflict error.
956-124	D	956	Description: A SCSI check condition error.
956-126	D	956 B88	Description: A software error was caused by a hardware failure.
956-128	G	956	Description: The error log analysis indicates a hardware failure.
956-130	G	956 B88	Description: The error log analysis indicates a hardware failure.
956-132	D	956	Description: A disk drive hardware error occurred.
956-134	D	B88 software	Description: The adapter failed to configure.
956-136	D	956	Description: The certify operation failed.
959-098	J	959	Description: Disk drive indicates an error.
959-099	J	959 B88	Description: Disk drive not found.
959-102	D	959	Description: Non-recoverable medium error.
959-104	D	959	Description: Motor failed to restart.
959-105	D	959	Description: The drive did not become ready.
959-106	D	959	Description: Electronics card failure.
959-108	D	959	Description: Bus failure.
959-110	D	959	Description: The media format is corrupted.
959-112	D	959	Description: Diagnostic failure.
959-114	D	959	Description: Non-recoverable hardware error.
959-116	D		Description: A protocol error was detected. Action: Check the levels of the device, adapter, diagnostic and application software, and ensure they are all compatible. If you do not find a problem, call your support person.
959-117	D	959	Description: Write protect error.
959-118	D	959 B88	Description: SCSI command timeout.
959-120	D	959	Description: SCSI busy/command error.
959-122	D	959	Description: SCSI reservation conflict error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
959-124	D	959	Description: SCSI check condition error.
959-126	D	959 B88	Description: Software error caused by hardware failure.
959-128	G	959	Description: Error log analysis indicates hardware failure.
959-129	G	190 959 B88 software	Description: Error log analysis indicates a SCSI bus problem.
959-130	G	959	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
959-134	D	B88 software	Description: The adapter failed to configure.
959-135	D	959 B88 software	Description: The device failed to configure.
959-136	D	959	Description: The certify operation failed.
959-137	D	959 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
960-102	D	960	Description: An unrecoverable media error.
960-104	D	960	Description: The motor failed to restart.
960-105	D	960	Description: The drive did not become ready.
960-106	D	960	Description: The electronics card test failed.
960-108	D	960	Description: The bus test failed.
960-110	D	960	Description: The media format is corrupted.
960-112	D	960	Description: The diagnostic test failed.
960-114	D	960	Description: An unrecoverable hardware error.
960-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
960-117	D	960	Description: A write protect error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
960-118	D	960 B88	Description: A SCSI command time-out.
960-120	D	960	Description: A SCSI busy or command error.
960-122	D	960	Description: A SCSI reservation conflict error.
960-124	D	960	Description: A SCSI check condition error.
960-126	D	960 B88	Description: A software error was caused by a hardware failure.
960-128	G	960	Description: The error log analysis indicates a hardware failure.
960-129	G	190 960 B88 software	Description: Error log analysis indicates a SCSI bus problem.
960-130	G	960	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
960-132	D	960	Description: A disk drive hardware error occurred.
960-134	D	B88 software	Description: The adapter failed to configure.
960-135	D	960 B88 software	Description: The device failed to configure.
960-136	D	960	Description: The certify operation failed.
960-137	D	960 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
964-098	J	964	Description: Tape drive indicates an error.
964-099	J	964 B88	Description: Tape drive not found.
964-101	D	964	Description: Timeout while attempting to communicate with SCSI device.
964-102	D	964	Description: The SCSI device indicates busy.
964-103	D	964	Description: The SCSI device indicates a reservation conflict.
964-104	D	964	Description: The SCSI device indicates a check condition.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
964-105	D	964	Description: An error is detected in request sense data.
964-107	D	964	Description: Sense data from the SCSI drive has unexpected data.
964-110	D	964	Description: The Reserve command failed.
964-111	D	964	Description: Invalid condition from the drive after a reserve.
964-112	D	964	Description: The write protect sensor test failed.
964-113	D	964	Description: Invalid condition from drive after a request sense.
964-114	D	964	Description: Timeout while attempting to communicate with the SCSI device.
964-120	D	964	Description: The **Inquiry** command failed.
964-130	D	964 media	Description: The **Load** command failed.
964-134	D	B88 software	Description: The adapter failed to configure.
964-135	D	964 media	Description: The **Unload** command failed.
964-140	D	964	Description: The **Mode Select** command failed.
964-150	D	964 media	Description: The **Test Unit Ready** command failed.
964-160	D	964 media	Description: The **Send Diagnostic** command failed.
964-161	D	964 B88	Description: Invalid condition from the drive after a reserve.
964-163	D	964 B88	Description: Invalid condition from the drive after a request sense.
964-164	D	964 B88	Description: Timeout while attempting to communicate with the SCSI device.
964-165	D	964 B88 276	Description: Write, Read and Compare Test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
964-166	D	964 B88 software	Description: Unable to configure the device.
964-167	D	964 B88	Description: An unexpected SCSI error occurred.
964-168	D	B88 software	Description: The adapter failed to configure.
964-169	D	964 media	Description: The send diagnostic command failed.
964-170	D	964 B88 media	Description: The Read, Write and Compare test failed.
964-180	D	964 media	Description: The **Load** command failed.
964-185	D	964 media	Description: The **Unload** command failed.
964-190	D	964	Description: The **Mode Select** command failed.
964-200	D	964 media	Description: The **Test Unit Ready** command failed.
964-201	G	964 B88	Description: Error diagnosed from error log analysis.
964-210	D	964 B88	Description: The device configuration failed.
964-211	D	964 B88	Description: The device open failed.
964-220	D	964	Description: The **Release** command failed.
964-230	D	964	Description: The **Request Sense** command failed.
964-240	D	964	Description: The **Openx** command failed.
964-260	D	964	Description: The device configuration failed.
964-261	D	964	Description: The device open failed.
964-300	D	964 software	Description: The device configuration failed.
964-310	D	B88 964 software	Description: SCSI adapter configuration failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
964-320	G	964 media	Description: Error log analysis indicates a failure.
964-411 to 964-423	D	964 B88 software	Description: A reservation conflict occurred.
964-511 to 964-523	D	964 B88	Description: The drive returned bad or non-extended sense data.
964-611 to 964-623	D	964 B88 software	Description: An adapter or bus I/O error occurred.
964-711 to 964-723	D	964 B88 software	Description: A device timeout error occurred.
966-101	D	966	Error in non-interactive tests.
966-103	D	966	The test pattern failed.
966-201	D	966 190	Description: Error in non-interactive tests on card
966-203	D	966 190	Description: The test pattern failed.
966-205	D	966 190	Description: Test pattern failed
966-207	D	966 190	Description: Test pattern failed
966-208	D	190	Description: Error in non-interactive test on card
966-209	D	190	Description: Test pattern failed
966-211	D	190	Test pattern failed
966-213	D	190	Test pattern failed
966-304	D	E22 725 966	Video error in interactive test
966-306	D	E23 725 966	Audio error in interactive test

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
966-310	D	E22 725	Video error in interactive test
966-312	D	E23 725	Audio error in interactive test
966-400	D	152 190 E24 166	Error in non-interactive tests
966-402	D	190 E23 E22	Test pattern failed
968-102	D	968	Description: An unrecoverable media error.
968-104	D	968	Description: The motor failed to restart.
968-105	D	968	Description: The drive did not become ready.
968-106	D	968	Description: The electronics card test failed.
968-108	D	968	Description: The bus test failed.
968-110	D	968	Description: The media format is corrupted.
968-112	D	968	Description: The diagnostic test failed.
968-114	D	968	Description: An unrecoverable hardware error.
968-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
968-117	D	968	Description: A write protect error occurred.
968-118	D	968 B88	Description: A SCSI command time-out.
968-120	D	968	Description: A SCSI busy or command error.
968-122	D	968	Description: A SCSI reservation conflict error.
968-124	D	968	Description: A SCSI check condition error.
968-126	D	968 B88	Description: A software error was caused by a hardware failure.
968-128	G	968	Description: The error log analysis indicates a hardware failure.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
968-129	G	190 968 B88 software	Description: Error log analysis indicates a SCSI bus problem.
968-130	G	968	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
968-132	D	968	Description: A disk drive hardware error occurred.
968-134	D	B88 software	Description: The adapter failed to configure.
968-135	D	968 B88 software	Description: The device failed to configure.
968-136	D	968	Description: The certify operation failed.
968-137	D	968 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
969-110	G	D67	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-111	G	D83	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-120	G	D68	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-121	G	D84	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-130	G	D69	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
969-131	G	D85	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-140	G	D70	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-141	G	D86	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-150	G	E11	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-151	G	E14	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-206	G	D72	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-208	G	D73	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-210	G	D71	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-211	G	D87	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-212	G	E12	Description: Residual Data Analysis indicates memory error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
969-220	G	D72	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-221	G	D88	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-230	G	D73	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-231	G	D89	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-240	G	D74	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-241	G	D90	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-250	G	E12	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-251	G	E15	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-310	G	D75	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
969-311	G	D91	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-320	G	D76	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-321	G	D92	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-330	G	D77	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-331	G	D93	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-340	G	D78	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-341	G	D94	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-350	G	E13	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-351	G	E16	Description: Residual Data Analysis indicates memory error. Action: Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
969-600	G		Description: Residual Data Analysis indicates memory error or unsupported memory. Action: Examine the memory modules and determine if they are supported types. If the modules are supported, then replace the appropriate memory module(s). Use Chapter 16, "MAP 0240: Memory Problem Resolution" on page 16-1.
969-701	D	814	Description: NVRAM test failed
969-702	D	151	Description: Time of Day Battery test failed
969-703	D	817	Description: Time of Day Chip test failed
969-800	G	221	Description: Memory problems indicate System Planar failure
969-900	G	D01	Description: L2 cache test failed
970-098	J	970	Description: Tape drive indicates an error.
970-099	J	970 B88	Description: Tape drive not found.
970-101	D	970	Description: Timeout while attempting to communicate with SCSI device.
970-102	D	970	Description: The SCSI device indicates busy.
970-103	D	970	Description: The SCSI device indicates a reservation conflict.
970-104	D	970	Description: The SCSI device indicates a check condition.
970-105	D	970	Description: An error is detected in request sense data.
970-107	D	970	Description: Sense data from the SCSI drive has unexpected data.
970-110	D	970	Description: The Reserve command failed.
970-111	D	970	Description: Invalid condition from the drive after a reserve.
970-112	D	970	Description: The write protect sensor test failed.
970-113	D	970	Description: Invalid condition from drive after a request sense.
970-114	D	970	Description: Timeout while attempting to communicate with the SCSI device.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
970-120	D	970	Description: The **Inquiry** command failed.
970-130	D	970 media	Description: The **Load** command failed.
970-134	D	B88 software	Description: The adapter failed to configure.
970-135	D	970 media	Description: The **Unload** command failed.
970-140	D	970	Description: The **Mode Select** command failed.
970-150	D	970 media	Description: The **Test Unit Ready** command failed.
970-160	D	970 media	Description: The **Send Diagnostic** command failed.
970-161	D	970 B88	Description: Invalid condition from the drive after a reserve.
970-163	D	970 B88	Description: Invalid condition from the drive after a request sense.
970-164	D	970 B88	Description: Timeout while attempting to communicate with the SCSI device.
970-165	D	970 B88 276	Description: Write, Read and Compare Test failed.
970-166	D	970 B88 software	Description: Unable to configure the device.
970-167	D	970 B88	Description: An unexpected SCSI error occurred.
970-168	D	B88 software	Description: The adapter failed to configure.
970-169	D	970 media	Description: The send diagnostic command failed.
970-170	D	970 B88	Description: The Read, Write and Compare test failed.
970-180	D	970 media	Description: The **Load** command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
970-185	D	970 media	Description: The **Unload** command failed.
970-190	D	970	Description: The **Mode Select** command failed.
970-200	D	970 media	Description: The **Test Unit Ready** command failed.
970-201	G	970 B88	Description: Error diagnosed from error log analysis.
970-210	D	970 B88	Description: The device configuration failed.
970-211	D	970 B88	Description: The device open failed.
970-220	D	970	Description: The **Release** command failed.
970-230	D	970	Description: The **Request Sense** command failed.
970-240	D	970	Description: The **Openx** command failed.
970-260	D	970	Description: The device configuration failed.
970-261	D	970	Description: The device open failed.
970-300	D	970 software	Description: The device configuration failed.
970-310	D	B88 970 software	Description: SCSI adapter configuration failed.
970-320	G	970 media	Description: Error log analysis indicates a failure.
970-411 to 970-423	D	970 B88 software	Description: A reservation conflict occurred.
970-511 to 970-523	D	970 B88	Description: The drive returned bad or non-extended sense data.
970-611 to 970-623	D	970 B88 software	Description: An adapter or bus I/O error occurred.
970-711 to 970-723	D	970 B88 software	Description: A device timeout error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
971-098	J	971	Description: Tape drive indicates an error.
971-099	J	971 B88	Description: Tape drive not found.
971-101	D	971	Description: Timeout while attempting to communicate with SCSI device.
971-102	D	971	Description: The SCSI device indicates busy.
971-103	D	971	Description: The SCSI device is indicating a reservation conflict.
971-104	D	971	Description: The SCSI device indicates a check condition.
971-105	D	971	Description: Sense data from the SCSI device shows an error.
971-107	D	971	Description: The SCSI drive returned unexpected sense data.
971-110	D	971	Description: The **Reserve** command failed.
971-111	D	971	Description: Invalid condition from the drive after a reserve.
971-112	D	971	Description: The write protect sensor test failed.
971-113	D	971	Description: Invalid condition from the drive after a request sense.
971-114	D	971	Description: Timeout while attempting to communicate with the SCSI device.
971-120	D	971	Description: The **Inquiry** command failed.
971-130	D	971 media	Description: The **Load** command failed.
971-135	D	971 media	Description: The **Unload** command failed.
971-140	D	971	Description: The **Mode Select** command failed.
971-150	D	971 media	Description: The **Test Unit Ready** command failed.
971-160	D	971 media	Description: The **Send Diagnostic** command failed.
971-161	D	971 B88	Description: Invalid condition from the drive after a reserve.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
971-163	D	971 B88	Description: Invalid condition from the drive after a request sense.
971-164	D	971 B88	Description: Timeout while attempting to communicate with the SCSI device.
971-165	D	971 B88 276	Description: Write, Read and Compare Test failed.
971-166	D	971 B88 software	Description: Unable to configure the device.
971-167	D	971 B88	Description: An unexpected SCSI error occurred.
971-168	D	B88 software	Description: The adapter failed to configure.
971-169	D	971 media	Description: The **Send Diagnostic** command failed.
971-170	D	971 B88 media	Description: The Read, Write and Compare test failed.
971-180	D	971 media	Description: The **Load** command failed.
971-185	D	971 media	Description: The **Unload** command failed.
971-190	D	971	Description: The **Mode Select** command failed.
971-200	D	971 media	Description: The **Test Unit Ready** command failed.
971-201	G	971 B88	Description: An error is diagnosed from the error log analysis.
971-210	D	971 B88	Description: The device configuration failed.
971-211	D	971 B88	Description: The device open test failed.
971-220	D	971	Description: The **Release** command failed.
971-230	D	971	Description: The **Request Sense** command failed.
971-240	D	971	Description: The **Openx** command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
971-260	D	971	Description: The device configuration failed.
971-261	D	971	Description: The device open test failed.
971-300	D	971 software	Description: The device configuration failed.
971-310	D	B88 971 software	Description: SCSI adapter configuration failed.
971-320	G	971 media	Description: Error log analysis indicates a failure.
971-411 to 971-423	D	971 B88 software	Description: A reservation conflict occurred.
971-511 to 971-523	D	971 B88	Description: The drive returned bad or non-extended sense data.
971-611 to 971-623	D	971 software	Description: An adapter or bus I/O error occurred.
971-711 to 971-723	D	971 B88 software	Description: A device timeout error occurred.
972-101	D	972	Description: Timeout while attempting to communicate with SCSI device.
972-102	D	972	Description: The SCSI device indicates busy.
972-103	D	972	Description: The SCSI device indicates a reservation conflict.
972-104	D	972	Description: The SCSI device indicates a check condition.
972-105	D	972	Description: An error is detected in request sense data.
972-107	D	972	Description: The drive has returned unexpected sense data.
972-110	D	972	Description: The Reserve command failed.
972-111	D	972	Description: Invalid condition from the drive after a reserve.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
972-112	D	972	Description: The write protect sensor test failed.
972-113	D	972	Description: Invalid condition from the drive after a request sense.
972-114	D	972	Description: Timeout while attempting to communicate with the SCSI device.
972-120	D	972	Description: The Inquiry command failed.
972-130	D	972 media	Description: The Load command failed.
972-135	D	972 media	Description: The Unload command failed.
972-140	D	972	Description: The Mode Select command failed.
972-150	D	972 media	Description: The Test Unit Ready command failed.
972-160	D	972 media	Description: The Send Diagnostic command failed.
972-161	D	972 B88	Description: Invalid condition from the drive after a reserve.
972-163	D	972 B88	Description: Invalid condition from the drive after a request sense.
972-164	D	972 B88 276	Description: Timeout while attempting communication with SCSI device.
972-165	D	972 B88 276	Description: Write, Read and Compare Test failed.
972-166	D	972 B88 software	Description: Unable to configure the device.
972-167	D	972 B88	Description: An unexpected SCSI error occurred.
972-168	D	B88 software	Description: The adapter failed to configure.
972-169	D	972 media	Description: The send diagnostic command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
972-170	D	972 B88 media	Description: The Read, Write and Compare test failed.
972-180	D	972 media	Description: The Load command failed.
972-185	D	972 media	Description: The Unload command failed.
972-190	D	972	Description: The Mode Select command failed.
972-200	D	972 media	Description: The Test Unit Ready command failed.
972-201	G	972 B88	Description: An error is diagnosed from the error log analysis.
972-210	D	972 B88	Description: The device configuration failed.
972-211	D	972 B88	Description: The device open test failed.
972-220	D	972	Description: The Release command failed.
972-230	D	972	Description: The Request Sense command failed.
972-240	D	972	Description: The Openx command failed.
972-260	D	972	Description: The device configuration test failed.
972-261	D	972	Description: The device open test failed.
972-300	D	972 software	Description: The device configuration failed.
972-310	D	B88 972 software	Description: SCSI adapter configuration failed.
972-320	G	972 media	Description: Error log analysis indicates a failure.
972-411 to 972-423	D	972 B88 software	Description: A reservation conflict occurred.
972-511 to 972-523	D	972 B88	Description: The drive returned bad or non-extended sense data.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
972-611 to 972-623	D	972 B88 software	Description: An adapter or bus I/O error occurred.
972-711 to 972-723	D	972 B88 software	Description: A device timeout error occurred.
973-110	D	973	Description: The Reserve command failed.
973-120	D	973	Description: The Inquiry command failed.
973-130	D	973 media	Description: The Load command failed.
973-135	D	973 media	Description: The Unload command failed.
973-140	D	973	Description: The Mode Select command failed.
973-150	D	973 media	Description: The Test Unit Ready command failed.
973-160	D	973 media	Description: The Send Diagnostic command failed.
973-169	D	973 media	Description: The send diagnostic command failed.
973-170	D	973 B88 media	Description: The Read, Write and Compare test failed.
973-180	D	973 media	Description: The Load command failed.
973-185	D	973 media	Description: The Unload command failed.
973-190	D	973	Description: The Mode Select command failed.
973-200	D	973 media	Description: The Test Unit Ready command failed.
973-210	D	973 B88	Description: The device configuration failed.
973-220	D	973	Description: The Release command failed.
973-230	D	973	Description: The Request Sense command failed.
973-240	D	973	Description: The Openx command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
973-300	D	973 software	Description: The device configuration failed.
973-310	D	B88 973 software	Description: SCSI adapter configuration failed.
973-320	G	973 media	Description: Error log analysis indicates a failure.
973-411 to 973-423	D	973 B88 software	Description: A reservation conflict occurred.
973-511 to 973-523	D	973 B88	Description: The drive returned bad or non-extended sense data.
973-611 to 973-623	D	973 B88 software	Description: An adapter or bus I/O error occurred.
973-711 to 973-723	D	973 B88 software	Description: A device timeout error occurred.
974-111	D	974 B88	Description: Unable to reserve device.
974-112	D	974 B88	Description: Unable to do configuration.
974-113	D	974 B88	Description: Unable to open the device driver.
974-121	D	974	Description: The CD-ROM drive indicates an error.
974-122	D	974	Description: The CD-ROM drive indicates an error.
974-123	D	974	Description: The CD-ROM drive indicates an error.
974-125	D	974 B88	Description: The CD-ROM drive indicates an error.
974-126	D	974	Description: The CD-ROM drive indicates an error.
974-127	D	974	Description: The CD-ROM drive indicates an error.
974-128	D	974	Description: The CD-ROM drive indicates an error.
974-129	D	974	Description: The CD-ROM drive indicates an error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
974-150	D	Test Disc 974	Description: A media error was detected.
974-151	D	974 D88	Description: A command timeout was detected.
974-152	D	974	Description: A command reservation conflict was detected.
974-162	D	974	Description: The CD-ROM drive indicates an error.
974-171	D	974	Description: Unable to reserve device.
974-172	D	974	Description: Unable to do configuration.
974-173	D	974	Description: Unable to open device driver.
974-175	D	974	Description: The CD-ROM drive indicates an error.
974-198	D	974 B88	Description: Undefined error detected.
974-199	D	974	Description: Undefined error detected.
974-211	D	974	Description: The LED test failed.
974-281	D	974	Description: No tone during audio test.
974-301	G	974	Description: Errors found during ELA.
974-302	G	974 B88	Description: Errors log analysis indicates hardware failure.
981-102	D	981	Description: An unrecoverable media error.
981-104	D	981	Description: The motor failed to restart.
981-105	D	981	Description: The drive did not become ready.
981-106	D	981	Description: The electronics card test failed.
981-108	D	981	Description: The bus test failed.
981-110	D	981	Description: The media format is corrupted.
981-112	D	981	Description: The diagnostic test failed.
981-114	D	981	Description: An unrecoverable hardware error.
981-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
981-117	D	981	Description: A write protect error occurred.
981-118	D	981 B88	Description: A SCSI command time-out.
981-120	D	981	Description: A SCSI busy or command error.
981-122	D	981	Description: A SCSI reservation conflict error.
981-124	D	981	Description: A SCSI check condition error.
981-126	D	981 B88	Description: A software error was caused by a hardware failure.
981-128	G	981	Description: The error log analysis indicates a hardware failure.
981-129	G	190 981 B88 software	Description: Error log analysis indicates a SCSI bus problem.
981-130	G	981	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
981-132	D	981	Description: A disk drive hardware error occurred.
981-134	D	B88 software	Description: The adapter failed to configure.
981-136	D	981	Description: The certify operation failed.
981-137	D	981 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
984-102	D	984	Description: An unrecoverable media error.
984-104	D	984	Description: The motor failed to restart.
984-105	D	984	Description: The drive did not become ready.
984-106	D	984	Description: The electronics card test failed.
984-108	D	984	Description: The bus test failed.
984-110	D	984	Description: The media format is corrupted.
984-112	D	984	Description: The diagnostic test failed.
984-114	D	984	Description: An unrecoverable hardware error.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
984-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
984-117	D	984	Description: A write protect error occurred.
984-118	D	984 B88	Description: A SCSI command time-out.
984-120	D	984	Description: A SCSI busy or command error.
984-122	D	984	Description: A SCSI reservation conflict error.
984-124	D	984	Description: A SCSI check condition error.
984-126	D	984 B88	Description: A software error was caused by a hardware failure.
984-128	G	984	Description: The error log analysis indicates a hardware failure.
984-129	G	190 984 B88 software	Description: Error log analysis indicates a SCSI bus problem.
984-130	G	984	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
984-132	D	984	Description: A disk drive hardware error occurred.
984-134	D	B88 software	Description: The adapter failed to configure.
984-137	D	984 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
986-102	D	986	Description: An unrecoverable media error.
986-104	D	986	Description: The motor failed to restart.
986-105	D	986	Description: The drive did not become ready.
986-106	D	986	Description: The electronics card test failed.
986-108	D	986	Description: The bus test failed.
986-110	D	986	Description: The media format is corrupted.
986-112	D	986	Description: The diagnostic test failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
986-114	D	986	Description: An unrecoverable hardware error.
986-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
986-117	D	986	Description: A write protect error occurred.
986-118	D	986 B88	Description: A SCSI command time-out.
986-120	D	986	Description: A SCSI busy or command error.
986-122	D	986	Description: A SCSI reservation conflict error.
986-124	D	986	Description: A SCSI check condition error.
986-126	D	986 B88	Description: A software error was caused by a hardware failure.
986-128	G	986	Description: The error log analysis indicates a hardware failure.
986-129	G	190 986 B88 software	Description: Error log analysis indicates a SCSI bus problem.
986-130	G	986	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
986-132	D	986	Description: A disk drive hardware error occurred.
986-134	D	B88 software	Description: The adapter failed to configure.
986-136	D	986 C11	Description: The certify operation failed.
986-137	D	986 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
987-111	D	987 B88	Description: Unable to reserve device.
987-112	D	987 B88	Description: Unable to do configuration.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
987-113	D	987 B88	Description: Unable to open the device driver.
987-121	D	987	Description: The CD-ROM drive indicates an error.
987-122	D	987	Description: The CD-ROM drive indicates an error.
987-123	D	987	Description: The CD-ROM drive indicates an error.
987-125	D	987	Description: The CD-ROM drive indicates an error.
987-126	D	987	Description: The CD-ROM drive indicates an error.
987-127	D	987	Description: The CD-ROM drive indicates an error.
987-128	D	987	Description: The CD-ROM drive indicates an error.
987-129	D	987	Description: The CD-ROM drive indicates an error.
987-150	D	Test Disc 987	Description: A media error was detected.
987-151	D	987 B88	Description: A command timeout was detected.
987-152	D	987	Description: A command reservation conflict was detected.
987-162	D	987	Description: The CD-ROM drive indicates an error.
987-171	D	987	Description: Unable to reserve device.
987-172	D	987	Description: Unable to do configuration.
987-173	D	987	Description: Unable to open device driver.
987-175	D	987	Description: The CD-ROM drive indicates an error.
987-198	D	987 B88	Description: Undefined error detected.
987-199	D	987	Description: Undefined error detected.
987-211	D	987	Description: The LED test failed.
987-281	D	987	Description: No tone during audio test.
987-301	G	987	Description: Errors found during ELA.
987-302	G	987 B88	Description: Errors found during ELA.
989-102	D	989	Description: An unrecoverable media error
989-104	D	989	Description: The motor failed to restart.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
989-105	D	989	Description: The drive did not become ready.
989-106	D	989	Description: The electronics card test failed.
989-108	D	989	Description: The bus test failed.
989-110	D	989	Description: The media format is corrupted.
989-112	D	989	Description: The diagnostic test failed.
989-114	D	989	Description: A non-recoverable hardware error
989-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
989-117	D	989	Description: A write protect error occurred.
989-118	D	989 B88	Description: A SCSI command time-out.
989-120	D	989	Description: A SCSI busy or command error.
989-122	D	989	Description: A SCSI reservation conflict error
989-124	D	989	Description: A SCSI check condition error
989-126	D	989 B88	Description: A software error was caused by a hardware failure.
989-128	G	989	Description: The error log analysis indicates a hardware failure.
989-129	G	190 989 B88 software	Description: Error log analysis indicates a SCSI bus problem.
989-130	G	989	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
989-132	D	989	Description: A disk drive hardware error occurred.
989-134	D	B88 software	Description: The adapter failed to configure.
989-135	D	989 B88 software	Description: The device failed to configure.
989-136	D	989	Description: The certify operation failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
989-137	D	989 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
990-102	D	990	Description: An unrecoverable media error.
990-104	D	990	Description: The motor failed to restart.
990-105	D	990	Description: The drive did not become ready.
990-106	D	990	Description: The electronics card test failed.
990-108	D	990	Description: The bus test failed.
990-110	D	990	Description: The media format is corrupted.
990-112	D	990	Description: The diagnostic test failed.
990-114	D	990	Description: An unrecoverable hardware error.
990-116	D		Description: A protocol error. Action: Check the levels of the device, adapter, diagnostic software, and application software to be sure they are all compatible. If you do not find a problem, call your support person.
990-117	D	990	Description: A write protect error occurred.
990-118	D	990 B88	Description: A SCSI command time-out.
990-120	D	990	Description: A SCSI busy or command error.
990-122	D	990	Description: A SCSI reservation conflict error.
990-124	D	990	Description: A SCSI check condition error.
990-126	D	990 B88	Description: A software error was caused by a hardware failure.
990-128	G	990	Description: The error log analysis indicates a hardware failure.
990-129	G	190 990 B88 software	Description: Error log analysis indicates a SCSI bus problem.
990-130	G	990	Description: Error log analysis indicates a problem reported by the disk drive's self monitoring function.
990-132	D	990	Description: A disk drive hardware error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
990-134	D	B88 software	Description: The adapter failed to configure.
990-136	D	990	Description: The certify operation failed.
990-137	D	990 B88 190	Description: Unit attention condition has occurred on the **Send Diagnostic** command.
991-101	D	991	Description: Timeout while attempting to communicate with SCSI device.
991-102	D	991	Description: The SCSI device indicates busy.
991-103	D	991	Description: The SCSI device is indicating a reservation conflict.
991-104	D	991	Description: The SCSI device indicates a check condition.
991-105	D	991	Description: Sense data from the SCSI device shows an error.
991-107	D	991	Description: The SCSI drive returned unexpected sense data.
991-110	D	991	Description: The Reserve command failed.
991-111	D	991	Description: Invalid condition from the drive after a reserve.
991-112	D	991	Description: The write protect sensor test failed.
991-113	D	991	Description: Invalid condition from the drive after a request sense.
991-114	D	991	Description: Timeout while attempting to communicate with the SCSI device.
991-120	D	991	Description: The Inquiry command failed.
991-130	D	991 media	Description: The Load command failed.
991-135	D	991 media	Description: The Unload command failed.
991-140	D	991	Description: The Mode Select command failed.
991-150	D	991 media	Description: The Test Unit Ready command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
991-160	D	991 media	Description: The Send Diagnostic command failed.
991-161	D	991 B88	Description: Invalid condition from the drive after a reserve.
991-163	D	991 B88	Description: Invalid condition from the drive after a request sense.
991-164	D	991 B88	Description: Timeout while attempting to communicate with the SCSI device.
991-165	D	991 B88 276	Description: Write, Read and Compare Test failed.
991-166	D	991 B88 software	Description: The device failed to configure.
991-167	D	991 B88	Description: An unexpected SCSI error occurred.
991-168	D	B88 software	Description: The adapter failed to configure.
991-169	D	991 media	Description: The send diagnostic command failed.
991-170	D	991 B88 media	Description: The Read, Write and Compare test failed.
991-180	D	991 media	Description: The Load command failed.
991-185	D	991 media	Description: The Unload command failed.
991-190	D	991	Description: The Mode Select command failed.
991-200	D	991 media	Description: The Test Unit Ready command failed.
991-201	G	991 B88	Description: An error is diagnosed from the error log analysis.
991-210	D	991 B88	Description: The device configuration failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
991-211	D	991 B88	Description: The device open test failed.
991-220	D	991	Description: The Release command failed.
991-230	D	991	Description: The Request Sense command failed.
991-240	D	991	Description: The Openx command failed.
991-260	D	991	Description: The device configuration failed.
991-261	D	991	Description: The device open test failed.
991-300	D	991 software	Description: The device configuration failed.
991-310	D	B88 991 software	Description: SCSI adapter configuration failed.
991-320	G	991 media	Description: Error log analysis indicates a failure.
991-411 to 991-423	D	991 B88 software	Description: A reservation conflict occurred.
991-511 to 991-523	D	991 B88	Description: The drive returned bad or non-extended sense data.
991-611 to 991-623	D	991 B88 software	Description: An adapter or bus I/O error occurred.
991-711 to 991-723	D	991 B88 software	Description: A device timeout error occurred.
994-110	D	994	Description: The Reserve command failed.
994-120	D	994	Description: The Inquiry command failed.
994-130	D	994 media	Description: The Load command failed.
994-135	D	994 media	Description: The Unload command failed.
994-140	D	994	Description: The Mode Select command failed.
994-150	D	994 media	Description: The Test Unit Ready command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
994-160	D	994 media	Description: The Send Diagnostic command failed.
994-169	D	994 media	Description: The send diagnostic command failed.
994-170	D	994 B88 media	Description: The Read, Write and Compare test failed.
994-180	D	994 media	Description: The Load command failed.
994-185	D	994 media	Description: The Unload command failed.
994-190	D	994	Description: The Mode Select command failed.
994-200	D	994 media	Description: The Test Unit Ready command failed.
994-210	D	994 B88	Description: The device configuration failed.
994-220	D	994	Description: The Release command failed.
994-230	D	994	Description: The Request Sense command failed.
994-240	D	994	Description: The Openx command failed.
994-300	D	994 software	Description: The device configuration failed.
994-310	D	B88 994 software	Description: SCSI adapter configuration failed.
994-320	G	994 media	Description: Error log analysis indicates a failure.
994-411 to 994-423	D	994 B88 software	Description: A reservation conflict occurred.
994-511 to 994-523	D	994 B88	Description: The drive returned bad or non-extended sense data.
994-611 to 994-623	D	994 B88 software	Description: An adapter or bus I/O error occurred.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
994-711 to 994-723	D	994 B88 software	Description: A device timeout error occurred.
995-110	D	995	Description: The Reserve command failed.
995-120	D	995	Description: The Inquiry command failed.
995-130	D	995 media	Description: The Load command failed.
995-135	D	995 media	Description: The Unload command failed.
995-140	D	995	Description: The Mode Select command failed.
995-150	D	995 media	Description: The Test Unit Ready command failed.
995-160	D	995 media	Description: The Send Diagnostic command failed.
995-169	D	995 media	Description: The send diagnostic command failed.
995-170	D	995 B88 media	Description: The Read, Write and Compare test failed.
995-180	D	995 media	Description: The Load command failed.
995-185	D	995 media	Description: The Unload command failed.
995-190	D	995	Description: The Mode Select command failed.
995-200	D	995 media	Description: The Test Unit Ready command failed.
995-210	D	995 B88	Description: The device configuration failed.
995-220	D	995	Description: The Release command failed.
995-230	D	995	Description: The Request Sense command failed.
995-240	D	995	Description: The Openx command failed.
995-300	D	995 software	Description: The device configuration failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
995-310	D	B88 995 software	Description: SCSI adapter configuration failed.
995-320	G	995 media	Description: Error log analysis indicates a failure.
995-411 to 995-423	D	995 B88 software	Description: A reservation conflict occurred.
995-511 to 995-523	D	995 B88	Description: The drive returned bad or non-extended sense data.
995-611 to 995-623	D	995 B88 software	Description: An adapter or bus I/O error occurred.
995-711 to 995-723	D	995 B88 software	Description: A device timeout error occurred.
998-110	D	998	Description: The Reserve command failed.
998-120	D	998	Description: The Inquiry command failed.
998-130	D	998 media	Description: The Load command failed.
998-135	D	998 media	Description: The Unload command failed.
998-140	D	998	Description: The Mode Select command failed.
998-150	D	998 media	Description: The Test Unit Ready command failed.
998-160	D	998 media	Description: The Send Diagnostic command failed.
998-169	D	998 media	Description: The send diagnostic command failed.
998-170	D	998 B88 media	Description: The Read, Write and Compare test failed.
998-180	D	998 media	Description: The Load command failed.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
998-185	D	998 media	Description: The Unload command failed.
998-190	D	998	Description: The Mode Select command failed.
998-200	D	998 media	Description: The Test Unit Ready command failed.
998-210	D	998 B88	Description: The device configuration failed.
998-220	D	998	Description: The Release command failed.
998-230	D	998	Description: The Request Sense command failed.
998-240	D	995	Description: The Openx command failed.
998-300	D	995 software	Description: The device configuration failed.
998-310	D	B88 995 software	Description: SCSI adapter configuration failed.
998-320	G	995 media	Description: Error log analysis indicates a failure.
998-411 to 998-423	D	998 B88 software	Description: A reservation conflict occurred.
998-511 to 998-523	D	998 B88	Description: The drive returned bad or non-extended sense data.
998-611 to 998-623	D	998 B88 software	Description: An adapter or bus I/O error occurred.
998-711 to 998-723	D	998 B88 software	Description: A device timeout error occurred.
999-xxx series	D	999	Description: A 7137 or 3514 disk array subsystem problem is indicated. Action: Use 7137 or 3514 documentation.

Service Request Number	SRN Src.	Failing Function Codes	Description and Action (Unless otherwise indicated use Chapter 13, "MAP 0210: General Problem Resolution" on page 13-1.)
9CC-1xx	G		Description: I/O Error on PCI bus. Action: Refer to the Bus SRN to FRU Reference Table in the system unit's service guide. **Note:** xx represents the last 2 digits of the SRN.
9CC-xxx	G	xxx 2C9	Description: I/O Bus Data, Address Parity Error, or Time-out error. **Note:** xxx represents the last 3 digits of the SRN.
xxxxxx	G	none	Description: You have a six-digit error code (like an SRN) containing no dash (-) between the third and fourth digits. Action: Use the "Error Code to FRU Index" in the service guide.
xxxxxxxx	G	none	Description: Refer to the Error Code to FRU Index in the system unit's service guide. Action: Use the "Error Code to FRU Index" in the service guide.

Chapter 34. Six-Digit SRNs A01-xxx through A1D-xxx

The **x** in the following group of SRNs is encoded as follows:

```
8 4 2 1
    │ │ └ Replace all FRUs listed
    │ └── Hot-swap supported
    └──── Software might be the cause
└──────── Reserved
```
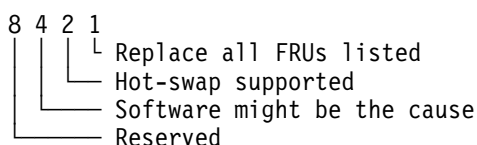
Use the physical location codes and FRU numbers listed on the diagnostics Problem Report Screen.Failing Function Codes (FFCs) are not used in this group of SRNs. For more detailed information refer to Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A00-FF0	G	Description: Error log analysis is unable to determine the error. The error log indicates the following physical FRU locations as the probable causes. Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A01-00x	G	Description: Error log analysis indicates an error detected by the CPU, but the failure could not be isolated. Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A01-01x	G	Description: CPU internal error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A01-02x	G	Description: CPU internal cache or cache controller error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A01-03x	G	Description: External cache parity or multi-bit ECC error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A01-04x	G	Description: External cache ECC single-bit error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A01-05x	G	Description: System bus time-out error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A01-06x	G	Description: Time-out error waiting for I/O Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A01-07x	G	Description: System bus parity error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A01-08x	G	Description: System bus protocol/transfer error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-00x	G	Description: Error log analysis indicates an error detected by the memory controller, but the failure could not be isolated. Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-01x	G	Description: Uncorrectable Memory Error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-02x	G	Description: ECC correctable error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-03x	G	Description: Correctable error threshold exceeded Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-04x	G	Description: Memory Control subsystem internal error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-05x	G	Description: Memory Address Error (invalid address or access attempt) Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-06x	G	Description: Memory Data error (Bad data going to memory) Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-07x	G	Description: Memory bus/switch internal error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-08x	G	Description: Memory time-out error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A02-09x	G	Description: System bus parity error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-10x	G	Description: System bus time-out error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-11x	G	Description: System bus protocol/transfer error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-12x	G	Description: I/O Host Bridge time-out error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-13x	G	Description: I/O Host Bridge address/data parity error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-15x	G	Description: System support function error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A02-16x	G	Description: System bus internal hardware/switch error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-00x	G	Description: Error log analysis indicates an error detected by the I/O device, but the failure could not be isolated. Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-01x	G	Description: I/O Bus Address parity error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-02x	G	Description: I/O Bus Data parity error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-03x	G	Description: I/O bridge/device time-out, access or other error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-04x	G	Description: I/O bridge/device internal error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A03-05x	G	Description: I/O Error on non-PCI bus Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-06x	G	Description: Mezzanine bus address parity error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-07x	G	Description: System bus address parity error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-08x	G	Description: Mezzanine bus data parity error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-09x	G	Description: System bus data parity error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-10x	G	Description: Mezzanine bus time-out, transfer or protocol error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-11x	G	Description: System bus time-out error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-12x	G	Description: Error on System bus Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-13x	G	Description: I/O Expansion bus parity error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-14x	G	Description: I/O Expansion bus time-out error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-15x	G	Description: I/O Expansion bus connection failure Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A03-16x	G	Description: I/O Expansion unit not in an operating state Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A05-00x	G	Description: Error log analysis indicates an environmental and power warning, but the failure could not be isolated. Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A05-01x	G	Description: Sensor indicates a fan has failed Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A05-02x	G	Description: System shutdown due to a fan failure Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A05-03x	G	Description: Sensor indicates a voltage outside normal range Action: Use MAP 1540.
A05-04x	G	Description: System shutdown due to voltage outside normal range Action: Use MAP 1540.
A05-05x	G	Description: Sensor indicates an abnormally high internal temperature Action: Verify that: 1. The room ambient temperature is within the system operating environment. 2. There is unrestricted air flow around the system. 3. All system covers are closed. 4. There are no fan failures. If none of these problems exist, then proceed with Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A05-06x	G	Description: System shutdown due to abnormally high internal temperature Action: Verify that: 1. The room ambient temperature is within the system operating environment. 2. There is unrestricted air flow around the system. 3. All system covers are closed. 4. There are no fan failures. If none of these problems exist, then proceed with Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A05-07x	G	Description: Sensor indicates a power supply has failed Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A05-08x	G	Description: System shutdown due to power supply failure Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A05-09x	G	Description: Sensor detected a FRU that has failed Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A05-10x	G	Description: System shutdown due to FRU that has failed Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A05-14x	G	Description: System shutdown due to power fault with an unspecified cause Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A05-16x	G	Description: System shutdown due to internal power supply failure Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A05-19x	G	Description: System shutdown due to Fan failure Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A05-21x	G	Description: System shutdown due to Over temperature condition Action: Verify the following: • The room ambient temperature is within the system operating environment. • There is unrestricted air flow around the system. • All system covers are closed. If all conditions are met, then use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A05-22x	G	Description: System shutdown due to over temperature and fan failure Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-00x	G	Description: Error log analysis indicates an error detected by the Service Processor, but the failure could not be isolated. Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A0D-01x	G	**Note:** Ensure that the system IPLROS and Service Processor are at the latest firmware level before removing any parts from the system. Description: Time-out communication response from Service Processor Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-02x	G	Description: I/O (I2C) general bus error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-03x	G	Description: Secondary I/O (I2C) general bus error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-04x	G	Description: Internal Service Processor memory error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-05x	G	Description: Service Processor error accessing special registers Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-06x	G	Description: Service Processor reports unknown communication error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-07x	G	Description: Internal Service Processor firmware error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-08x	G	Description: Other internal Service Processor hardware error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-09x	G	Description: Service Processor error accessing Vital Product Data EEPROM Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-10x	G	Description: Service Processor error accessing Operator Panel Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-11x	G	Description: Service Processor error accessing Power Controller Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A0D-12x	G	Description: Service Processor error accessing Fan Sensor Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-13x	G	Description: Service Processor error accessing Thermal Sensor Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-14x	G	Description: Service Processor error accessing Voltage Sensor Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-17x	G	Description: Service Processor error accessing serial port Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-18x	G	Description: Service Processor detected NVRAM error Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-19x	G	Description: Service Processor error accessing Real Time Clock/Time-of-Day Clock Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-20x	G	Description: Service Processor error accessing JTAG/COP controller/hardware Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-21x	G	Description: Service Processor detect error with Time-of-Day Clock backup battery Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-24x	G	Description: Service Processor detected a surveillance time-out Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-25x	G	Description: Power Control Network general connection failure Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A0D-26x	G	Description: Power Control Network node failure Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A0D-29x	G	Description: Service Processor error accessing Power Control Network Action: Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A10-200	E	Description: The resource was marked failed by the platform. The system is operating in degraded mode. Action: Schedule maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A10-210	D	Description: The processor has been deconfigured. The system is operating in degraded mode. Action: Schedule maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-00x	G	Description: A non-critical error has been detected. Error log analysis indicates an error detected by the CPU, but the failure could not be isolated. Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-01x	G	Description: A non-critical error has been detected. CPU internal error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-02x	G	Description: A non-critical error has been detected. CPU internal cache or cache controller error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-03x	G	Description: A non-critical error has been detected. External cache parity or multi-bit ECC error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-04x	G	Description: A non-critical error has been detected. External cache ECC single-bit error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-05x	G	Description: A non-critical error has been detected. System bus time-out error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A11-06x	G	Description: A non-critical error has been detected. Time-out error waiting for I/O Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-07x	G	Description: A non-critical error has been detected. System bus parity error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-08x	G	Description: A non-critical error has been detected. System bus protocol/transfer error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-50x	G	Description: Recoverable errors on resource indicate a trend toward an unrecoverable error. However, the resource could not be deconfigured and is still in use. The system is operating with the potential for an unrecoverable error. Action: If repair is not immediately available, reboot and the resource will be deconfigured. Then operations can continue in a degraded mode. To repair use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-510	G	Description: Resource has been deconfigured and is no longer in use due to a trend toward an unrecoverable error. Action: The system is operating in a degraded mode. Schedule maintenance. To repair use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-520	G	Description: Recoverable errors on resource indicate a trend toward an unrecoverable error. However, the resource could not be deconfigured and is still in use. The system is operating with the potential for an unrecoverable error. Action: Try removing the processes from the failing processor and retry the deconfiguration, use the **ha_star -C** command. An alternative is reboot, and the processor will be deconfigured. Then the system can continue in a degraded mode. To repair use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A11-530	G	Description: Recoverable errors on resource indicate a trend toward an unrecoverable error. However, the resource could not be deconfigured and is still in use. The system is operating with the potential for an unrecoverable error. Run-time processor deconfiguration can be enabled to deconfigure the processor. Action: To enable run-time processor deconfiguration, use the **chdev -a cpuguard=enable -l sys0** command. Then to retry the deconfiguration, use the **ha_star -C** command. An alternative is reboot, and the processor will be deconfigured. Then the system can continue in a degraded mode. To repair use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-540	G	Description: Recoverable errors on resource indicate a trend toward an unrecoverable error. However, the resource could not be deconfigured and is still in use. The system is operating with the potential for an unrecoverable error. Action: If repair is not immediately available, reboot and the resource will be deconfigured. Then operations can continue in a degraded mode. To repair use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A11-550	G	Description: Recoverable errors on resource indicate a trend toward an unrecoverable error. However, the resource could not be deconfigured and is still in use. The system is operating with the potential for an unrecoverable error. Action: If repair is not immediately available, reboot and the resource will be deconfigured. Then operations can continue in a degraded mode. To repair use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-00x	G	Description: A non-critical error has been detected. Error log analysis indicates an error detected by the memory controller, but the failure could not be isolated. Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-01x	G	Description: A non-critical error has been detected. Uncorrectable Memory Error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-02x	G	Description: A non-critical error has been detected. ECC correctable error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A12-03x	G	Description: A non-critical error has been detected. Correctable error threshold exceeded Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-04x	G	Description: A non-critical error has been detected. Memory Control Subsystem internal error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-05x	G	Description: A non-critical error has been detected. Memory Address Error (invalid address or access attempt) Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-06x	G	Description: A non-critical error has been detected. Memory Data error (Bad data going to memory) Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-07x	G	Description: A non-critical error has been detected. Memory bus/switch internal error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-08x	G	Description: A non-critical error has been detected. Memory time-out error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-09x	G	Description: A non-critical error has been detected. System bus parity error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-10x	G	Description: A non-critical error has been detected. System bus time-out error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-11x	G	Description: A non-critical error has been detected. System bus protocol/transfer error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-12x	G	Description: A non-critical error has been detected. I/O Host Bridge time-out error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A12-13x	G	Description: A non-critical error has been detected. I/O Host Bridge address/data parity error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-15x	G	Description: A non-critical error has been detected. System support function error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-16x	G	Description: A non-critical error has been detected. System bus internal hardware/switch error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A12-50x	G	Description: Recoverable errors on resource indicate a trend toward an unrecoverable error. However, the resource could not be deconfigured and is still in use. The system is operating with the potential for an unrecoverable error. Action: If repair is not immediately available, reboot and the resource will be deconfigured. Then operations can continue in a degraded mode. To repair use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-00x	G	Description: A non-critical error has been detected. Error log analysis indicates an error detected by the I/O device, but the failure could not be isolated. Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-01x	G	Description: A non-critical error has been detected. I/O Bus Address parity error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-02x	G	Description: A non-critical error has been detected. I/O Bus Data parity error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-03x	G	Description: A non-critical error has been detected. I/O Bus time-out, access or other error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A13-04x	G	Description: A non-critical error has been detected. I/O bridge/device internal error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-05x	G	Description: A non-critical error has been detected. I/O Error on non-PCI bus Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-06x	G	Description: A non-critical error has been detected. Mezzanine bus address parity error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-07x	G	Description: A non-critical error has been detected. System bus address parity error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-08x	G	Description: A non-critical error has been detected. Mezzanine bus data parity error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-09x	G	Description: A non-critical error has been detected. System bus data parity error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-10x	G	Description: A non-critical error has been detected. Mezzanine bus time-out error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-11x	G	Description: A non-critical error has been detected. System bus time-out error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-12x	G	Description: A non-critical error has been detected. Error on system bus Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-13x	G	Description: A non-critical error has been detected. I/O Expansion bus parity error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A13-14x	G	Description: A non-critical error has been detected. I/O Expansion bus time-out error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-15x	G	Description: A non-critical error has been detected. I/O Expansion bus connection failure Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-16x	G	Description: A non-critical error has been detected. I/O Expansion unit not in an operating state Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A13-50x	G	Description: Recoverable errors on resource indicate a trend toward an unrecoverable error. However, the resource could not be deconfigured and is still in use. The system is operating with the potential for an unrecoverable error. Action: If repair is not immediately available, reboot and the resource will be deconfigured. Then operations can continue in a degraded mode. To repair use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-01x	G	Description: Sensor indicates a fan is turning too slowly Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-03x	G	Description: Sensor indicates a voltage outside normal range Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-05x	G	Description: Sensor indicates an abnormally high internal temperature Action: Verify that: 1. The room ambient temperature is within the system operating environment. 2. There is unrestricted air flow around the system. 3. All system covers are closed. 4. There are no fan failures. If none of these problems exist, then proceed with Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-07x	G	Description: Sensor indicates a power supply has failed Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A15-09x	G	Description: Sensor indicates a FRU has failed Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-11x	G	Description: Sensor detected a redundant fan failure Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-12x	G	Description: Sensor detected redundant power supply failure Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-13x	G	Description: Sensor detected a redundant FRU that has failed Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-14x	G	Description: Power fault due to unspecified cause Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-16x	G	Description: Internal power supply failure Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-17x	G	Description: Internal redundant power supply failure Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-19x	G	Description: Fan failure Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-20x	G	Description: Non-critical cooling problem, loss of redundant fan Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-21x	G	Description: Over temperature condition Action: Verify the following: • The room ambient temperature is within the system operating environment. • There is unrestricted air flow around the system. • All system covers are closed. If all conditions are met, then use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-22x	G	Description: Fan failure and Over temperature condition Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A15-23x	G	Description: Non-critical power problem, loss of redundant power supply Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A15-50x	G	Description: Recoverable errors on resource indicate a trend toward an unrecoverable error. However, the resource could not be deconfigured and is still in use. The system is operating with the potential for an unrecoverable error. Action: If repair is not immediately available, reboot and the resource will be deconfigured. Then operations can continue in a degraded mode. To repair use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-00x	G	Description: A non-critical error has been detected. Error log analysis indicates an error detected by the Service Processor, but the failure could not be isolated. Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-01x	G	**Note:** Ensure that the system IPLROS and Service Processor are at the latest firmware level before removing any parts from the system. Description: A non-critical error has been detected. Time Out communication response from Service Processor Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-02x	G	Description: A non-critical error has been detected. I/O (I2C) general bus error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-03x	G	Description: A non-critical error has been detected. Secondary I/O (I2C) general bus error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-04x	G	Description: A non-critical error has been detected. Internal Service Processor memory error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-05x	G	Description: A non-critical error has been detected. Service Processor error accessing special registers Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A1D-06x	G	Description: A non-critical error has been detected. Service Processor reports unknown communication error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-07x	G	Description: A non-critical error has been detected. Internal Service Processor firmware error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-08x	G	Description: A non-critical error has been detected. Other internal Service Processor hardware error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-09x	G	Description: A non-critical error has been detected. Service Processor error accessing Vital Product Data EEPROM Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-10x	G	Description: A non-critical error has been detected. Service Processor error accessing Operator Panel Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-11x	G	Description: A non-critical error has been detected. Service Processor error accessing Power Controller Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-12x	G	Description: A non-critical error has been detected. Service Processor error accessing Fan Sensor Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-13x	G	Description: A non-critical error has been detected. Service Processor error accessing Thermal Sensor Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-14x	G	Description: A non-critical error has been detected. Service Processor error accessing Voltage Sensor Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-17x	G	Description: A non-critical error has been detected. Service Processor error accessing serial port Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Service Request Number	SRN Src.	Description and Action (Unless otherwise indicated use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.)
A1D-18x	G	Description: A non-critical error has been detected. Service Processor detected NVRAM error Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-19x	G	Description: A non-critical error has been detected. Service Processor error accessing Real Time Clock/Time-of-Day Clock Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-20x	G	Description: A non-critical error has been detected. Service Processor error accessing JTAG/COP controller/hardware Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-21x	G	Description: A non-critical error has been detected. Service Processor detected error with Time-of-Day Clock backup battery Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-24x	G	Description: A non-critical error has been detected. Service Processor detected a surveillance time-out Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-25x	G	Description: A non-critical error has been detected. Power Control Network general connection failure Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-26x	G	Description: A non-critical error has been detected. Power Control Network node failure Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-29x	G	Description: A non-critical error has been detected. Service Process error accessing Power Control Network Action: Schedule deferred maintenance. Use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.
A1D-50x	G	Description: Recoverable errors on resource indicate a trend toward an unrecoverable error. However, the resource could not be deconfigured and is still in use. The system is operating with the potential for an unrecoverable error. Action: If repair is not immediately available, reboot and the resource will be deconfigured. Then operations can continue in a degraded mode. To repair use Chapter 15, "MAP 0230 Platform Error Problem Resolution" on page 15-1.

Chapter 35. Failing Function Codes (FFCs)

Failing function codes represent functions within the system unit.

Description of the Failing Function Code List

The failing function codes are listed in numerical sequence.

A function may not be physically packaged on the same FRU in different system units. When this condition exists, the FRU part number for each type of system unit is listed.

The columns in the failing function code list are as follows:

Failing Function Code: The failing function code number from the SRN list in Chapter 16.

Machine Type/Model: This column is used when the failing function is on a FRU which differs by machine type and model. Use the part number for the type system unit you are servicing. See "Machine Types" in this chapter for the names of the machine types.

Note: Although the machine cover logo may depict the model number as four digits, the service and parts ordering system requires three-digit numbers. For example, if the cover logo depicts model number xxx, service and parts documentation may refer to that model as xxx.

Part Number: This column contains the part number of the FRU that contains the failing function. Use the part number for the type of system unit you are servicing.

Description and Notes: This column contains the description of the FRU and any usage notes. The FRU description may be different in different system units. Use the one for the type of system unit you are servicing.

Machine Types

Machine Type	Description
3151	Display Terminal
3161	Display Terminal
3163	Display Terminal
3514	External Disk Array, Models 212 and 213
3812	Pageprinter
3852	Printer
4201	Proprinter II
4202	Proprinter XL
4207	Proprinter X24
4208	Proprinter XL24
4216	Personal Pageprinter
4224	Printer
4234	Printer
4869	5.25-Inch External Diskette Drive
5081	Color Display
5083	Tablet
5085	Graphics Processor
5086	Graphics Processor
5088	Communications Controller
5202	Quietwriter Printer
5204	Quickwriter Printer
6094	Model 10, Dials
6094	Model 20, Lighted Program Function Keyboard (LPFK)
6094	Model 30, Spaceball™
6180	M1 color plotter
6182	Color Plotter
6184	Color Plotter
6185	Model 1 Color Plotter
6186	Color Plotter
6187	Plotter
7372	Plotter
7017	System Unit (Rack Mount), I/O Rack (with up to 4 I/O drawers)
7024	System Unit (Floor Standing)
7025	System Unit (Floor Standing)
7026	System Unit (Rack Mount)
7027	Disk Drive Drawer
7043	System Unit (Models 140, 150, 240, 260)
7131	Model 105 SCSI Multi-Storage Tower
7134	High Density SCSI Disk Subsystem, Model 010.
7137	Disk Array Subsystem Models 412, 413, and 414
7135	RAIDiant Array SCSI Disk Drive Subsystem, Models 010 and 110
7203	External Portable Disk Drive
7204	External Disk Drive Model 320
7206	2.0GB or 4.0GB External 4mm Tape Drive .24/48GB DDS-2 4mm Autotape Loader
7207	150MB, 525MB or 1.2GB External 1/4-Inch Cartridge Tape Drive
7208	2.3 GB or 5.0 GB External 8mm Tape Drive
7210	External CD-ROM Drive

Machine Type	Description
7235	POWERgraphics GTO graphics subsystem
7250	POWERgraphics Accelerator
7317	System Unit, (Telco Rack Mounted)
7331	Model 205 8mm Tape Library
7332	Model 005 4mm Tape Library
8508	Monochrome Display
9076	SMP Thin/Wide Node
9076	Power3 SMP Thin/Wide Node
9076	Power3 SMP High Node
9333	High-Performance Disk Drive Subsystem Models 010 and 011
9333	High-Performance Disk Drive Subsystem Models 500 and 501
9334	SCSI Expansion Unit Model 010 (Single-Ended), Model 011 (Differential)
9334	SCSI Expansion Unit Model 500 (Single-Ended), Model 501 (Differential)
9348	1/2-Inch 9-Track Tape Drive

Failing Function Code List

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
131			Unidentified memory error. Check all Memory Modules to be present and properly installed. Check all Memory Modules to be the same. If no discrepancy is found then replace the memory module in the location called out by the flashing 888 LEDs. Go to MAP 1540 in either the service guide or the installation and service guide for this system unit.
132			The program that just loaded may be damaged.
151		33F8354	Battery, time-of-day, NVRAM, etc. Battery **Notes:** After replacement of this FRU the following must be done by you or the customer: a. Time and date must be set. b. Network IP addresses should be set (for machines that IPL from a network). c. The bootlist should be set to reflect the customers preference for the IPL devices (when set different than the default values).
	Model S70 Model S7A Model S80	08L1189 16G8095	Service Processor Card Battery
	9076 SMP Thin/Wide Node	41L6138	I/O Planar (Check NVRAM jumper)
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O Planar (Check NVRAM jumper)
	9076/Power3 SMP High Node	11K0571	NIO Planar **Note:** There is no battery for this model.

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
152			System Power Supply problem
	Model S70	21H7030	AC Bulk Power Supply
		21H6961	SPCN card
		21H7763	Programmable regulator asm
		21H7100	Memory regulator asm
		93H3753	AC box, Domestic (U.S.) single phase
		93H3734	AC box, World Trade, single phase
		93H3682	AC box, World Trade, two phase
		07L6658	Bulk Power Supply (-48V DC)
		07L6656	DC box (-48V DC)
	Model S7A	21H7030	AC Bulk Power Supply
		21H6961	SPCN card
		21H7763	Programmable regulator asm
		21H7100	Memory regulator asm
		93H3753	AC box, Domestic (U.S.) single phase
		93H3734	AC box, World Trade, single phase
		93H3682	AC box, World Trade, two phase
		97H9465	Power distribution board
		08L1336	I/O Drawer Power Supply
	Model S80		System Rack
		21H7719	AC Bulk Power Supply
		21H6961	SPCN Card
		21H7763	Programmable Regulator Asm
		21H3603	CPM Regulator Asm
		93H3753	AC Box, Domestic (U.S.) Single Phase
		93H3734	AC Box, World Trade, Single Phase
		93H3682	AC Box, World Trade, Two Phase
			I/O Rack
		97H9465	Power Distribution Board
		08L1336	I/O Drawer Power Supply
	7024	93H3504	Power Supply
	7025/F30	40H5428	Power Supply (474 Watts)

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
152 (cont.)	7025/F30 7025/F40	12J5701	Optional Power Supply **Note:** If your are replacing the power supply because of receiving SRNs 950-700 thru 950-998, replace the optional power supply first.
	7025/F40	07L7476	Power Supply (575 watts)
	7025/F50	93H9789	Power Supply
	7026/H10	93H8714	System Power Supply problem Power Supply
	7026/H50	93H9551 08L1336 97H9464	Power Distribution Board Power Supply Power Supply(-48V DC) **Note:** Replace the Power Distribution Board before replacing the power supply.
	7026/H70	08L0388 94H1041 41L4881	Power Distribution Board Power Supply Power Supply(-48V DC) **Note:** Replace the Power Distribution Board before replacing the power supply.
	7043/140 7043/150 7043/240	40H7566 40H7563	PFC Power Supply (Japan Only) Non-PFC Power Supply (Other Countries)
	7043/260	97H9337	Power supply

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
152 (cont.)	7203	00G2960	Bridge Box Power Supply problem Power supply
	7204/001	46G3934	
	7204/112/113/114 /139/317/325/339	59H3760	
	7204/010/215/315	8191380	
	7206/001	46G3934	
	7206/002	8191380	
	7207/001/011	00G2960	
	7207/012	46G3934	
	7207/315	59H3760	
	7208/001	00G2960	
	7208/011 7208/034 7208/341 7208/342	46G3934 59H3760 59H2835 59H2836	
	7209	46G3934	
	7210/001	00G2960	
	7210/005	65G7585	Power supply/enclosure
	7210/010	59H3760	Power supply
152 (cont.)	7236 MediaStreamer	40H7566	Power Supply
	7317/F3L	93H2232	Power Supply
	16-Port RAN	93H7091	Power Supply for Remote Async Node, FRU Part Number 51G8139, 93H6549, and 93H6563

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
152 (cont.)	9076 SMP Thin/Wide Node	11J6523	System Power Supply problem CPU Power Supply
	9076/Power3 SMP Thin/Wide Node	31L7865	CPU Power Supply **Note:** Replace the Power Mix Card before replacing the power supply.
	9076/Power3 SMP High Node	12K0447 12K0448 12K0449 12K0450 12K0452	2.5V DC/DC Regulator Card 3.3V DC/DC Regulator Card +5V/Standby/+12V DC/DC Reg Crd -5V/-12V DC/DC Regulator Card Power Distribution Board
	9076/Power3 RIO Drawer	11J6495	Power Card (2)
153	Model S70	07L7178 93H8714 93H7539 93H7542	Device, Drawer, Exp Unit Pwr Sup 1/4 Power Supply (AC) 3/4 Power Supply (AC) 1/4 Power Supply (-48V DC) 3/4 Power Supply (-48V DC)
		Model S7A	08L1336
		I/O Drawer Power Supply	Model S80
		08L1336	I/O Drawer Power Supply
159		6247455	Tablet Puck problem Tablet cursor, Models 21, 22
		74F3131	Tablet cursor, 4-button, 6093 Models 11, 12
		74F3132	Tablet cursor, 6-button, 6093 Models 11, 12

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
165	Model S70	91H1381 08L1189	Indicator Card Service Processor Card
	Model S7A	91H1381 07L9514 08L1189	Indicator Card Drawer Indicator Panel Card Service Processor Card **Note:** See the location codes in the system unit service guide to determine if the operator panel or the drawer indicator panel is the failing FRU.
	Model S80	91H1381 07L9514 08L1189	Indicator Card Drawer Indicator Panel Card Service Processor Card **Note:** See the location codes in the system unit service guide to determine if the operator panel or the drawer indicator panel is the failing FRU.
	7024	93H4859 40H5434	Display panel Display cable
	7025/F30	82G3614 71G6290 93H5911	Display panel Display cable Operator panel control asm
	7025/F40	82G3614 93H1816 07L7600	Display panel Display cable Operator panel control asm
	7025/F50	06H7082 93H1816 93H2922	Display panel Display cable Operator panel control asm
	7026/H10	82G3614 93H1816 93H7439	Display panel Display cable Operator panel control asm
	7026/H50	06H7082 93H1816 93H2922	Display panel Display cable Operator panel control asm
	7026/H70	06H7082 93H1816 41L6006	Display panel Display cable Operator panel control asm

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
165 (cont.)	7043/140 7043/150 7043/240	73H3766	Operator Panel problem Operator panel circuit asm
	7043/260	97H9328 97H9442 07L7234	Operator panel signal cable Operator panel audio cable Operator panel asm
	7317/F3L	82G3614 71G6290 73H0895	Display panel Display cable Operator panel control asm
	9076 SMP Thin/Wide Node	11J4000	Supervisor Card
	9076/Power3 SMP Thin/Wide Node	11J4000	Supervisor Card

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
166			Fan Assembly or Blower problem
	Model S70	21H6959 40H4878	System rack blower 3 Fan asm
	Model S7A	21H6959 41L6269 93H8868	System rack blower I/O drawer blower DASD Fan Assembly

	Model S80	21H6959
		
		41L6269
		93H8868
			System Rack
			  System rack blower
			I/O Rack
			  I/O drawer blower
			  DASD Fan Assembly

	7024	06H2647	Fan
	7025/F30	39H9898	Fan
	7025/F40	40H1424 40H1423 40H1433	Fan #1 and #3 Fan #2 Fan #4
	7025/F50	40H1424 40H1433 73H3577	Fan #3 Fan #2 and #4 Fan #1 CPU
	7026/H10	40H4878	3 Fan hot plug asm
	7026/H50	93H8868 41L6269 93H8570	Fan #1 and 2, 3 and 4 Blower Fan #5 and #6 Fan #7 CPU
	7026/H70	93H8868 41L6269 41L5329 08L0530	Fan #1 and 2, 3 and 4 Blower Fan #5 and #6 Fan #7 CPU I/O Blower #8

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
166 (cont.)	7043/140 7043/150	40H7584	Fan Assembly or Blower problem Fan asm
	7043/240	93H1820	Fan asm
	7043/260	74G6361 97H9425	Fan #1, CEC Fan #2, I/O
	7236 MediaStreamer	94H0620	Fan asm
	9076 SMP Thin/Wide Node	11J6513 11J6514 11J6513	CPU Fan #1 CPU Fan #2 (High Speed) I/O Fan #3 and #4
	9076/Power3 SMP Thin/Wide Node	11J6513 11J6514	Fan (Medium Speed) fan (High Speed)
	9076/Power3 SMP High Node	07L8594	Fan assembly
	9076/Power3 RIO Drawer	11J5275	Fan (2)
167	7024	93H3504	Power Supply Fan problem Power supply
	7025 7025/F30 7025/F40 7025/F50	12J5701 40H5428 07L7476 93H9789	Power supply
	7026/H50	93H8868	Power supply
	7043/140 7043/150 7043/240	40H7566 40H7563	PFC Power Supply (Japan Only) Non-PFC Power Supply (All Other Countries)
	9076 SMP Thin/Wide Node	11J6513 11J6514 11J6513	CPU Fan #1 CPU Fan #2 (High Speed) I/O Fan #3 and #4
	9076/Power3 SMP Thin/Wide Node	11J6513 11J6514	Fan (Medium Speed) Fan (High Speed)
169			Operator Panel Logic problem **Note:** For type/model and FRU information refer to FFC 221.

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
181			Diskette drive cable problem
	7024	11H8073	Cable, diskette drive signal
	7025/F30	11H8162	
	7025/F40 7025/F50	73H1894	
	7026/H10	73H1894	
	7026/H50	73H1894	
	7026/H70	73H1894	
	7043/140 7043/240	93H1821	
	7043/150	93H1821	
	7043/260	97H9320	
	7317/F3L	73H4937	
185		71G6458	X.25 Interface Co-Processor Adapter
186		33F8967 84F7540 53F2662	Co-Processor Multiport Adapter, Model 2 Daughter Card 1MB Memory Module
188		6247454	Tablet stylus, Models 21, 22
		74F3133	Tablet stylus, 6093 Models 11, 12

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
190			Internal Disk Signal Cable problem
	Model S70	93H2455	SCSI Cable Media Bay to SCSI slot 2
		93H2456	I35 SCSI Cable, slot 9 to Redrive Card
		07L7005	I35 SCSI Cable, slot 9 to Redrive Card
		93H2485	SCSI Cable, I35 SCSI Card to Card
		52G4291	SCSI Cable, SCSI-2 to SE/SE SCSI Redrive Card (0.6m)
		06H6036	SCSI Cable, SCSI-2 to SE/SE SCSI Redrive Card (1.0m)
		52G4233	SCSI Cable, SCSI-2 to SE/SE SCSI Redrive Card (2.5m)
		73H3142	SCSI Cable, SCSI-2 to Bulkhead
			Note: Consult the Model S70 Service Guide before ordering replacement cables.
	Model S7A	93H2455	SCSI Cable Media Bay to SCSI Adapter
		06H6876	SCSI Card to Backplane
			Note: Consult the Model S7A Service Guide before ordering replacement cables.
	Model S80	93H2455	SCSI Cable Media Bay to SCSI Adapter
		06H6876	SCSI Card to Backplane
			Note: Consult the Model S80 Service Guide before ordering replacement cables.
	7024	12H1169	Cable, Internal SCSI, 4-drop
	7025/F30	73H3596	
	7025/F40	93H3490	
	7025/F50	73H3596	
	7026/H10	73H3596	
	7026/H50	93H9613	Cable, Internal SCSI, 4-drop
		52G4291	Cable, SCSI-2
		52G4233	Cable, SCSI
		06H6876	Cable, SCSI
	7026/H70	93H9613	Cable, Internal SCSI, 4-drop
		52G4291	Cable, SCSI-2
		52G4233	Cable, SCSI

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
190 (cont.)	7043/140 7043/150	73H0435	Internal Disk Signal Cable problem Cable, Internal SCSI, 4-drop
	7043/240	40H7572	Cable, Internal SCSI, 4-drop
	7043/240	93H6151	Ultra SCSI Cable asm (Optional)
	7043/260	97H9322 76H0518	Cable, Internal SCSI, 4-drop Cable, Internal SCSI Pigtail
	7236 MediaStreamer	93H6435 93H6629	SCSI Cable SCSI ID Cable
	7317/F3L	93H8972	Cable, Internal SCSI, 3-drop
	9076 SMP Thin/Wide Node	08J6105 11J5177 08J6111	Cable, Internal SCSI, 2-drop Cable, Internal SCSI, 4-drop Alternate DASD Cabling
	9076/Power3 SMP Thin/Wide Node	08J6105 11J5177 08J6111	Cable, Internal SCSI, 2-drop Cable, Internal SCSI, 4-drop Alternate DASD cabling
	9076/Power3 SMP High Node	08L1353 41L6350 41L5044 41L5050	Docking card, processor Docking card, I/O Cable, SCSI to docking card Cable
	9076/Power3 RIO Drawer	05N4971 31L7820	DASD docking card Cable, CB tower
	2104	09L3111 09L3307 09L3305 09L3303 09L3301 09L3299 09L3309	JBOD card 20m cable, adapter to JBOD 10m cable, adapter to JBOD 5m cable, adapter to JBOD 3m cable, adapter to JBOD 1m cable, adapter to JBOD 3m non-LVD cable, adapter to JBOD
192	7203	00G2960	Power Supply, portable disk drive
199			SCSI Enclosure Service (SES) Note: Refer to the system unit's service guide if the machine type does not appear in the list or if the backplane is aftermarket refer to it's service documentation.
	2104	09L3111	JBOD card

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
201	9076/Power3 SMP High Node	08L1353 41L6350 41L5044 41L5050	Docking card, processor Docking card, I/O Cable, SCSI to docking card Cable
	9076/Power3 RIO Drawer	05N4971 31L7820	DASD docking card Cable, CB tower
203			
203 Note: Content moved to FFC 152.			
210			Fixed Point Processor problem
	Model S70	90H9694 90H9662	Processor Card (4x) (Type 2) (120MHz) Processor Card (4x) (Type 1) (120MHz)
	Model S7A	08L1474 08L1473	Processor Card (Type 2) (262MHz) Processor Card (Type 1) (262MHz)
	Model S80	23L7434 23L7447	Processor Card (Type 1 RH) Processor Card (Type 2 LH)
	7024/E20	40H6616 07L8001	CPU card (100MHz) CPU card (233MHz)
	7024/E30	73H3614 93H2431 07L8001	CPU card (133MHz) CPU card (166MHz) CPU card (233MHz)
	7025/F30	73H3614 93H2431 07L8001	CPU card (133MHz) CPU card (166MHz) CPU card (233MHz)
	7025/F40	11H7517 41L6111	CPU card (166MHz) CPU card (233MHz)
	7025/F50	93H2679 73H4768 93H9018 93H8945	166MHz CPU card (1 way) 166MHz CPU card (2 way) 332MHz CPU card (1 way) 332MHz CPU card (2 way)
	7026/H10	11H7517	CPU card (166MHz)
	7026/H50	93H9018 93H8945	CPU card (332MHz one-way) CPU card (332MHz two-way)

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
210 (cont.)	7026/H70	94H1013 94H1008	Fixed Point Processor problem CPU card (332MHz one-way) CPU card (332MHz two-way)
	7043/140	93H7142 93H7143 93H6023 93H9334	166MHz System board 200MHz System board 233MHz System board 332MHz System board
	7043/150	41L5912	375MHz System board
	7043/240	11H7517 41L6111	166MHz Processor and Cache Card 233MHz Processor and Cache Card
	7043/260	03N2403	200MHz CPU card
	7317/F3L	73H3614 93H2431 07L8001	CPU card (133MHz) CPU card (166MHz) CPU card (233MHz)
	9076 SMP Thin/Wide Node	93H9716	CPU card (332MHz)
	9076/Power3 SMP Thin/Wide Node	03N2403	CPU card (200MHz)
	9076/Power3 SMP High Node	41L6153	CPU card
212			Cache problem **Note:** For type/model and FRU information refer to FFC 210.

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
214	Model S70 Model S7A	97H7696	Memory Control Unit problem System backplane asm
	Model S80	23L7598	System Backplane Asm.
	7024/E20	40H6616 07L8001	CPU card (100MHz) CPU card (233MHz)
	7024/E30	73H3614 93H2431 07L8001	CPU card (133MHz) CPU card (166MHz) CPU card (233MHz)
	7025/F30	73H3614 93H2431 07L8001	CPU card (133MHz) CPU card (166MHz) CPU card (233MHz)
	7025/F40	11H7517 93H5163	CPU card (166MHz) CPU card (233MHz)
	7025/F50	07L9718	System board
	7026/H10	11H7517	CPU card (166MHz)
	7026/H50	07L9718	System board
	7026/H70	08L0988	System board
	7043/140	93H7142 93H7143 93H6023 93H9334	166MHz System board 200MHz System board 233MHz System board 332MHz System board
	7043/150	41L5912	375MHz System board
	7043/240	11H7517 41L6111	166MHz Processor and Cache Card 233MHz Processor and Cache Card
	7043/260	08L1303	System board

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
214 (cont.)	7317/F3L	73H3614 93H2431 07L8001	Memory Control Unit problem CPU card (133MHz) CPU card (166MHz) CPU card (233MHz)
	9076 SMP Thin/Wide Node	07L9718 41L6138 93H3316	CPU chassis system board CPU chassis I/O planar I/O chassis connection card
	9076/Power3 SMP Thin/Wide Node	08L1303 03N2866 07L8531	CPU chassis system board CPU chassis I/O planar I/O Expansion Card
	9076/Power3 SMP High Node	03N4184	System Planar
217	7024/E20	40H6616 07L8001	System ROS/EEPROM problem CPU card (100MHz) CPU card (233MHz)
	7024/E30	73H3614 93H2431 07L8001	CPU card (133MHz) CPU card (166MHz) CPU card (233MHz)
	7025/F30	73H3614 93H2431 07L8001	CPU card (133MHz) CPU card (166MHz) CPU card (233MHz)
	7025/F40	11H7517 93H5163	CPU card (166MHz) CPU card (233MHz)
	7025/F50	41L5106	I/O board
	7026/H10	11H7517	CPU card (166MHz)
	7026/H50	41L5106	I/O board
	7026/H70	08L0617	I/O board

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
217 (cont.)	7043/140	93H7142 93H7143 93H6023 93H9334	System ROS/EEPROM problem 166MHz System board 200MHz System board 233MHz System board 332MHz System board
	7043/150	41L5912	375MHz System board
	7043/240	11H7517 41L6111	166MHz Processor and Cache Card 233MHz Processor and Cache Card
	7043/260	41L5511	I/O board
	7317/F3L	73H3614 93H2431 07L8001	CPU card (133MHz) CPU card (166MHz) CPU card (233MHz)
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
219			Common Memory Logic problem Refer to Appendix C for memory card and memory module FRU part numbers. **Note:** If more than a pair of memory modules from the same memory card are reported missing, replace the memory card first. Otherwise, replace the memory module at the physical location code that is reported.
221	Model S70	94H1268	System I/O Control Logic problem I/O planar
	Model S7A	08L0103	I/O planar
	Model S80	08L1438	I/O planar
	7024	93H4808	System board
	7025/F30	93H8371	System board
	7025/F40	93H8652	System board
	7025/F50	41L5106	I/O board
	7026/H10	93H8652	System board
	7026/H50	41L5106	I/O board
	7026/H70	03N2797	I/O board

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
221 (cont.)	7043/140	93H7142 93H7143 93H6023 93H9334	System I/O control logic problem 166MHz System board 200MHz System board 233MHz System board 332MHz System board
	7043/150	41L5912	375MHz System board
	7043/240	11H7516	System board
	7043/260	41L5511	I/O board
	7317/F3L	93H8371	System board
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	11K0571	NIO planar
	9076/Power3 RIO Drawer	05N5005	RIO planar (expansion unit)
226			System Status Logic problem
			Note: For type/model and FRU information refer to FFC 221.
227	Model S70	94H1268 93H8502	ISA/PCI Bus Logic problem I/O board Indicator Panel card
	Model S7A	08L0103	I/O planar
	Model S80	08L1438	I/O planar
	7024	93H4808	System board
	7025/F30	93H8371	System board
	7025/F40	93H8652	System board
	7025/F50	41L5106	I/O board
	7026/H10	93H8652	System board
	7026/H50	41L5106	I/O board
	7026/H70	08L0617	I/O board

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
227 (cont.)	7043/140	93H7142 93H7143 93H6023 93H9334	166MHz System board 200MHz System board 233MHz System board 332MHz System board
	7043/150	07L8446	375MHz System board
	7043/240	11H7516	System board
	7043/260	08L0633	I/O board
	7317/F3L	93H8371	System board
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	11K0571	NIO Planar
	9076/Power3 RIO Drawer	05N5005	RIO Planar (expansion unit)
240			Token-ring network problem
241			Ethernet network problem
251		8529214 8185219	Cable, parallel printer
252		40H6328	Standard 9-pin to 25-pin converter cable
253		N/A	Cable, Multiprotocol, EIA-422A, (customer-provided)
254		71F0165	Cable, 4-Port Multiprotocol EIA-232, V.24
256		6339098	Cable, token-ring, 10 ft. (3.04 m)
257		71F0162	Cable, 4-Port Multiprotocol, V.35
258		40F9897	4-Port Multiprotocol cable
259		6323741	Cable, async EIA-232D, V.24
260		71F0164	Cable, 4-Port Multiprotocol, X.21
261		1749352	RS/232 Interposer
262		00F5524	8-Port Multiport Interface Cable
263		12H1204	Terminal cable, EIA-232
266		59F3432	RJ-45 to DB-25 Converter Cable

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
267		81F8570	Cable assembly, 4-port Multiprotocol jumper
271		07F3151 53F3926	Cable, X.25 attachment cable, X.21 (3m) Cable, X.25 attachment cable, X.21 (6m)
272		07F3160 53F3927	Cable, X.25 attachment cable, V.24 (3m) Cable, X.25 attachment cable, V.24 (6m)
273		07F3171 53F3928	Cable, X.25 attachment cable, V.35 (3m) Cable, X.25 attachment cable, V.35 (6m)
276		31F4221	Cable, SCSI controller cable

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
277			Internal SCSI Signal Cable problem
	Model S70	93H2455	SCSI Cable Media Bay to SCSI slot 2
		07L7005	I35 SCSI Cable, slot 9 to Redrive Card
		93H2485	SCSI Cable, I35 SCSI Card to Card
		52G4291	SCSI Cable, SCSI-2 to SE/SE SCSI Redrive Card (0.6m)
		06H6036	SCSI Cable, SCSI-2 to SE/SE SCSI Redrive Card (1.0m)
		52G4233	SCSI Cable, SCSI-2 to SE/SE SCSI Redrive Card (2.5m)
		73H3142	SCSI Cable, SCSI-2 to Bulkhead
			Note: Consult the Model S70 Service Guide before ordering replacement cables.
	Model S7A	93H2455	SCSI Cable Media Bay to SCSI Adapter
		06H6876	SCSI Card to Backplane
			Note: Consult the Model S7A Service Guide before ordering replacement cables.
	Model S80	93H2455	SCSI Cable Media Bay to SCSI Adapter
		06H6876	SCSI Card to Backplane
			Note: Consult the Model S80 Service Guide before ordering replacement cables.
	7024	12H1169	Cable, Internal SCSI, 7-drop
	7025/F30	73H3596	
	7025/F40	93H3490	
	7025/F50	73H3596	
	7026/H10	73H3596	
	7026/H50	93H9613	Cable, Internal SCSI, 4-drop
		52G4291	Cable, SCSI-2
		52G4233	Cable, SCSI
		06H6876	Cable, SCSI

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
277 (cont.)	7026/H70	93H9613 52G4291 52G4233 06H6876	Internal SCSI Signal Cable problem Cable, Internal SCSI, 4-drop Cable, SCSI-2 Cable, SCSI Cable, SCSI
	7043/140 7043/150	73H0435	Cable, Internal SCSI, 4-drop
	7043/240	40H7572	Cable, Internal SCSI, 4-drop
	7043/240	93H6151	Ultra SCSI Cable asm (Optional)
	7043/260	97H9322 76H0518	Cable, Internal SCSI, 4-drop Cable, Internal SCSI Pigtail
	7236 MediaStreamer	93H6435 93H6629	SCSI Cable SCSI ID Cable
	7317/F3L	93H8972	Cable Internal SCSI, 3-drop
			Generic SCSI Cable (external)
			Note: For FRU part number refer to the system unit's service guide. If the cable is aftermarket refer to it's service documentation.
	9076 SMP Thin/Wide Node	08J6105 11J5177 08J6111	Cable, Internal SCSI, 2-drop Cable, Internal SCSI, 4-drop Alternate DASD Cabling
	9076/Power3 SMP Thin/Wide Node	08J6105 11J5177 08J6111	Cable, Internal SCSI, 2-drop Cable, Internal SCSI, 4-drop Alternate DASD Cabling
	9076/Power3 SMP High Node	08L1353 41L6350 41L5044 41L5050	Docking card, processor Docking card, I/O Cable, SCSI to docking card Cable
	9076/Power3 RIO Drawer	05N4971 11J5276	DASD docking card Cable, SCSI signal
279			PTC resistor has been tripped
			Note: Refer to the PTC Tripping section in "SCSI-2 Single-Ended Adapter PTC Failure Isolation Procedure" on page 8-9 of this manual.

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
282	Model S70	97H7696	System Backplane Assembly
	Model S7A	97H7696	System Backplane Assembly
	Model S80	23L7598	System Backplane Assembly
287	Model S70	93H8714	I/O Drawer 3/4 Power Supply
	Model S7A	08L1336	I/O Drawer power supply
	Model S80	08L1336	I/O Drawer power supply
	9076/Power3 RIO Drawer	11J6495 31L8752	Power Card Supervisor Card
289	Model S70	07L7178	I/O Drawer 1/4 Power Supply
	Model S7A	08L1336	I/O Drawer Power supply
	Model S80	08L1336	I/O Drawer Power supply
	9076/Power3 RIO Drawer	11J6495 31L8752	Power Card Supervisor Card
292	Model S70	94H1268	Host - PCI Bridge problem I/O planar
	Model S7A	08L0103	I/O planar
	Model S80	08L1438	I/O planar
	7024/E20	40H6616 07L8001	CPU card (100MHz) CPU card (233MHz)
	7024/E30	73H3614 93H2431 07L8001	CPU card (133MHz) CPU card (166MHz) CPU card (233MHz)
	7025/F30	73H3614 93H2431 07L8001	CPU card (133MHz) CPU card (166MHz) CPU card (233MHz)
	7025/F40	11H7517 41L6111	CPU card (166MHz) CPU card (233MHz)
	7025/F50	41L5106	I/O board
	7026/H10	11H7517	CPU card (166MHz)
	7026/H50	41L5106	I/0 board

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
292 (cont.)	7026/H70	08L0617	Host - PCI Bridge problem I/O planar
	7043/140	93H7142 93H7143 93H6023 93H9334	166MHz System board 200MHz System board 233MHz System board 332MHz System board
	7043/150	41L5912	375MHz System board
	7043/240	11H7517 41L6111	166MHz Processor and Cache Card 233MHz Processor and Cache Card
	7043/260	41L5511	I/O board
	7317/F3L	73H3614 93H2431 07L8001	CPU card (133MHz) CPU card (166MHz) CPU card (233MHz)
	9076 SMP Thin/Wide Node	07L9718 41L6138 93H3316	CPU chassis system board CPU chassis I/O planar I/O chassis connection card
	9076/Power3 SMP Thin/Wide Node	08L1303 03N2866	CPU chassis system board CPU chassis I/O planar
293			PCI - PCI Bridge problem **Note:** For type/model and FRU information refer to FFC 221.
294			MPIC Interrupt Controller problem **Note:** For type/model and FRU information refer to FFC 221.
295			PCI - ISA Bridge problem **Note:** For type/model and FRU information refer to FFC 221.
296			PCI Device or Adapter problem The FRU can only be identified by it's location code reported by diagnostics.
297		93H6055	Texture memory module for the GXT800P Graphics Adapter
298		93H6057	Base memory module for the GXT800P Graphics Adapter

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
2C3		93H5263 93H5264 93H5265 93H5267	2-Port Multiprotocol adapter cable V.24 2-Port Multiprotocol adapter cable V.35 2-Port Multiprotocol adapter cable V.36 2-Port Multiprotocol adapter cable X.21
2C4			System Bus Connector problem
	Model S70	97H7696	
	Model S7A	97H7696	System Backplane Assembly
	Model S80	23L7598	System Backplane Assembly
	7025/F50	07L9718	System board
	7026/H50	07L9718	System board
	7026/H70	08L0988	System board
	7043/260	08L1303	System board
	9076 SMP Thin/Wide Node	07L9718	CPU chassis system board
	9076/Power3 SMP Thin/Wide Node	08L1303	CPU chassis system board
2C5			32MB Memory Module problem
	Model S70	19H0289	32MB Memory Module
	7025/F50	07L7729	32MB Memory Module
	7026/H50	07L7729	32MB Memory Module
	7026/H70	07L7729	32MB Memory Module
	7043/260	42H2773	32MB Memory Module
2C6			128MB Memory Module problem
	7025/F50	93H4702	128MB Memory Module
	7026/H50	93H4702	128MB Memory Module
	7026/H70	93H4702	128MB Memory Module
	7043/260	93H4702	128MB Memory Module
	9076/Power3 SMP High Node	93H4702	128MB Memory Module

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
2C7			Base Memory Card problem
	Model S70	93H7689 93H7688	Base Memory Card (LH) Base Memory Card (RH)
	7025/F50	93H2641	Base Memory Card
	7026/H50	93H2641	Base Memory Card
	7026/H70	07L7065	Base Memory Card
	7043/260	07L7065	Base Memory Card
	9076 SMP Thin/Wide Node	93H2641	Base Memory Card
	9076/Power3 SMP Thin/Wide Node	07L7065	Base Memory Card
	9076/Power3 SMP High Node	07L6608	Base Memory Card
2C8			Mezzanine Bus problem
	Model S70	94H1268	I/O planar
	Model S7A	08L0103	I/O planar
	Model S80	08L1438	I/O planar
	7025/F50	07L9718 41L5106	System board I/O board
	7026/H50	07L9718 41L5106	System board I/O board
	7026/H70	08L0988 03N2797	System board I/O board
	7043/260	08L1303 03N2443	System board I/O board
	9076 SMP Thin/Wide Node	07L9718 41L6138 93H3316 31L7766	CPU chassis system board CPU chassis I/O planar I/O Chassis connection card SP Switch MX
	9076/Power3 SMP Thin/Wide Node	08L1303 03N2866 07L8531 31L7766	CPU chassis system board CPU chassis I/O planar I/O Expansion Card SP Switch MX

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
2C9			PCI Bus problem
	Model S70	94H1268	I/O planar
	Model S80	08L1438	I/O planar
	Model S7A	08L0103	I/O planar
	7024/E20 7024/E30	93H4808	System board
	7025/F30	93H8371	System board
	7025/F40	93H8652	System board
	7025/F50	41L5106	I/O board
	7026/H10	93H8652	System board
	7026/H50	41L5106	I/O board
2C9 (cont.)			PCI Bus problem
	7026/H70	03N2797	I/O board
	7043/140	93H7142 93H7143 93H6023 93H9334	166MHz System board 200MHz System board 233MHz System board 332MHz System board
	7043/150	41L5912	375MHz System board
	7043/240	11H7516	166MHz System board
	7043/260	03N2443	I/O board
	7317/F3L	93H8371	System board
	9076 SMP Thin/Wide Node	41L6138 93H3316 93H3202	I/O planar Expansion I/O connection card PCI Expansion I/O planar **Note:** Suspect planar associated with the failing device.
	9076/Power3 SMP Thin/Wide Node	08L1303 03N2866 07L8531 31L7766	CPU chassis system board CPU chassis I/O planar I/O Expansion Card SP Switch MX
	9076/Power3 SMP High Node	11K0571	NIO Planar
	9076/Power3 RIO Drawer	05N5005	RIO Planar
2CD	7026/H70	07L9030	256MB Memory Module

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
2D0			ISA adapter or integrated device
2D1	7025/F50	41L5106	ISA Bus problem I/O board
	7026/H50	41L5106	I/O board
	7026/H70	30N2797	I/O board
	7043/260	03N2443	I/O board
2D2	Model S70	94H1268	Mezzanine Bus Arbiter problem I/O planar
	Model S7A	08L0103	I/O planar
	Model S80	08L1438	I/O planar
	7025/F50	41L5106	I/O board
	7026/H50	41L5106	I/O board
	7026/H70	03N2797	I/O board
	7043/260	03N2443	I/O board
	9076 SMP Thin/Wide Node	07L9718	CPU chassis system board
	9076/Power3 SMP Thin/Wide Node	08L1303	System board
	9076/Power3 SMP High Node	11K0571	NIO planar
	9076/Power3 RIO Drawer	05N5005	RIO planar

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
2D3	Model S70	08L1189	Service processor card problem Service Processor Card
	Model S7A	08L1189	Service Processor Card
	Model S80	08L1189	Service Processor Card
	7025/F50	08L0442	Service Processor **Note:** The Service Processor can fail diagnostics if the firmware levels between the system and service processor are not compatible. Check the levels of the system and service processor firmware. Compatible levels are listed in update package documentation and in RETAIN. If the firmware levels are compatible and the problem persists, then replace the Service Processor card.
	7026/H50	08L0449	Service Processor **Note:** The Service Processor can fail diagnostics if the firmware levels between the system and service processor are not compatible. Check the levels of the system and service processor firmware. Compatible levels are listed in update package documentation and in RETAIN. If the firmware levels are compatible and the problem persists, then replace the Service Processor card.

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
2D3 (cont.)	7026/H70	03N2797	I/O board
	7043/260	03N2443	I/O board
	9076 SMP Thin/Wide Node	08L0442	Service Processor **Note:** The Service Processor can fail diagnostics if the firmware levels between the system and service processor are not compatible. Check the levels of the system and service processor firmware. Compatible levels are listed in update package documentation and in RETAIN. If the firmware levels are compatible and the problem persists, then replace the Service Processor card.
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	11K0571	NIO planar
2D4	Model S70	94H1268	System/SP Interface Logic problem I/O planar
	Model S7A	08L0103	I/O planar
	Model S80	08L1438	I/O planar
	7025/F50	41L5106	I/O board
	7026/H50	41L5106	I/O board
	7026/H70	03N2797	I/O board
	7043/260	08L0633	I/O board
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	11K0571	NIO planar

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
2D5			SP Primary I/O bus problem
	Model S70	08L1189 94H1268	Service Processor Card I/O planar
	Model S7A	08L1189 08L0103	Service Processor Card I/O planar
	Model S80	08L1189 08L1438	Service Processor Card I/O planar
	7025/F50	41L5106 08L0442	I/O board Service Processor
	7026/H50	41L5106 08L0449	I/O board Service Processor
	7026/H70	03N2797	I/O board
	7043/260	03N2443	I/O board
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	11K0571 03N4184 07L6608	NIO planar System planar Base memory card
2D6	Model S70	08L1189	Service Processor Card
	Model S7A	08L1189	Service Processor Card
	Model S80	08L1189	Service Processor Card
	9076/Power3 SMP High Node	11K0571	NIO planar

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
2D7	7025/F50	93H2922	VPD Module problem Operator Panel
	7026/H50	93H2922	Operator Panel
	7026/H70	41L6006	Operator Panel
	7043/260	03N2443	I/O board
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	11K0571	NIO planar (VPD module)
2D9	Model S70	94H1268	Power Controller problem I/O planar
	Model S7A	08L0103	I/O planar
	Model S80	08L1438	I/O planar
	7025/F50	41L5106	I/O board
	7026/H50	41L5106	I/O board
	7026/H70	03N2797	I/O board
	7043/260	03N2443	I/O board
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	11K0571 05N5775	NIO planar Supervisor card

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
2E0	Model S70	94H1268	Fan Sensor problem I/O planar
	Model S7A	93H8686	Fan monitoring control card
	Model S80	93H8686 97H9465	Fan monitoring control card Power Distribution Board
	7025/F50	41L5106	I/O board
	7026/H50	93H8686	Fan Monitoring Control Card
	7026/H70	93H8686	Fan Monitoring Control Card
	7043/260	03N0633	I/O board
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	12K0451	Fan control card
	9076/Power3 RIO Drawer	31L8752 05N5005	Supervisor card RIO planar
2E1	Model S70	94H1268	Thermal Sensor problem I/O planar
	Model S7A	08L0103	I/O planar
	Model S80	08L1438	I/O planar
	7024	93H4808	System board
	7025/F30	93H8371	System board
	7025/F40	93H8652	System board
	7025/F50	41L5106	I/O board
	7026/H10	93H8652	System board
	7026/H50	41L5106	I/O board
	7026/H70	03N2797	I/O board

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
2E1 (cont.)	7043/140	93H7142 93H7143 93H6023 93H9334	Thermal Sensor problem 166MHz System board 200MHz System board 233MHz System board 332MHz System board
	7043/150	41L5912	375MHz system board
	7043/240	11H7516	System board
	7043/260	03N2443	I/O board
	7317/F3L	93H8371	System board
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	03N4184 11K0571	System planar (inlet) NIO planar (outlet)
	9076/Power3 RIO Drawer	11J6495 05N5005 31L8752	Power card (2) (inlet) RIO planar (midrange) Supervisor card
2E2			Voltage Sensor problem
	Model S70	94H1268	I/O planar
	Model S7A	08L0103	I/O planar
	Model S80	08L1438	I/O planar
	7025/F50	41L5106	I/O board
	7026/H50	41L5106	I/O board
	7026/H70	03N2797	I/O board
	7043/260	03N2443	I/O board
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	11K0571 03N4184 41L6153	NIO Planar 3.3V, +5V, 5SB, +12V, -12V System Planar 2.5V, 3.3V CPU Card 1.8V, 2.5V
	9076/Power3 RIO Drawer	05N5005	RIO planar

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
2E3			Serial Port Controller problem
	Model S70	08L1189	Service Processor Card
	Model S7A	08L1189	Service Processor Card
	Model S80	08L1189	Service Processor Card
	7025/F50	41L5106	I/O board
	7026/H50	41L5106	I/O board
	7026/H70	03N2797	I/O board
	7043/260	.3N2443	I/O board
	9076 SMP Thin/Wide Node	41L6138 11J4000 11J5197	I/O planar Supervisor card Pwr/Supervisor Interposer cbl.
	9076/Power3 SMP Thin/Wide Node	03N2866 11J4000 11J5197	I/O planar Supervisor card Pwr/Supervisor Interposer cbl.
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	11K0571	NIO Planar
2E4			JTAG/COP Controller problem
	Model S70	08L1189	Service Processor Card
	Model S7A	08L1189	Service Processor Card
	Model S80	08L1189	Service Processor Card
	7025/F50	41L5106	I/O board
	7026/H50	41L5106	I/O board
	7026/H70	03N2797	I/O board
	7043/260	03N2443	I/O board
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	11K0571 03N4184	NIO Planar (JTAG) System Planar
2E6		40H6595	PCI Differential Ultra SCSI Adapter
2E7			Generic PCI SCSI Adapter

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
2E8	7025/F40	11H7517	166MHz Processor and Cache card
	7026/H10	11H7517	166MHz Processor and Cache card
	7043/240	11H7517 41L6111	166MHz Processor and Cache card 233MHz Processor and Cache card
301	Model S70	90H9831	Memory 128MB Card
	Model S7A	90H9831	Memory 128MB Card
302	Model S70	90H9834	Memory 256MB Card
	Model S7A	90H9834	Memory 256MB Card
	Model S80	23L7566	Memory 256MB Card
303	Model S70	90H9837	512MB Memory Card
	Model S7A	90H9837	512MB Memory Card
	Model S80	23L7570	512MB Memory Card
304	Model S70	97H6226	1GB Memory Card
	Model S7A	97H6226	1GB Memory Card
	Model S80	23L7577	1GB Memory Card
305	Model S7A	97H6244	2GB Memory Card
	Model S80	23L7589	2GB Memory Card
306	Model S70	90H9795 21H7643 21H7377	Remote I/O cable (2 meter) Remote I/O cable (6 meter) Remote I/O cable (15 meter)
	Model S7A	90H9795 21H7643 21H7377	Remote I/O cable (2 meter) Remote I/O cable (6 meter) Remote I/O cable (15 meter)
	Model S80	90H9795 21H7643 21H7377	Remote I/O cable (2 meter) Remote I/O cable (6 meter) Remote I/O cable (15 meter)
	9076/Power3 SMP High Node	90H9795 21H7377	Remote I/O cable (2 meter) Remote I/O cable (15 meter)
307	Model S70	94H1268	Expansion Unit Logic problem I/O planar
	Model S7A	08L0103	I/O planar
	Model S80	08L1438	I/O planar

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
308			I/O Bridge problem
	Model S70	97H7696	System backplane Assembly
	Model S7A	97H7696	System Backplane Assembly
	Model S80	23L7598	System Backplane Assembly
30A		20L7595	4GB Memory Card
440		25L3101	9.1GB Ultra SCSI Disk Drive
441		25L3100	18.2GB Ultra SCSI Disk Drive
442		09L3117	9.1GB Ultra LVD SCSI Disk Drive
443		09L3118	18.2GB Ultra LVD SCSI Disk Drive
444		41L5235	2-Port Multiprotocol PCI Adapter (ASIC)
637		07L8732	Dual Channel PCI-2 Ultra2 SCSI Adapter
638		22L0027	4.5GB 16 bit Ultra SCSI SE Disk Drive
639		34L2232 08L1155 06H9389 06H7691 1147429	9.1GB Ultra SCSI Disk Drive (68-pin) Spacer Tray ID cable Screw
640		34L2233 44H4644 44H4266	9.1GB Ultra SCSI Disk Drive (80-pin) Tray Screw
643		09L3116	18.2GB Ultra LVD SCSI Disk Drive
644		09L3339	36.2GB Ultra LVD SCSI Disk Drive
646		03N3554	High-Speed Token-Ring PCI Adapter
650			Unknown IBM disk drive. **Note:** This FFC indicates that the disk drive could not properly configure. Refer to the disk drive FRU part number.
653		59H6923	18.2GB Ultra-SCSI 16-bit disk drive
655		94H1236	GXT130P Graphics Adapter
657		07L7495	GXT2000P Graphics Adapter
662	7026/H50	41L5106	I/O board, Integrated Ultra2 SCSI
	7026/H70	03N2797	I/O board, Integrated Ultra2 SCSI
	7043/260	08L0633	I/O board, Integrated Ultra2 SCSI

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
663		87H3734	IBM ARTIC960RxD PCI Adapter (base card)
		09J8829	IBM ARTIC960 Quad T1/E1 Adapter (daughter card)
664		97H7610	32X (MAX) SCSI-2 CD-ROM Drive
667		01K7396	PCI 3-Channel Ultra2 SCSI RAID Adapter
669		07L8918	PCI Gigabit Ethernet Adapter
674		51H8700	ESCON Channel PCI Adapter
675		87H3427	IBM ARTIC960Hx PCI Base Adapter
677		24L0023	PCI Fibre Channel Adapter
678		59H3879	12GB 4mm SCSI Tape Drive
679		83H7105	4.5GB SCSI Disk Drive
681		59H6926	9.1GB Ultra-SCSI 16-bit drive
682		93H8055	20X (MAX) SCSI-2 CD-ROM Drive
683			2105 Model B09
684		93H6563	Enhanced Remote Asynchronous Node 16-Port RS-422
685		93H2534	GXT120P Graphics Adapter
686		93H6541	8-Port Asynchronous EIA-232/RS-422 Adapter
687		93H6545	128-Port Asynchronous Controller
689	7317/F3L	83H7105 93H9005	4.5GB 16 bit Ultra SCSI SE Disk Drive 4.5GB 16 bit Ultra SCSI SE Disk Drive asm
690		76H2698	9.1GB 16 bit Ultra SCSI SE Disk Drive
691		93H5513	TURBOWAYS 25 ATM PCI Adapter
692		59H3121	7205-311 30GB DLT Tape Bridge Box
693		93H5839	Eicon ISDN DIVA PRO 2.0 PCI S/T Adapter for PowerPC System
697		21H3890	TURBOWAYS 155 PCI MMF ATM Adapter (1MB)
698		21H7977	TURBOWAYS 155 PCI UTP ATM Adapter (1MB)

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
699		94H0385	3Com Fast EtherLink XL PCI 10/100 Ethernet for PowerPC Microprocessor-based Systems
700		74G6995	1.1GB 8-bit SE Disk Drive Assembly
701		74G7006	1.1GB 16-bit SE Disk Drive Assembly
		06H8631	Tray Assembly
		06H7691	4 Position ID Cable
		27H0380	Electronics Card Assembly
702		74G7009 74G7015	1.1GB 16-bit DE Disk Drive Assembly Electronics Card Assembly
703		74G6996	2.2GB 8-bit SE Disk Drive
		74G6998	Electronics card asm for 74G6996
704		74G8824 74G7007	2.2GB 16-bit SE Disk Drive Assembly 2.2GB 16-bit SE Disk Drive Unit
		06H8631	Tray Assembly
		06H7691	4 Position ID Cable
		27H0380	Electronics Card Assembly
705		74G7010 74G7015	2.2GB 16-bit DE Disk Drive Assembly Electronics Card Assembly
706		74G7008 74G8825	4.5GB 16-bit SE Disk Drive assembly
		06H8631	Tray Assembly
		06H7691	4 Position ID Cable
		27H0380	Electronics Card Assembly
707		74G7011 74G7015	4.5GB 16-bit DE Disk Drive Assembly Electronics Card Assembly
709	7024	73H3384	128-Port ISA Adapter
	7025	73H3384	128-Port ISA Adapter
	7026/H50	73H3384	128-Port ISA Adapter
	7043/140	73H3384	128-Port ISA Adapter
	7043/240	73H3384	128-Port ISA Adapter
	7317/F3L	73H3384	128-Port ISA Adapter

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
711			Unknown adapter
713		87H3427	IBM ARTIC960Hx PCI Base Adapter
721			Unknown SCSI device
722			Unknown disk drive
723			Unknown CD-ROM drive
724			Unknown tape drive
725			Display problem
	Model P50	96G2130	Display, 15", Northern Hemisphere
	Model P70	96G3020	Display, 17", Northern Hemisphere
	Model P72	21L4570 21L4571	Display, 17", Northern Hemisphere (White) Display, 17", Northern Hemisphere (Black)
	Model P92	61H0412 61H0223	Display, 19", Northern Hemisphere (White) Display, 19", Northern Hemisphere (Black)
	Model P200	96G2701	Display, 20", Northern Hemisphere
	Model P202	60H0233 60H0234	Display, 21", Northern Hemisphere (White) Display, 21", Northern Hemisphere (Black)
	Model P50	96G2699	Display, 15", Southern Hemisphere
	Model P70	96G2150	Display, 17", Southern Hemisphere
	Model P72	61H0215 61H0216	Display, 17", Southern Hemisphere (White) Display, 17", Southern Hemisphere (Black)
	Model P92	61H0224 61H0225	Display, 19", Southern Hemisphere (White) Display, 19", Southern Hemisphere (Black)
	Model P200	96G3049	Display, 20", Southern Hemisphere
	Model P202	60H0235 60H0236	Display, 21", Southern Hemisphere (White) Display, 21", Southern Hemisphere (Black)
			Unknown display adapter type
726			Unknown input device
727			Unknown async device
728			Unknown parallel device
730			Unknown diskette drive
733		59H3161	140GB 8mm Tape Library
734		73H1513	Quad Speed SCSI-2 600MB CD-ROM Drive

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
736			Quiet Touch Keyboard and Speaker cable **Note:** The part number is printed on the underside of the keyboard.
741		52G0124	1.08GB SCSI-2 Disk Drive (one-inch high)
		06H8631	8-bit Tray Assembly
742		11H8128	T2 PCI Ethernet Adapter
745	7332/005 7332/110		16GB DDS-2 Tape Cartridge Auto Loader 48GB DDS-3 Tape Cartridge Auto Loader **Note:** Service documentation for this device supply the FRU part numbers.
746	Model S70 Model S7A Model S80	73H3562	PCI SCSI SE Adapter problem SCSI-2 Fast/Wide PCI Adapter
	7024	73H3562	SCSI-2 Fast/Wide PCI Adapter
		93H4808	System board, Integrated SCSI
	7025/F30	73H3562	SCSI-2 Fast/Wide PCI Adapter
		93H8371	System board, Integrated SCSI
	7025/F40	73H3562	SCSI-2 Fast/Wide PCI Adapter
		93H8652	System board, Integrated SCSI
	7025/F50	73H3562	SCSI-2 Fast/Wide PCI Adapter
		07L6594	I/O board, Integrated SCSI
	7026/H10	73H3562	SCSI-2 Fast/Wide PCI Adapter
		93H8652	System board, Integrated SCSI
	7026/H50	73H3562	SCSI-2 Fast/Wide PCI Adapter
		07L6594	I/O board, Integrated SCSI

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
746 (cont.)	7043/140	73H3562	PCI SCSI SE Adapter problem SCSI-2 Fast/Wide PCI Adapter
		93H7142 93H7143 93H6023 93H9334	System board 166MHz, Integrated SCSI System board 200MHz, Integrated SCSI System board 233MHz, Integrated SCSI System board 332MHz, Integrated SCSI
	7043/150	07L8446	375MHz System board
	7043/240	73H3562	SCSI-2 Fast/Wide PCI Adapter
		11H7516	System board, Integrated SCSI
	7043/260	73H3562	SCSI-2 Fast/Wide PCI Adapter
		08L0633	I/O board
	9076 SMP Thin/Wide Node	73H3562	SCSI-2 Fast/Wide PCI Adapter
		41L6138	I/O board, Integrated SCSI
	9076/Power3 SMP Thin/Wide Node	73H3562	SCSI-2 Fast/Wide PCI Adapter
		03N2866	I/O board, Integrated SCSI
747		93H8407	SCSI-2 Differential Fast/Wide PCI Adapter
749	7331/205		7331 Model 205 8mm Tape Library **Note:** For FRU numbers, refer to the service documentation for this device.
74A	7024	93H4808	Integrated SCSI-2 F/W SE problem System board, Integrated SCSI
	7025/F30	93H8371	System board, Integrated SCSI
	7025/F40	93H8652	System board, Integrated SCSI
	7025/F50	41L5106	I/O board, Integrated SCSI
	7026/H10	93H8652	System board, Integrated SCSI
	7026/H50	41L5106	I/O board, Integrated SCSI
	7026/H70	03N2797	I/O board, Integrated SCSI

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
74A (cont.)	7043/140	93H7142 93H7143 93H6023 93H9334	Integrated SCSI-2 F/W SE problem System board 166MHz, Integrated SCSI System board 200MHz, Integrated SCSI System board 233MHz, Integrated SCSI System board 332MHz, Integrated SCSI
	7043/150	41L5912	375MHz System board
	7043/240	11H7516	System board, Integrated SCSI
	7043/260	03N2443	I/O board
	9076 SMP Thin/Wide Node	73H3562	SCSI-2 Fast/Wide PCI Adapter
		41L6138	I/O board, Integrated SCSI
	9076/Power3 SMP Thin/Wide Node	73H3562	SCSI-2 Fast/Wide PCI Adapter
		03N2866	I/O board, Integrated SCSI
	9076/Power3 SMP High Node	11K0571	NIO planar (intergrated SCSI)
750		04H8098	Auto LANStreamer® Token-Ring PCI Adapter
751		08L1319 06H6036 52G4233 40H7351	SCSI 32-bit SE F/W RAID Adapter 10.SCSI RAID Cable (1.0M) SCSI RAID Cable (2.5M) SCSI RAID Cable (6.0M)
757		87G4858	SCSI 13GB 1/4 Inch Tape Drive
763		31L7847	SP Switch MX Adapter
		46H9688	Wrap Plug
		77G0818	Terminator
764		08L0398	SP System Attachment Adapter
		46H9688	Wrap Plug
		77G0818	Terminator
772		83H7105	4.5GB 16 bit SCSI F/W Disk Drive
773		76H2698	9.1GB 16 bit SCSI F/W Disk Drive
774	7204/339	27H1677	9.1GB External SCSI DE Disk Drive
775		93H5107	MVP Power Graphics Adapter
776		93H6594	PCI Token-Ring Adapter
777		94H0823	10/100MB Ethernet TP PCI Adapter

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
778		24L0030	POWER GXT3000P 3D PCI Graphics Adapter
780		40H1937	X.25 Interface Co-Processor Adapter
781		84F7540	Co-Processor Multiport Adapter, Model 2 Daughter **Note:** Replace the daughter card before replacing the base card.
		33F8967	Co-Processor Multiport Adapter, Model 2 (Base)
783		76H0473	24/48GB DDS-2 4mm Tape Autoloader (vertical orientation)
		76H0474	24/48GB DDS-2 4mm Tape Autoloader (horizontal orientation)
		41H8714	Tape Magazine
784		93H7151	2.1GB 8-bit SCSI-2 Disk Drive
		93H7152	2.1GB 16-bit SCSI-2 Disk Drive
785		40H6632	8-port ISA Async EIA-232/RS-422 Adapter
786		93H6264	GXT250P High Performance Graphics Adapter
		93H6267	GXT255P High Performance Graphics Adapter
787		94H0028	GXT500P Graphics Adapter
788		07L9009	Ultimedia® Video Capture Adapter
789	7209/003	50G0212	External 2.6GB Rewritable Optical Disk Drive
790			Multi-bus Integrated Ethernet Adapter problem **Note:** For type/model and FRU information refer to FFC 221.
791		74G8824 74G7007	2.2GB 16-bit SE Disk Drive Assembly 2.2GB 16-bit SE Disk Drive unit
		06H8631	Tray Assembly
		06H7691	4 Position ID Cable
		27H0380	Electronics card Assembly

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
792		83H7105	4.5GB 16-bit SE Disk Drive Assembly
793		76H2698	9.1GB 16-bit SE Disk Drive Assembly
795		73H3405	FDDI LPSAS Adapter (single fiber)
		73H3401	FDDI LPDAS Adapter (dual fiber)
		73H3413	FDDI UPSAS Adapter (single copper)
799		93H6086 93H3662	2-Port Multiprotocol PCI Adapter 2-Port Multiprotocol PCI Wrap Plug
7C0			CPU/System Interface
	7024	93H4808	System board
	7025/F30	93H8371	System board
	7025/F40	93H8652	System board
	7025/F50	07L9718	System board
	7026/H10	93H8652	System board
	7026/H50	07L9718	System board
	7026/H70	08L0988	System board
	7043/140	93H7142 93H7143 93H6023 93H9334	166MHz System board 200MHz System board 233MHz System board 332MHz System board
	7043/150	41L5912	375MHz System board
	7043/240	11H7516	166MHz System board
	7043/260	08L1303	System board
	7317/F3L	93H8371	System board
	9076 SMP Thin/Wide Node	07L9718	System board
	9076/Power3 SMP Thin/Wide Node	08L1303	System board

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
7C1			Business Audio Subsystem problem
	7024	93H4808	System board
	7025/F30	93H8371	System board
	7025/F40	93H8652	System board
	7025/F50	07L9718	System board
	7026/H10	93H8652	System board
	7026/H50	07L9718	System board
	7026/H70	08L0988	System board
	7043/140	93H7142 93H7143 93H6023 93H9334	166MHz System board 200MHz System board 233MHz System board 332MHz System board
	7043/150	41L5912	375MHz System board
	7043/240	11H7516	166MHz System board
	7043/260	08L1303	System board
	7317/F3L	93H8371	System board
804		73H2601	8X Speed SCSI-2 CD-ROM Drive
806		07L7113	GXT800P Graphics Adapter
807			SCSI Device Enclosure
80c			SSA Adapter problem refer to the *SSA Adapters: User's Guide and Maintenance Information*.
811			Processor Complex being identified.
812			Common Standard Adapter Logic problem **Note:** For type/model and FRU information refer to FFC 227.

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
814	Model S70	08L1189	Service Processor Card problem Service Processor Card **Note:** Unless listed, refer to FFC 221 for type/model and FRU information.
	Model S7A	08L1189	Service Processor Card **Note:** Unless listed, refer to FFC 221 for type/model and FRU information.
	Model S80	08L1189	Service Processor Card **Note:** Unless listed, refer to FFC 221 for type/model and FRU information.
	9076/Power3 SMP High Node	11K0571	NIO Planar
815			Floating Point Processor problem **Note:** For type/model and FRU information refer to FFC 210.
	9076/Power3 SMP High Node		**Note:** For type/model and FRU information refer to FFC 221.
816			Operator Panel Logic problem **Note:** For type/model and FRU information refer to FFC 221.
	9076/Power3 SMP High Node	11K0571	NIO Planar
817	Model S70	08L1189	Time of Day Logic problem Service Processor Card **Note:** Unless listed refer to FFC 221 for type/model and FRU information.
	Model S7A	08L1189	Service Processor Card **Note:** Unless listed refer to FFC 221 for type/model and FRU information.
	Model S80	08L1189	Service Processor Card **Note:** Unless listed refer to FFC 221 for type/model and FRU information.
	9076/Power3 SMP High Node	11K0571	NIO Planar

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
820			Interprocessor related testing problem **Note:** For type/model and FRU information, if not listed here, refer to FFC 221.
821			Standard Keyboard Adapter problem **Note:** For type/model and FRU information refer to FFC 221.
823			Standard Mouse Adapter problem **Note:** For type/model and FRU information, if not listed here, refer to FFC 221.
	9076/Power3 SMP High Node	11K0571	NIO Planar
824			Standard Tablet Adapter problem **Note:** For type/model and FRU information, if not listed here, refer to FFC 221.
	9076/Power3 SMP High Node	11K0571	NIO Planar
825	9076/Power3 SMP High Node	11K0571	NIO Planar
826			Serial Port 1 Adapter problem **Note:** For type/model and FRU information, if not listed here, refer to FFC 221.
	9076 SMP Thin/Wide Node	11J4000 11J5197 41L6138	Supervisor Card Pwr/Supervisor Interposer Cbl. I/O planar
	9076/Power3 SMP Thin/Wide Node	11J4000 11J6147 03N2866	Supervisor Card Pwr/Supervisor Interposer Cbl. I/O planar
	9076/Power3 SMP High Node	11K0571	NIO Planar

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
827			Built-in Parallel Port Adapter problem **Note:** For type/model and FRU information, if not listed here, refer to FFC 221.
	9076/Power3 SMP High Node	11K0571	NIO Planar
828			Standard Diskette Adapter problem **Note:** For type/model and FRU information, if not listed here, refer to FFC 221.
	9076/Power3 SMP High Node	11K0571	NIO Planar
82C		11H6095	S15 Graphics PCI Adapter
830		11H5969	8-Port ISA adapter
831			Serial Port 2 Adapter problem **Note:** For type/model and FRU information refer to FFC 221.
	9076/Power3 SMP High Node	11K0571	NIO Planar
836		73H3384	128-Port Async Controller
837		88G3842 93H6549 40H2589 93H7091	Remote Async Node, 16-port EIA-232 Enhanced Remote Async Node, 16-port EIA-232 Rack Mounted Node, 16-port EIA-232 Power Supply, Remote Async Node
840		93H3809	PCI Single-Ended Ultra SCSI Adapter **Note:** If you receive this FFC but are working with Integrated Ultra SCSI see FFC 84A.
844	7135		RAIDiant Array SCSI Subsystem Controller **Note:** Refer to the 7135 documentation.
845	7135		RAIDiant Array SCSI 2.0GB Disk Drive **Note:** Refer to the 7135 documentation.
846	7135		RAIDiant Array SCSI 1.3GB Disk Drive **Note:** Refer to the 7135 documentation.

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
84A			Integrated Ultra SCSI problem
	7026/H10	93H8652	System board, Integrated Ultra SCSI
	7026/H50	41L5106	I/O board, Integrated Ultra SCSI
	7026/H70	03N3484	I/O board, Integrated Ultra SCSI
	7043/140	93H7142	System board 166MHz, Integrated Ultra SCSI
		93H7143	System board 200MHz, Integrated Ultra SCSI
		93H6023	System board 233MHz, Integrated Ultra SCSI
		93H9334	System board 332MHz, Integrated Ultra SCSI
	7043/150	41L5912	375MHz System board
	7043/240	11H7516	System board, Integrated Ultra SCSI
	7043/260	03N2443	I/O board
	7317/F3L	93H8371	System board, Integrated Ultra SCSI
	9076/Power3 SMP High Node	11K0571	NIO Planar
868			Integrated SCSI I/O Controller problem
			Note: For type/model and FRU information refer to FFC 221.
	9076/Power3 SMP High Node	11K0571	NIO Planar

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
887			Integrated Ethernet Adapter problem
	7025/F40	93H8652	System board, Integrated Ethernet Adapter
	7025/F50	41L5106	I/O board, Integrated Ethernet Adapter
	7026/H10	93H8652	System board, Integrated Ethernet Adapter
	7026/H50	41L5106	I/O board, Integrated Ethernet Adapter
	7026/H70	03N3484	I/O board, Integrated Ethernet Adapter
	7043/140	93H7142	System board 166MHz, Integrated Ethernet Adapter
		93H7143	System board 200MHz, Integrated Ethernet Adapter
		93H6023	System board 233MHz, Integrated Ethernet Adapter
		93H9334	System board 332MHz, Integrated Ethernet Adapter
	7043/150	41L5912	375MHz System board
	7043/240	11H7516	System board, Integrated Ethernet Adapter
	7043/260	03N2443	I/O board
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	11K0571	NIO Planar
891			Vendor SCSI Adapter
892			Vendor Display Adapter
893			Vendor LAN Adapter
894			Vendor Async Communications Adapter
899			Atape
89c		73H1513	600MB Double Speed Tray-Loading CD-ROM **Note:** The 2x CD-ROM drive is no longer available. A 4x CD-ROM drive will be shipped as a replacement.
900		93H7983	GXT110P Graphics Adapter
901			Vendor SCSI device

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
902			Vendor Display
903			Vendor Async device
904			Vendor Parallel device
905			Other Vendor device
908	7025/F40 7025/F50 7043/140 7043/150 7043/240 7043/260	93H2399	POWER GXT1000 Graphics Attachment Adapter (SPAN)
912		86F0119	2.0GB SCSI-2 DE Disk Drive
		86F0125	Differential frame electronics
			Note: Check RETAIN for frame electronics availability. Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved.
913		6374682	1GB DE Disk Drive, half-height
		6374683	Differential frame electronics
			Note: Check RETAIN for frame electronics availability. Exchange the complete drive assembly whenever possible. Exchange the logic card only when the data on the disk must be saved.
914		16G8492	5GB 8mm SCSI DE Tape Drive
915		59H3481	4GB/8GB 4mm Tape Drive
917		86F0767	2.0GB DE F/W Disk Drive
			Note: If the disk drive is in a 7134 drawer replace with FRU P/N 67G3022.
918		86F0766	2.0GB 16-bit SCSI SE F/W Disk Drive
921		 82G3278 1392090	101 Key Keyboard problem Keyboard U.S. English Keyboard Cost Reduced English
		1394609	Keyboard cable

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
922		8131596	102 Key Keyboard problem Keyboard, Arabic
		1391414	Keyboard, Belgium-Dutch
		1391526	Keyboard, Belgium-French
		64F7707	Keyboard, Brazilian Portuguese
		1399583	Keyboard, Bulgarian
		1399570	Keyboard, Czechoslovakian
		1391407	Keyboard, Danish
		1391511	Keyboard, Dutch/Netherlands
		1391411	Keyboard, Finnish/Swedish
		1391402	Keyboard, French
		82G3279	Keyboard, French-Canadian
		1391403	Keyboard, German/Austrian
		1399046	Keyboard, Greek
		1391408	Keyboard, Hebrew
		1399581	Keyboard, Hungarian

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
922 (cont.)		1391407	102 Key Keyboard problem Keyboard, Icelandic
		1393395	Keyboard, Italian
		82G3292	Keyboard, Latin American (Spanish)
		1391409	Keyboard, Norwegian
		1391410	Keyboard, Portuguese
		1399580	Keyboard, Polish
		1399582	Keyboard, Romania
		1399579	Russian
		1399571	Keyboard, Slovak
		1391405	Keyboard, Spanish
		1395881	Keyboard, Swiss-French
		1395882	Keyboard, Swiss-German
		1393286	Keyboard, Turkish (ID 179)
		8125409	Keyboard, Turkish (ID 440)
		1391406	Keyboard, U.K. English
		06H3048	Keyboard, U.S. OEM
		1394609	Keyboard cable
923		1392090	106 keys International Keyboard problem Keyboard, Chinese
		79F0167 66G0507	Keyboard, Japanese-Kanji Japanese, Enhanced
		06H5286	Keyboard, Korean
		02G7353	Keyboard, Taiwanese
925		93H9113	3-Button Mouse
926		6247450	Tablet, 5083 Model 21
		74F3130	Tablet, 6093 Model 11
927		6247452	Tablet, 5083 Model 22
		74F3140	Tablet, 6093 Model 12
		93H7714	Tablet, 6093 Model 21

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
929		39F8227	Dials, 6094 Model 10
		39F8302	Cable, Serial Attachment, Power
930		39F8226	Lighted Program Function Keyboard (LPFK), 6094 Model 20
		39F8302	Cable, Serial Attachment, Power
935	7024/7025/7043/ 7317 7026 Model S70 Model S7A Model S80	93F2361 76H4091 07L7814	1.44MB 3.5-inch White Diskette Drive 1.44MB 3.5-inch Black Diskette Drive 1.44MB 3.5-inch Diskette Drive
938			Serial Hippi PCI Adapter **Notes:** • Use the number printed above the bar code to order this part. • The FRU part number of the wrap plug used with this adapter is 21H3547.
946			Standard Serial Port 3 Adapter problem **Note:** For type/model and FRU information, if not listed here, refer to FFC 221.
	9076/Power3 SMP High Node	11K0571	NIO Planar
950			Unknown SCSI device is missing.
951		53F3429	670MB SCSI Disk Drive
		6373521	Logic Card **Note:** Exchange the complete drive whenever possible. If extreme data saving measures are necessary, exchange the logic card.

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
952		53F3427	355MB SCSI Disk Drive
		6373521	Logic Card **Note:** Exchange the complete drive whenever possible. If extreme data saving measures are necessary, exchange the logic card.
953		93X0961	320MB SCSI Disk Drive
		93X0901	Logic Card and Frame assembly **Note:** Exchange the complete drive whenever possible. Exchange the logic card only when the data on the disk must be saved.
954		00G1948	400MB SCSI Disk Drive
		73F8994	Logic Card and Frame assembly **Note:** Exchange the complete drive whenever possible. Exchange the logic card only when the data on the disk must be saved.
955		45G9502	857MB SCSI Disk Drive
956		6373521	355/670MB Logic Card.
960		52G0061	1.37GB SCSI Disk Drive Assembly
		31G9756	Logic card **Note:** Logic card stocking is limited, special ordering is required. Check RETAIN for logic card availability. Exchange the complete drive asm when possible. Exchange the logic card when the data on the disk must be saved.
962	3161		Use device documentation.
963	3163		Use device documentation.

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
964		59H2839	20GB 8mm SE SCSI Tape Drive (int/white)
		59H4120	20GB 8mm SE SCSI Tape Drive (int/black)
		59H2835	20GB 8mm Diff SCSI Tape Drive (external/white)
		59H2842	400GB 8mm Diff Tape Autoloader(No LCD in Bezel/white)
966		93H2136	Media Streamer Audio/Video Decoder Adapter
968		55F9902	1GB SCSI SE Disk Drive
		55F9909	Single-Ended Frame Electronics
			Note: Check RETAIN for frame electronics availability. Exchange the complete drive asm when possible. Exchange the logic card when the data on the disk must be saved.
970	9348		1/2-inch 9-Track Tape Drive Use device documentation
971		16G8423	150MB 1/4-Inch Tape Drive
972		16G8421	2.3GB 8mm Tape Drive
973			Other SCSI Tape Drive
974		88G3929	CD-ROM Drive (Type A or Type B bezel)
980	4216		Use the device documentation
981		51G8237	540MB SCSI-2 Single-Ended Disk Drive
982	3852		Use the device documentation
983	4201		Use the device documentation
984		45G9467	1GB 8-bit Disk Drive
986		36G0454	2.4GB SCSI Disk Drive
987		73H1513	600MB CD-ROM-2 Disk Drive
989		43G1842	200MB SCSI Disk Drive
990		86F0118	2.0GB SCSI-2 SE Disk Drive
991		46G2700	525MB 1/4-Inch SCSI Tape Drive
992	5202		Use the device documentation
993	5204		Use the device documentation

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
994		59H3159	5/10GB 8mm Internal Tape Drive
995		21H5155	1.2GB 1/4-inch Cartridge Tape Drive
998		8191193	2.0GB 4mm SCSI Tape Drive
999	3514 7137		Disk Array Subsystems **Note:** Refer to the 3514 or 7137 documentation
B08		02G7431	Ethernet 10 Base Twisted-pair Transceiver
B09		02G7437	Ethernet/ISO 8802.3 Transceiver (formerly IEEE 802.3)
B10			System board PTC (thermal fuse) **Note:** If a thermal fuse has opened, it should reset within ten minutes after turning the power off. If the thermal fuse does not reset, a faulty device may be drawing excessive power through the fuse.
B31			Unknown keyboard type
B54		43G0936	128-Port Async Controller Cable, 0.2m (9 in.)
		43G0937	128-Port Async Controller Cable, 4.6m (15 ft.)
B69		33F8967	Co-Processor Multiport Adapter, Model 2 (0MB)
B71		53F2612	8-Port EIA-232-D Multiport, Model 2 Interface Card
B72		53F2615	8-Port EIA-422-A Multiport, Model 2 Interface Card
B73		72F0164	6-Port V.35 Multiport, Model 2 Interface Card
B74		04G5500	6-Port V.21 Multiport, Model 2 Interface Card
B77		53F2662	Co-Processor 1MB Memory Module
B81		40F9897	Co-Processor Multiport Interface Cable
B82		71F0162	Co-Processor Multiport V.35 Cable
B83		71F0164	Co-Processor Multiport X.21 Cable

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes

B88			Generic SCSI I/O Controller
			
			Notes:
			
			- If the failing FRU for this FFC is PCI(x), where x is the PCI bus number, 0, 1, ..., refer to FFC 221.
			- Refer to the FRU Name Cross-Reference List in this book for the FFCs of the SCSI and SCSI-2 adapters that this generic FFC represents. Choose the FFC for the appropriate SCSI I/O controller.
			- Check the SCSI controller fuse or PTC resistor before exchanging the system board. Refer to Service Hints in Chapter 1.
			- Check that the SCSI disable jumper is in the enabled position.
			- Check the FRU number of the installed external terminator:
			    Low density - 51G7736
			    High density - 51G7737

C11		36G4280	2.4GB SCSI Disk Drive Field Repair Assembly **Note:** The field repair assembly includes one disk drive, the electronics planar, and the 5-1/4 inch form factor "cage." The remaining "good" drive is removed from the failed disk drive assembly and installed in the field repair assembly to create a complete dual-disk drive assembly. If saving data is critical, as a last resort try installing the "bad" drive in place of one of the two "good" drives in the now-complete field repair assembly. If the "bad" drive operates satisfactorily, the problem was probably in the electronics planar.
C22		94H0779	RJ-45 to DB25 Converter Cable Kit

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
C24		54G3384 55G3384	Fiber Optic Cables for PCI Fibre Channel Adapter 6.7m 12.8m
C33	7025/F40 7250/002	73H4034	GPSS Card
C34	7025/F40 7250/002	11H8490	RSS Card (without memory sockets)
C35	7025/F40 7250/002	65G4887	VOO Card
C36	7025/F40 7250/002	65G4892	Attachment Adapter Cable
C44	7025/F40 7250/002	65G4894	VOO/RSS Crossover Cable
C45	7025/F40 (Base and AG Mem.) 7250/002	65G4889	12M VRAM Memory Module
C46	7025/F40 (Base and AG Mem.) 7250/002	65G4890	16M VRAM Memory Module
C47	7025/F40 (TX Memory) 7250/002	65G4891	16M DRAM Memory Module
C48	7025/F40 7250/002	65G4893	RSS/GPSS Crossover Card
C94		68X6356 87H3621	IBM ARTIC960 4MB Memory Module IBM ARTIC960 8MB Memory Module
C95		87H3413 87H3428 87H3701 09J8829 51H8702	IBM ARTIC960 4-Port Selectable Interface Board IBM ARTIC960 4-Port T1/E1 Interface Card IBM ARTIC960Hx DSP interface card IBM ARTIC960 Quad T1/E1 interface card IBM ARITC960 PCI Adapter Interface Board

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
C97		87H3502	IBM ARTIC960 4-Port T1/E1 Interface Card Wrap Plug
		87H3311	IBM ARTIC960 4-Port Selectable Interface Board Wrap Plug
		5605670	ESCON Wrap Plug
			Note: A wrap plug is shipped with each adapter and cable.
C98		87H3405	IBM ARTIC960 4-Port Selectable EIA-232 Cable
		87H3396	IBM ARTIC960 4-Port Selectable RS-449 Cable
		87H3408	IBM ARTIC960 4-Port Selectable X.21 Cable
		87H3399	IBM ARTIC960 4-Port Selectable V.35 Cable
		87H3402	IBM ARTIC960 4-Port Selectable EIA-530 Cable
		87H3518	IBM ARTIC960 4-Port T1 RJ-45 Cable
		87H3515	IBM ARTIC960 4-Port E1 RJ-45 Cable
			Note: A wrap plug is shipped with each adapter and cable.

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
D01			Generic L2 Cache problem
	Model S70	90H9694 90H9662	Processor Card (4x) (Type 2) Processor Card (4x) (Type 1)
	Model S7A	08L1474 08L1473	Processor Card (type 2) (262MHz) Processor Card (type 1) (262MHz)
	Model S80	23L7434 23L7447	Processor Card (Type 1 RH) Processor Card (Type 2 LH)
	7024/E20	40H6616 07L8001	CPU Card (100MHz) CPU Card (233MHz)
	7024/E30	73H3614 93H2431 07L8001	CPU Card (133MHz) CPU Card (166MHz) CPU Card (233MHz)
	7025/F30	73H3614 93H2431 07L8001	CPU Card (133MHz) CPU Card (166MHz) CPU Card (233MHz)
	7025/F40	11H7517 93H5163	CPU Card (166MHz) CPU Card (233MHz)
	7025/F50	93H2679 73H4768 93H9018 93H8945	166MHz CPU Card (1 way) 166MHz CPU Card (2 way) 332MHz CPU Card (1 way) 332MHz CPU Card (2 way)
	7026/H10	11H7517	166MHz Processor and Cache Card
	7026/H50	93H9018 93H8945	CPU Card (1 way) CPU Card (2 way)

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
D01 (cont.)	7026/H70	94H1013 94H1008	Generic L2 Cache problem CPU Card (1 way) CPU Card (2 way)
	7043/140	75H5462 75H5463	512KB L2 Cache 1MB L2 Cache
	7043/150	07L8446	System Board
	7043/240	11H7517 93H5163	166MHz Processor and Cache Card 233MHz Processor and Cache Card
	7043/260	08L1013	200MHz CPU Card
	7317/F3L	73H3614 93H2431 07L8001	CPU Card (133MHz) CPU Card (166MHz) CPU Card (233MHz)
	9076 SMP Thin/Wide Node	93H9716	CPU card (332MHz)
	9076/Power3 SMP Thin/Wide Node	03N2403	CPU card (200MHz)
	9076/Power3 SMP High Node	41L6153	CPU card
D06		88G3650	64 Port to 128 Port Converter Kit (four to a pack) **Note:** Converter part number is 88G3651
D08	7134	88G5722	DC Fan assembly
D46		6339098	Token-Ring 9-pin D-Shell cable, 3m (10 ft.)
		60G1063	Token-Ring RJ-45 STP cable, 3m (10 ft.) **Note:** Not used with the High-Speed Token-Ring PCI adapter
		93H8894	RJ-45 to 9-pin D-Shell Token-Ring Conversion cable **Note:** Not used with the High-Speed Token-Ring PCI adapter
		OEM Cable	Standard UTP RJ-45 cable
D56		12H1204	EIA-232E Printer/ Terminal Serial Cable
D57		07L9822	8-Port Multiport Interface Cable ISA Async Adapter

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
D59		93H7766	TP PCI Ethernet Adapter
D60		93H1902	T2 PCI Ethernet Adapter
		93H7766	TP PCI Ethernet Adapter
D66	7250	11H4436	RSS Card (with memory sockets)
D67		N/A	8MB, ECC, 50nsec Memory Module
D68		N/A	16MB, ECC, 50nsec Memory Module
D69		N/A	32MB, ECC, 50nsec Memory Module
D70		N/A	64MB, ECC, 50nsec Memory Module
D71		42H2771	8MB, ECC, 60nsec Memory Module
D72		42H2772	16MB, ECC, 60nsec Memory Module
D73		42H2773	32MB, ECC, 60nsec Memory Module
D74	7025/F40 /7043/140/7043/240	42H2774	64MB, ECC, 60nsec Memory Module
	7043/140	93H6823	128MB, ECC, 60nsec Memory Module
	7043/240	93H6822	
	7043/150	07L9302 07L9304 07L9306	64MB, ECC Memory Module 128MB, ECC Memory Module 256MB, ECC Memory Module
D75		65G4615	8MB, ECC, 70nsec Memory Module
D76		N/A	16MB, ECC, 70nsec Memory Module
D77		N/A	32MB, ECC, 70nsec Memory Module
D78		39H9837	64MB, ECC, 70nsec Memory Module
D83		N/A	8MB, Parity, 50nsec Memory Module
D84		N/A	16MB, Parity, 50nsec Memory Module
D85		N/A	32MB, Parity, 50nsec Memory Module
D86		N/A	64MB, Parity, 50nsec Memory Module
D87		N/A	8MB, Parity, 60nsec Memory Module
D88		N/A	16MB, Parity, 60nsec Memory Module
D89		N/A	32MB, Parity, 60nsec Memory Module
D90		N/A	64MB, Parity, 60nsec Memory Module
D91		N/A	8MB, Parity, 70nsec Memory Module

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
D92		N/A	16MB, Parity, 70nsec Memory Module
D93		65G4617	32MB, Parity, 70nsec Memory Module
D94		39H9837	64MB, ECC, 70nsec Memory Module
D95	7043/140 7043/150	94H0029	GXT550P Graphics Adapter
	7025/F40	94H0029	
	7043/240		
D96		93H6267	GXT255P High Performance PCI Graphics Adapter
D97		93H7439	Operator Panel/Speaker Assembly
E10	7043/140 7043/150	73H4532	Riser Card
	7043/240	73H3712	
	Models not listed		Refer to FFC 227
E11		N/A	128MB, ECC, 50nsec Memory Module
E12	7025/F40/7025/F50/ 7026/H10/7026/H50/ 7317/F3L	93H6821	128MB, ECC, 60nsec Memory Module
	7043/140	93H6823	
	7043/240	93H6822	
	9076 SMP Thin/Wide Node	93H4702	128MB, ECC, 60nsec Memory Module
	9076/Power3 SMP Thin/Wide Node	93H4702	128MB, ECC, Memory Module
E13		N/A	128MB, ECC, 70nsec Memory Module
E14		N/A	128MB, Parity, 50nsec Memory Module
E15		N/A	128MB, Parity, 60nsec Memory Module
E16		N/A	128MB, Parity, 70nsec Memory Module
E17	Model S70	19H0288	Memory 16MB Memory Module
E18	Model S70	35H8751	Memory 64MB Memory Module

Failing Funct. Code	Machine Type/Model	FRU Part Number	Description and Notes
E19			Power Supply Sensor Failed
	7026/H50	07L6594	I/O planar
	7026/H70	08L0617	I/O planar
	9076 SMP Thin/Wide Node	41L6138	I/O planar
	9076/Power3 SMP Thin/Wide Node	03N2866	I/O planar
	9076/Power3 SMP High Node	41L6153 03N4184 11K0571	CPU Card System Planar NIO Planar
	9076/Power3 RIO Drawer	31L8752 11J6495 05N5005	Supervisor Card Power Cord RIO planar
E1A	Model S80	23L7595	4GB Memory Card
E22			Video Cable (generic)
E23			Audio Cable (generic)
E24	7236	94H0623	Resistor Assembly
E26	7026/H50	93H9551	Power Distribution Card
	7026/H70	08L0388	Power Distribution Card
E29		21H8979	32MB Battery Backed Write Cache (Located on the LVD SCSI RAID Adapter)
E30		44H8429	Battery (Located on the LVD SCSI RAID Adapter's Memory Cache Card
Exx	9076 SMP Thin/Wide Node	N/A	(xx represents any character) Refer to the Firmware Checkpoint Three-Digit Error Code section of the service manual.
Fxx	7024 7025		(xx represents any character) Refer to the Firmware Checkpoint Three-Digit Error Code section of the service manual.

Chapter 36. FRU Cross-References

The FRU Cross-references enable the service technician to determine FRU numbers if the part name is known or to determine a FRU description if the FRU number is known.

Using the FRU Name Cross-Reference List

The following procedure is used to find a FRU part number when the FRU name is known. FRU names are listed in alphabetic order.

1. Find your FRU name in the FRU name column.

2. Record the failing function code for the FRU.

3. Go to the "Failing Function Code List" on page 35-4 to find the FRU part number and description.

FRU Name Cross-Reference List

Description and Notes	Failing Function Code
Adapter, 10/100MB Ethernet TP PCI	777
Adapter, 2-Port Multiprotocol PCI (ASIC)	444
Adapter, 2-Port Multiprotocol PCI	799
Adapter, 3Com Fast EtherLink XL PCI 10/100 Ethernet for PowerPC Microprocessor-Based Systems	699
Adapter, 8-Port RS232 ISA Adapter	830
Adapter, 8-Port ISA Async EIA-232/RS-422 Adapter	785
Adapter, 8-Port PCI Asynchronous EIA-232/RS-422 Adapter	686
Adapter, IBM ARTIC960Hx Adapter	675
Adapter, IBM ARTIC960Rx Adapter	676
Adapter, IBM ARTIC960RxD Quad Digital Trunk PCI Adapter	663
Adapter, Auto LANStreamer Token-Ring PCI	750
Adapter, Auto LANStreamer Token-Ring PCI	776
Adapter, PCI High-Speed Token-Ring	646
Adapter, Built-in Parallel Port	827
Adapter, Co-Processor Multiport Adapter, Model 2	781
Adapter, Crytographic 4755	992
Adapter, Differential PCI Ultra SCSI	2E6

Description and Notes	Failing Function Code
Adapter, Dual Channel PCI-2 to Ultra2 SCSI	637
Adapter, ESCON Channel PCI Adapter	674
Adapter, Ethernet	962
Adapter, FDDI (vendor logoed)	795
Adapter, GXT110P Graphics Adapter	900
Adapter, GXT120P Graphics Adapter	685
Adapter, GXT130P Graphics Adapter	655
Adapter, GXT250P PCI Graphics Adapter	786
Adapter, GXT255P High Performance PCI Graphics Adapter	D96
Adapter, GXT500P Graphics	787
Adapter, GXT550P Graphics	D95
Adapter, GXT800P Graphics (Base Card)	806
Adapter, GXT800P Graphics (Base DIMM)	298
Adapter, GXT800P Graphics (Texture DIMM)	297
Adapter, GXT2000P Graphics	657
Adapter, GXT3000P 3D PCI Graphics Adapter	778
Adapter, Serial Hippi PCI	938
Adapter, Integrated Ethernet System Planar	887
Adapter, Integrated Ultra2 SCSI	84A
Adapter, ISDN Basic Rate Interface	693
Adapter, Media Streamer Audio/Video Decoder	966
Adapter, Multibus Integrated Ethernet	790
Adapter, MVP Power Graphics	775
Adapter, PCI Differential Ultra SCSI	2E6
Adapter, PCI Fiber Channel Arbitrated Loop Adapter (FC-AL)	677
Adapter, PCI Gigabit Ethernet	669
Adapter, PCI Single-Ended Ultra SCSI	840
Adapter, POWER GXT1000 Graphics Attachment (SPAN)	908
Adapter, SCSI-2 Fast/Wide PCI	746
Adapter, SCSI-2 Differential Fast/Wide PCI	747
Adapter, PCI 3-Channel Ultra2 SCSI RAID	667
Adapter, SCSI 32-bit SE Fast/Wide Raid	751
Adapter, T2 PCI Ethernet	D60 742
Adapter, SP Switch MX	763

Description and Notes	Failing Function Code
Adapter, TB3-PCI Adapter	764
Adapter, TP PCI Ethernet	D59
Adapter, TURBOWAYS 25 ATM PCI	691
Adapter, TURBOWAYS 155 PCI MMF ATM (1MB)	697
Adapter, TURBOWAYS 155 PCI UTP ATM (1MB)	698
Adapter, Ultimedia Video Capture Adapter	788
Adapter, Unknown (vendor supplied)	711
Adapter, X.25 Interface Co-Processor	780
Adapter, XGA graphics	983
Battery, Time-of-Day and NVRAM	151
Battery, Cache (See FFC 667, or 751)	E30
Cable, 2-Port Multiprotocol V.24, V.35, V.36, and X.21	2C3
Cable, 4-Port Multiprotocol jumper	267
Cable, Async EIA - 232D, V.24	259
Cable, IBM ARTIC960 Adapter	C98
Cable, Audio (generic)	E23
Cable, Diskette Drive Signal	181
Cable, EIA-232E Printer/Terminal Serial	D56
Cable, Fiber optic for FC-AL adapter	C24
Cable, Multiport Interface Cable for 8-port Async ISA Adapter	D57
Cable, Multiprotocol - EIA-422A	253
Cable, Parallel Printer	251
Cable, Power, Serial Attachment, Dials/6094	929
Cable, SCSI Controller	276
Cable, SCSI Internal (by machine type)	277
Cable, SCSI Generic (External)	277
Cable, SCSI Internal Disk Drive	190
Cable, Signal, Serial Attachment, Dials6094	270
Cable, Terminal Cable, EIA-422A	263
SCSI Device/SCSI Cable/SCSI Terminator	D50
Cable, Token Ring	256
Cable, Type 3 Media Filter Token Ring .254m (10inch) or Auto Token-Ring LANstreamer MC 32 Standard Token Ring	D46
Cable, Video (generic)	E22
CD-ROM drive, 20x (MAX) SCSI-2 Drive	682

Description and Notes	Failing Function Code
CD-ROM drive, 32x (MAX) SCSI-2 Drive	664
CD-ROM drive, 600MB Double Speed Tray-Loading, Type C Bezel	89c
CD-ROM drive, 8x Speed SCSI-2 Drive	804
CD-ROM drive, External 2.6GB Rewritable Optical Disk	789
CD-ROM drive, Quad Speed SCSI-2 640MB Drive	734
CD-ROM drive, Type A or B Bezel	974
CD-ROM-2 drive, Type B Bezel (Unload button has a white underside)	987
Controller, 128-Port Aysnc Controller	709
Controller, 128-Port PCI Asynchronous	687
Controller, SCSI I/O	B88
CPU card	210
Disk Drive Assembly, 200MB SCSI, 3.5 inch	989
Disk Drive Assembly, 320MB SCSI	953
Disk Drive Assembly, 320MB SCSI, logic card and frame	953
Disk Drive Assembly, 355MB SCSI	952
Disk Drive Assembly, 355MB SCSI, logic card and frame	952
Disk Drive Assembly, 400MB SCSI	954
Disk Drive Assembly, 400MB SCSI, logic card and frame	954
Disk Drive Assembly, 540MB SCSI-2 (1-inch height)	981
Disk Drive Assembly, 670MB SCSI	142 951
Disk Drive Assembly, 857MB SCSI, logic card and frame	955
Disk Drive Assembly, 1.0GB SCSI (1-inch height)	984
Disk Drive Assembly, 1GB SCSI, Single-Ended	968
Disk Drive Assembly, 1GB SCSI, Differential	913 945
Disk Drive Assembly, 1.08GB SCSI-2 (1-inch height)	741
Disk Drive Assembly, 1.1GB 8-bit Single-Ended	700
Disk Drive Assembly, 1.1GB 16-bit Single-Ended	701
Disk Drive Assembly, 1.1GB 16-bit Differential	702
Disk Drive Assembly, 1.37GB SCSI	960
Disk Drive Assembly, 1.37GB SCSI, Logic Card	960
Disk Drive Assembly, 2.0GB SCSI-2, Differential	912
Disk Drive Assembly, 2.0GB SCSI-2, Differential Fast/Wide	917
Disk Drive Assembly, 2.0GB SCSI-2, Single-Ended Fast/Wide	918

Description and Notes	Failing Function Code
Disk Drive Assembly, 2.0GB SCSI-2, Single-Ended	990
Disk Drive Assembly, 2.1GB 16 bit SCSI	784
Disk Drive Assembly, 2.2GB 8-bit Single-Ended	703
Disk Drive Assembly, 2.2GB 16-bit Single-Ended	704
Disk Drive Assembly, 2.2GB 16-bit Differential	705
Disk Drive Assembly, 2.2GB 16-bit Single-Ended	791
Disk Drive Assembly, 2.4GB SCSI	986
Disk Drive Assembly, 4.5GB 16-bit Single-Ended	706
Disk Drive Assembly, 4.5GB 16-bit Differential	707
Disk Drive Assembly, 4.5GB 16-bit Single-Ended	772
Disk Drive Assembly, 4.5GB 16-bit Single-Ended	792
Disk Drive Assembly, 4.5GB Ultra SCSI Single-Ended	638
Disk Drive Assembly, 4.5GB Ultra SCSI Single-Ended	689
Disk Drive Assembly, 4.5GB SCSD Single-Ended	679
Disk Drive Assembly, 9.1GB Ultra SCSI Single-Ended	690
Disk Drive Assembly, 9.1GB 16-bit Single-Ended	773
Disk Drive Assembly, 9.1GB 16-bit Single-Ended	793
Disk Drive Assembly, 9.1GB Ultra-SCSI 16-bit	681
Disk Drive Assembly, 9.1GB Ultra SCSI (68-pin)	440
Disk Drive Assembly, 9.1GB 10K RPM Ultra SCSI (68-pin)	639
Disk Drive Assembly, 9.1GB 10K RPM Ultra SCSI (80-pin)	640
Disk Drive Assembly, 18.2GB Ultra-SCSI 16-bit	653
Disk Drive Assembly, 18.2GB Ultra SCSI (68-pin)	441
Disk Drive Assembly, 9.1GB Differential	774
Diskette Drive, 3.5-inch	935
Display Unit,	725
Fan Assemblies	166 167
File Server	993
Fuse, SCSI I/O Controller	279
Interface board, IBM ARTIC960 Adapter	C95
Interposer, RS232 Printer/Terminal	261
Keyboard, 5085/5086	931
Keyboard, Kanji	923
Keyboard, PS/2	736

Description and Notes	Failing Function Code
Keyboard U.S.	921
Keyboard, WT	922
Lighted Program Function Keyboard (6094, model 20)	930
Logic Card, 355/670MB	956
Memory Module, IBM ARTIC960	C94
Memory Module, 256 MB	2CD
Memory, 32MB Cache (See 667, or 751)	E29
Module, ROM	217
Mouse, 3-Button	925
Network Interface, Switching	980
Power Supplies	152
Power Supply, Portable Disk Drive	192
RAN, 16-Port EIA-232	837
RAN, 16-Port RS-422	684
Resistor Assembly for 7236	E24
Riser Card, Operator Panel, SCSI	812
Stylus, Tablet	188
System Board	221
System Board, Integrated Ultra2 SCSI	662
Tablet Cursor	159
Tablet, 5083/21 or 6093/11	926
Tablet, 5083/22 or 6093/12, 21, 22	927
Tape Bridge Box, 30GB DLT	692
Tape, Atape	899
Tape Drive, 150MB 1/4 inch	971
Tape Drive, 525MB 1/4 inch	991
Tape Drive, 1.2GB 1/4 inch	995
Tape Drive, 2.0GB 4mm	998
Tape Drive, 2.3GB 8mm	972
Tape Drive, 4GB 4mm	915
Tape Drive, 5GB 8mm Single-Ended	994
Tape Drive, 5GB 8mm Differential	914
Tape Drive, 12GB 4mm SCSI	678
Tape Drive, 13GB 1/4 inch	757

Description and Notes	Failing Function Code
Tape Drive, 16GB 4mm Tape Autoloader	745
Tape Drive, 20GB 8mm SCSI	964
Tape Drive, 48GB 4mm Tape Autoloader	745
Tape Drive, 24/48GB 4mm DDS-2 Tape Autoloader	783
Tape Drive, 140GB 8mm	733
Tape Drive, 400GB 8mm SCSI Autoloader	964
Tape Drive, 9348 1/2-Inch 9-Track	970
Tape Library, 7331 Model 205	749
Terminator, SCSI card edge	232
Terminator, SCSI pass-through and cable assembly	277
Terminator, SCSI Controller (external)	233
Transceiver, Ethernet, Twisted Pair	B08
Transceiver, Ethernet, ISO 8802/3 (formerly IEEE 802.3)	B09
Wrap plug, IBM ARTIC960 Adapter Interface Board	C97
3514 External Disk Array, Models 212, and 213	999
3852 Graphics Visualization Server	982
2105 Model B09	683

Appendix A. Wrap Plugs

Adapter Name	Connector Type, Port Name, or Cable	Part Number
2-Port Multiprotocol PCI Adapter	Wrap Plug	93H3662
8-Port EIA-232/RS-422A Asynchronous ISA Adapter	25-position D-shell	6298964
16-Port EIA-232 Remote Async Node	RJ-45 0.2m (9 inch) controller cable 4.6m (15 feet) controller cable RJ-45 to DB-25 converter cable Cable kit provides four RJ-45 to DB-25 cables Terminator	43G0928 43G0936 43G0937 51G8610 43G0938 43G0926
Auto LANstreamer Token-Ring PCI Adapter	Token-Ring Port	6165899
Built-in Serial Adapter	Serial Ports S1 & S2 9-pin to 25-pin Converter Cable 25-pin D-shell	6298965 6450242 6298964
Built-in Parallel Printer Adapter	Parallel Printer Port	71F0690
Co-Processor Multiport Adapter, Model 2	78-Position X.21 V.35 EIA-232D EIA-422A	40F9902 40F9904 40F9900 40F9903 53F3886
ESCON Adapter	ESCON Wrap Plug	5605670
Ethernet T2 PCI Adapter	Transceiver wrap plug: Thin Twisted Pair	 02G7433 00G2380
Ethernet T5 PCI Adapter	Transceiver Wrap Plugs Thin Twisted Pair 15-Position D-Shell BNC, 25-ohm terminator	 02G7433 00G2380 70F9625 70F9626
Ethernet PCI Adapter	Adapter wrap plugs: Twisted Pair DIX 15-pin connectors (2) BNC wrap plugs (3)	 00G2380 71F1167 70F9625 71F1168 70F9626 02G7433
PCI Gigabit Ethernet Adapter	Fiber Connector Wrap Plug	21H3547
PCI Fibre Channel Adapter	Wrap Plug	16G5609
TURBOWAYS 25 ATM PCI Adapter	Wrap Plug	42H0540

Adapter Name	Connector Type, Port Name, or Cable	Part Number
X.25 Interface Co-Processor Adapter	X.25 Adapter Wrap Plug X.21 Cable Wrap Plug V.24 Cable Wrap Plug V.35 Cable Wrap Plug	07F3132 07F3153 07F3163 07F3173

Appendix B. Test Media

Device	Media or Supplies	Part Number
4GB 4mm tape drive	Tape/media kit Kit includes: • 4mm Cleaning Tape Cartridge • 4mm 2GB Data Tape Cartridge • 4mm 4GB Data Tape Cartridge 4mm Diagnostic Cartridge	8191149 21F8763 21F8758 8191160 8191146
5GB 8mm Tape Drive	Tape/Media kit Kit includes: • 8mm Cleaning Tape Cartridge • 8mm Blank Data Tape Cartridge • 8mm Test Tape Cartridge Package of five 8mm Blank Tapes	59F3907 21F8593 21F8595 21F8577 21F8595
1/4-inch Cartridge Tape Drive	1/4 inch Head Cleaning Kit 150MB Data Tape Cartridge (5-pack) 525MB Data Tape Cartridge (5-pack) 1.2GB Data Tape Cartridge (5-pack) 1.2GB 1/4 inch Test Tape Cartridge	21F8570 21F8588 21F8587 21F8732 21F8734
3-1/2 inch Diskette Drive	3-1/2 inch 1.0MB Blank Diskette 3-1/2 inch 1.0MB Diagnostic Test Diskette 3-1/2 inch 2.0MB Blank Diskette 3-1/2 inch 2.0MB Diagnostic Test Diskette	6404095 71F1247 6404078 71F1248
CD-ROM Drive, Bezel type C	Test Disc	81F8902
RISC System/6000 Diagnostic Package	Diagnostic and Tests on CD-ROM	40H3401 40H3394

Supplemental Diagnostic Diskette Description	Part Number
10/100 Ethernet Tx PCI Adapter	93H1843
Eicon ISDN DIV A Pro 2.0 PCI S/T Adapter (Order through the kit FRU Part Number)	41L5794
IBM ARTIC960Hx 4-port Selectable PCI Adapter IBM ARTIC960Hx 4-port T1/E1 Adapter IBM ARTIC960Hx 4-port DSP Resource Adapter	07L9046
SSA Multi-Initiator/RAID EL Adapter	96H9868

Appendix C. System Memory Reference

System Unit Memory Combinations

Machine Type	Model	System Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7013 7015 7017	Model S70	(512MB/16GB)	93H7678 (RH) 93H7689 (LH)	16MB 32MB 64MB	19H0288 19H0289 35H8751	Yes
7013 7015 7017	Model S7A	(512MB/32GB) R1 Memory Cards	90H9831 90H9834 97H6204 90H9837 97H6213 97H6226 97H6244	128MB 256MB 256MB (64MB) 512MB 512MB (64MB) 1024MB 2048GB	N/A	Quads
7013 7015 7017	Model S80	(1GB/64GB)	23L7566 23L7570 23L7577 23L7589 23L7595	256MB 512MB 1024MB 2048MB 4096MB	N/A	Quads
7024	E Series	System Board (16MB/1024MB)	N/A	8M 16M 32M 64M 128M	65G4615 19H0288 65G4617 39H9837 73H3451	No
7025	F30	System Board (16MB/1024MB)	N/A	8M 16M 32M 64M 128M	65G4615 19H0288 65G4617 39H9837 73H3451	No
7025	F40	System Board (16MB/1024MB)	N/A	8M 16M 32M 64M 128M	42H2771 42H2772 42H2773 42H2774 93H6821	No
7025	F50	(64MB/1024MB)	93H2641	32M 128M	93H4700 93H4702	Yes

Machine Type	Model	System Memory Configuration Type/Size (Min./Max.)	Base Memory Card FRU Number	Memory Module Size (Bytes)	Memory Module FRU Number	Card Pairs
7026	H10	(16MB/1024MB)	N/A	16M 32M 64M 128M	42H4772 42H2773 42H2774 93H6821	No
7026	H50	(64MB/1024MB)	93H2641	32M 128M	93H4700 93H4702	Yes
7026	H70	(64MB/8GB)	93H2641	32M 128M 256MB	93H4700 93H4702 07L9030	Yes
7043	140	System Board (32MB/768MB)	N/A	16M 32M 64M 128M	42H2772 42H2773 42H2774 93H6823	No
7043	150	System board (128MB/1024MB)	N/A	64MB 128MB 256MB	19L1808 19L1809 29L3302	No
7043	240	System Board (32MB/1024MB)	N/A	8M 16M 32M 64M 128M	42H2771 42H2772 42H2773 42H2774 93H6822	No
7043	260	(256MB/4096MB)	07L7065	32MB 128MB	07L7729 93H4702	Yes
7317	F3L	System Board (16MB/1024MB)	N/A	8M 16M 32M 64M 128M	65G4615 19H0288 65G4617 39H9837 73H3451	No
9076 SMP Thin/Wide Node		(256MB/3GB)	93H2641	128MB	93H4702	Yes
9076/Power3 SMP Thin/Wide Node		(256MB/3GB)	07L7065	128MB	93H4702	Yes
9076/Power3 SMP High Node		(1GB/16GB)	07L6608	128MB	93H4702	Group of 8

Appendix D. General Attributes Required When Using a TTY Terminal

The following general attributes are the default settings for the diagnostic programs. Be sure your terminal is set to these attributes.

Note: These attributes should be set before the diagnostic programs are loaded.

Refer to the following table.

General Setup Attributes	3151 /11/31 /41 Settings	3151 /51/61 Settings	3161 /3164 Settings	Description
Machine mode	IBM 3151	IBM 3151 PC	IBM 3161 or IBM 3164	The diagnostic programs are set to emulate use of the 3161 ASCII Display Terminal. If your terminal can emulate a 5085, 3161 or 3164 terminal, use the following attribute settings. Otherwise, refer to your operator's manual, compare the follow attribute descriptions with those of your terminal, and set your attributes accordingly.
Generated Code Set		ASCII		
Screen	Normal	Normal		Uses the EIA-232 interface protocol.
Row and Column	24 x 80	24 x 80		Uses the EIA-232 interface protocol.
Scroll	Jump	Jump	Jump	When the last character on the bottom line is entered, the screen moves down one line.

General Setup Attributes	3151 /11/31 /41 Settings	3151 /51/61 Settings	3161 /3164 Settings	Description
Auto LF	Off	Off	Off	For the "On" setting, pressing the Return key moves the cursor to the first character position of the next line. For the "Off" setting, pressing the Return key moves the cursor to the first character position of the current line. The CR and LF characters are generated by the New line setting.
CRT saver	Off	Off	10	The "10" setting causes the display screen to go blank if there is no activity for 10 minutes. When the system unit sends data or a key is pressed, the screen contents are displayed again.
Line wrap	On	On	On	The cursor moves to the first character position of the next line in the page after it reaches the last character position of the current line in the page.
Forcing insert	Off	Off		
Tab	Field	Field	Field	The column tab stops are ignored, and the tab operation depends on the field attribute character positions.
Trace			All	Both inbound data (data to the system unit) and outbound data (data from the system unit) to and from the main port can be transferred to the auxiliary port without disturbing communications with the system unit when the Trace key is pressed.

Additional Communication Attributes

The following communication attributes are for the 3151, 3161, and 3164 terminals.

Communication Setup Attributes	3151/11 /31/41) Settings	3151 /51/61, Settings	3161 /3164 Settings	Description
Operating mode	Echo	Echo	Echo	Data entered from the keyboard on the terminal is sent to the system unit for translation and then sent back to the display screen. Sometimes called conversational mode.
Line speed	9600 bps	9600 bps	9600 bps	Uses the 9600 bps (bits per second) line speed to communicate with the system unit.
Word length (bits)	8	8	8	Selects eight bits as a data word length (byte).
Parity	No	No	No	Does not add a parity bit, and is used together with the word length attribute to form the 8-bit data word (byte).
Stop bit	1	1	1	Places a bit after a data word (byte).
Turnaround character	CR	CR	CR	Selects the carriage return (CR) character as the line turnaround character.
Interface	EIA-232	EIA-232	EIA-232	Uses the EIA-232 interface protocol.
Line control	IPRTS	IPRTS	IPRTS	Uses the 'permanent request to send' (IPRTS) signal to communicate with system unit.
Break signal (ms)	500	500	500	The terminal sends a 'break signal' to the system unit within 500 ms after the Break key is pressed.
Send null suppress	On	On		Trailing null characters are not sent to the system unit.
Send null			On	Trailing null characters are sent to the system unit.

Communication Setup Attributes	3151/11 /31/41) Settings	3151 /51/61, Settings	3161 /3164 Settings	Description
Response delay (ms)	100	100	100	The terminal waits for 100ms for the system unit to respond.

Additional Keyboard Attributes

The following keyboard attributes are for the keyboard attached to the 3151, 3161, and 3164 terminals.

Keyboard Setup Attributes	3151/11 /31/41 Settings	3151 /51/61 Settings	3161 /3164 Settings	Description
Enter	Return	Return	Return	The Enter key functions as the Return key.
Return	New line	New line	New line	The cursor moves to the next line when the Return key is pressed.
New line	CR	CR	CR	The Return key generates the carriage return (CR) and the line feed (LF) characters. The line turnaround occurs after the CR and LF characters are generated.
Send	Page	Page	Page	The contents of the current page are sent to the system unit when the Send key is pressed.
Insert character	Space	Space	Space	A blank character is inserted when the Insert key is pressed.

Additional Printer Attributes

The following printer attributes are for a printer attached to the 3151, 3161, and 3164 terminals.

Printer Setup Attributes	3151/11 /31/41 Settings	3151 /51/61 Settings	3161 /3164 Settings	Description
Line speed	9600	9600	9600	Uses 19200 or 9600 bps (bits per second) line speed to communicate with the system unit.
Word length (bits)	8	8	8	Selects eight bits as a data word length (byte).
Parity	Even	Even	No	
Stop bit	1	1	1	Places a bit after a data word (byte).
Characters	ALL	ALL		
Line end			CR-LF	
Print			View-port	
Print EOL			Off	
Print null			Off	

Appendix E. CHRP Error Log Structure

CHRP Error Logs in AIX

On Common Hardware Reference Platform Architecture (CHRP) systems, detailed AIX error log entries are created for machine checks, check stops, environmental failures, boot failures, and Service Processor failures. This log data is provided by product-specific firmware known as Run-Time Abstraction Services (RTAS). The detail data in the logs are in a format common to all CHRP systems.

Note: These logs are analyzed automatically by AIX diagnostics and should not require manual analysis, however, a situation may arise making it useful to examine the detail manually, possibly supplying you with more information.

See Figure E-1 for the general structure of the error log data.
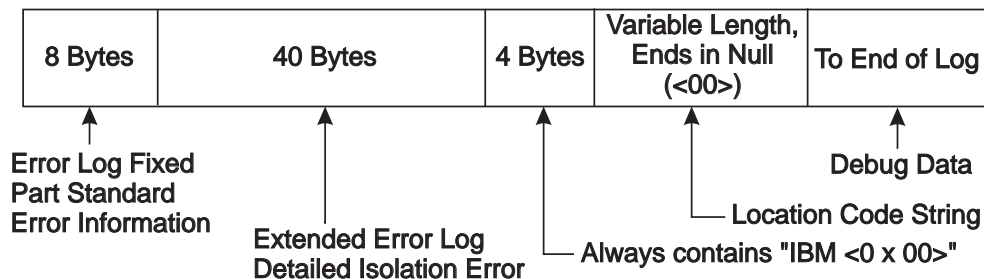
Figure   E-1. Standard IBM CHRP error log format

As shown in Figure E-1:

- The Error Log Fixed Part is always present, and provides error information about the type of error, its severity, and how it was handled. The Error Log Fixed Part also indicates the presence and length of the extended error log information.

- The Extended Error Log portion provides more specific information about the cause, type, and location of the error.

- The next 4 bytes, containing the ASCII characters "IBM" and a null character, indicate that IBM-specific extensions to the standard CHRP log architecture follow.

- A variable length string follows, containing the physical locations of any Field Replaceable Units (FRUs) implicated by the failure.

  Location codes are separated by blanks (0x20), and the string ends in a null character (0x00). Refer to "Location Codes for CHRP Model Architecture System Units" on page 28-16 for more information on CHRP Location Codes.

- Other data may follow after the location codes, but it is unarchitected engineering debug information that varies from system to system.

More detailed information on each portion of the log format is available in later sections of this chapter. Refer also to "Location Codes for CHRP Model Architecture System Units" on page 28-16 for more information on CHRP Location Codes.

Figure E-2 illustrates how the Detail Data is decoded.

LABEL: SCAN_ERROR_CHRP
IDENTIFIER: BFE4C025

Date/Time: Thu Feb 20 18:14:38
Sequence Number   140
Machine Id: 000000004C00
Node Id: localhost
Class: H
Type: PERM
Resource Name: sysplanar0
Resource Class: planar
Resource Type: sysplanar_rspc
Location: 00-00

Description
UNDETERMINED ERROR

Fixed Part (8 bytes)

Failure Causes   Extended Error Log (40 bytes)
UNDETERMINED
                                  "IBM <0x00>" (4 bytes)

    Recommended Actions   Location Codes (variable):
    RUN SYSTEM DIAGNOSTICS   "P1-C1 P1<0x00>"

Detail Data   Debug Data Records
PROBLEM DATA

```
0144 1000  0000  006A  C600 9108 0014 3700  1997 0221  0200 0000  0000 0000 0000 0000
0000 0000  0000  0000  0000 0000 0000 0000  4942 4D00  5031 2D43  3120 5031 0000 0000
0008 5331  0000  0300  0008 5332 0000 007F  0008 4D31  1000 0000  0008 4831 0000 0000
0008 4832  0000  0000  0008 4833 0000 0000  0002 0000  0000 0000  0000 0000 0000 0000
0000 0000  0000  0000  0000 0000 0000 0000  0000 0000  0000 0000  0000 0000 0000 0000
0000 0000  0000  0000  0000 0000 0000 0000  0000 0000  0000 0000  0000 0000 0000 0000
0000 0000  0000  0000
```

Figure E-2. Example AIX error log with CHRP Detail Data

RTAS Error Return Format Fixed Part

The summary portion of the error return is designed to fit into a single 32-bit integer. When used as a data return format in memory, an optional Length field and Extended Error Log data may follow the summary. The fixed part contains a "presence" flag which identifies whether an extended report is present.

Note: In Table E-1, the location of each field within the integer is included in parentheses after its name. Numerical field values are indicated in decimal unless noted otherwise.

Table E-1 (Page 1 of 2). RTAS Error Return Format (Fixed Part)	
Bit Field Name (bit number(s))	**Description, Values**
Version (0:7)	A distinct value used to identify the architectural version of message. Current version = (1)
Severity (8:10)	Severity level of error/event being reported: FATAL (5) ERROR (4) ERROR_SYNC (3) WARNING (2) EVENT (1) NO_ERROR (0) reserved for future use (6-7)
RTAS Disposition (11:12)	Degree of recovery which RTAS has performed prior to return after an error (value is FULLY_RECOVERED if no error is being reported): FULLY_RECOVERED(0) **Note:** Cannot be used when Severity is "FATAL". LIMITED_RECOVERY(1) NOT_RECOVERED(2) reserved for future use (3)
Optional_Part_Presence (13)	Indicates if an Extended Error Log follows this 32-bit quantity in memory: PRESENT (1): The optional Extended Error Log is present. NOT_PRESENT (0): The optional Extended Error Log is not present.
Reserved (14:15)	Reserved for future use (0:3)
Initiator (16:19)	Abstract entity that initiated the event or the failed operation: UNKNOWN (0): Unknown or Not Applicable CPU (1): A CPU failure (in an MP system, the specific CPU is not differentiated here) PCI (2): PCI host bridge or PCI device ISA (3): ISA bus bridge or ISA device MEMORY (4): Memory subsystem, including any caches POWER_MANAGEMENT (5): Power Management subsystem Reserved for future use (6-15)

Table E-1 (Page 2 of 2). RTAS Error Return Format (Fixed Part)	
Bit Field Name (bit number(s))	**Description, Values**
Target (20:23)	Abstract entity that was apparent target of failed operation (UNKNOWN if Not Applicable): Same values as Initiator field
Type (24:31)	General event or error type being reported: Internal Errors: RETRY (1): too many tries failed, and a retry count expired TCE_ERR (2): range or access type error in an access through a TCE INTERN_DEV_FAIL (3): some RTAS-abstracted device has failed (for example, TODC) TIMEOUT (4): intended target did not respond before a time-out occurred DATA_PARITY (5): Parity error on data ADDR_PARITY(6): Parity error on address CACHE_PARITY (7): Parity error on external cache ADDR_INVALID(8): access to reserved or undefined address, or access of an unacceptable type for an address ECC_UNCORR (9): uncorrectable ECC error ECC_CORR (10): corrected ECC error RESERVED (11-63): Reserved for future use Environmental and Power Warnings: EPOW(64): See Extended Error Log for sensor value RESERVED (65-95): Reserved for future use Power Management Events(96-159): power management event occurred - see base CHRP document for details. Reserved for future use (160-223) Vendor-specific events(224-255): Non-architected Other (0): none of the above
Extended Error Log Length (32:63)	Length in bytes of Extended Error Log information see "Extended Error Log Format" on page E-4

Extended Error Log Format

The following tables define an extended error log format by which the RTAS can optionally return detailed information to the software about a hardware error condition. For CHRP products, this extended data is usually provided.

Figure E-3 on page E-5 and Table E-2 on page E-6 shows the general layout for the extended error log format, while Table E-3 on page E-8 through Table E-8 on page E-12 show the detailed layout of bytes 12 through 39. The detail area format is determined by bits 4:7 of byte 2, which indicate the error log type.
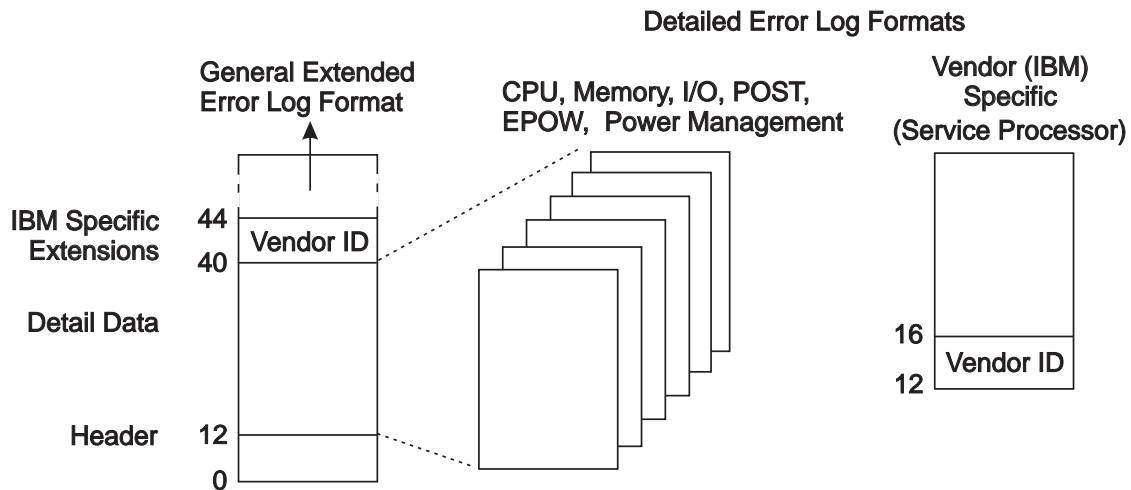
Figure E-3. Layout of extended error log format from RTAS

Product-unique data (location codes and debug information) is added to the end of the extended error log buffer (starting at byte 40) for capture and logging.

Note: The following log formats are designed to support the representation of integer values in either the Big-Endian (AIX, Apple) or Little-Endian (Intel) formats. For AIX, this is always Big-Endian format, which means there is no byte swapping, and bits run from 0 (high-order, leftmost) to 7 (low-order, rightmost).

Table E-2 (Page 1 of 2). RTAS General Extended Error Log Format		
Byte	**Bit(s)**	**Description**
0	0	1 = Log Valid
	1	1 = Unrecoverable Error
	2	1 = Recoverable (correctable or successfully retried) Error
	3	1 = Unrecoverable Error, Bypassed - Degraded operation (for example, Single CPU taken off-line, bad cache bypassed)
	4	1 = Predictive Error - Error is recoverable, but indicates a trend toward unrecoverable failure (for example, correctable ECC error threshold)
	5	1 = "New" Log (always 1 for data returned from RTAS)
	6	1 = Addresses/Numbers are Big-Endian format, 0 = Little-Endian **Note:** This bit is always set to the Endian mode in which RTAS was initialized.
	7	Reserved
1	0:7	Reserved
2	0	Set to 1 - (Indicates log is in PowerPC format)
	1:2	Reserved
	3	1 = No failing address was available for recording within the log's Detailed Log Data, so the address field is invalid
	4:7	Log format indicator, defines format used for bytes 12-39: (0) Reserved (1) CPU-detected failure, see Table E-3 on page E-8 (2) Memory-detected failure, see Table E-4 on page E-8 (3) I/O-detected failure, see Table E-5 on page E-10 or Table E-9 on page E-14 (V2) (4) Power-On Self Test (POST) failure, see Table E-6 on page E-11 (5) Environmental and Power Warning, see Table E-7 on page E-12 or Table E-10 on page E-15 (V2) (6) Power Management Event (see base CHRP document for description) (7-11) Reserved (12-15) Reserved for Vendor-specific (13) IBM Service Processor errors, see Table E-8 on page E-12

Table E-2 (Page 2 of 2). RTAS General Extended Error Log Format		
Byte	**Bit(s)**	**Description**
3	0:3	Reserved
	4	1 = Error is residual information from a failure which occurred prior to the last boot (for example, stored information about a machine check that crashed the system before RTAS could report it to the OS)
	5	1 = Error detected during IPL process (If neither bit 5 nor bit 7 is on, the error occurred after control was passed to the operating system)
	6	1 = Configuration changed since last boot.
	7	1 = Error detected prior to IPL (in POST or firmware extended diagnostics)
4-7	**Note:** Time and Date are based upon the same values and time base as the RTAS Time-of-Day functions. Time of most recent error in BCD format: HHMMSS00, where HH=00-23, MM=00-59, SS=00-59	
8-11	Date of most recent error in BCD format: YYYYMMDD, where YYYY=1995-future, MM=01-12, DD=01-31	
12-39	Detailed log data (See Detail log formats, Table E-3 on page E-8 through Table E-8 on page E-12)	

Note: Time and Date values included in the CHRP Extended Error Log format (bytes 4-11) are recorded in Universal Time Coordinated (UTC) which essentially is Greenwich Mean Time. UTC is also the way time is reported from the Time of Day clock hardware. Be aware that UTC time is NOT the same as local time that is usually presented by the operating system. The system has built-in functions to manage time differences and takes into account special cases such as Daylight Savings Time. For example, you may see an AIX error log with an AIX time stamp of 12:00 pm, containing a CHRP error log in the Detail Data where the encoded time stamp is 5:00 pm. This difference is actually the difference between local time and UTC time.

Byte	Bit(s)	Description
12	0	1 = CPU internal Error, other than cache
		Note: If failure cannot be isolated, these bits may all be 0
	1	1 = CPU internal cache error
	2	1 = External (L2) cache parity or multi-bit ECC error
	3	1 = External (L2) cache ECC single-bit error
	4	1 = Time-out error, waiting for memory controller
	5	1 = Time-out error, waiting for I/O
	6	1 = Address/Data parity error on Processor Bus
	7	1 = Transfer error on Processor Bus
13		Physical CPU ID number
14-15		Identifier number of sender of data/address parity error, or element which timed out
16-23		64-bit Memory Address for cache error (High-order bytes =0 if 32-bit addressing)
24-39		Reserved

Table E-3. Error Log Detail for CPU-Detected Errors, Bytes 12-39

Byte	Bit(s)	Description
12	0	1 = Uncorrectable Memory Error (parity or multiple bit ECC)
		Note: If failure cannot be isolated, these bits may all be 0
	1	1 = ECC correctable error
	2	1 = Correctable error threshold exceeded
	3	1 = Memory Controller internal error
	4	1 = Memory Address (Bad address going to memory)
	5	1 = Memory Data error (Bad data going to memory)
	6	1 = Memory bus/switch internal error
	7	1 = Memory time-out error

Table E-4 (Page 1 of 2). Error Log Detail for Memory Controller-Detected Error Log, Bytes 12-39

Byte	Bit(s)	Description
13	0	1 = Processor Bus parity error, detected by Memory Controller
	1	1 = Processor time-out error, detected by Memory Controller
	2	1 = Processor bus Transfer error
	3	1 = I/O Host Bridge time-out error, detected by Memory Controller
	4	1 = I/O Host Bridge address/data parity error, detected by Memory Controller
	5:7	Reserved
14	Physical Memory Controller number which detected error (0 if only one controller)	
15	Physical Memory Controller number which caused error (0 if only single memory controller, or if the error source is in main memory, not another memory controller)	
16-23	64-bit Memory Address (High-order bytes =0 if only 32-bit address)	
24-25	Syndrome bits (included if single-bit correctable error)	
26	Memory Card Number (0 if on system board)	
27	Reserved	
28-31	0:31	Memory sub-elements (for example, SIMMs/DIMMs) implicated on this card (or system board), 1 bit per sub-element
32-33	Identifier number of sender of data/address parity error, or element which timed out.	
34-39	Reserved	

Table E-4 (Page 2 of 2). Error Log Detail for Memory Controller-Detected Error Log, Bytes 12-39

Table E-5 (Page 1 of 2). Error Log Detail for I/O-Detected Error Log, Bytes 12-39		
Byte	**Bit(s)**	**Description**
12	0	1 = I/O Bus Address Parity Error
		Note: If failure cannot be isolated, these bits may all be 0
	1	1 = I/O Bus Data Parity Error
	2	1 = I/O Bus Time-out Error
	3	1 = I/O Device Internal Error
	4	1 = Signaling device is a PCI to non-PCI bridge chip, indicating an error on the secondary bus, for example, ISA IOCHK#.
	5	1 = Mezzanine/Processor Bus Address Parity Error
	6	1 = Mezzanine/Processor Bus Data Parity Error
	7	1 = Mezzanine/Processor Bus Time-out Error
13	0	1 = Bridge is connected to Processor Bus
	1	1 = Bridge is connected to Memory Controller via Mezzanine Bus
	2:7	Reserved
14	PCI Bus ID of the device signaling the error	
15	0:4	PCI Device ID of the device signaling the error
	5:7	PCI Function ID of the device signaling the error
16-17	PCI "Device ID" of the device signaling the error (from configuration register)	
18-19	PCI "Vendor ID" of the device signaling the error (from configuration register)	
20	PCI "Revision ID" of the device signaling the error (from configuration register)	
21	Slot Identifier number of the device signaling the error '00' if system board device 'FF' if multiple devices signaling an error	
22	PCI Bus ID of the sending device at the time of error	
23	0:4	PCI Device ID of the sending device at the time of error
	5:7	PCI Function ID of the sending device at the time of error
24-25	PCI "Device ID" of the sending device at the time of error (from configuration register)	

Table E-5 (Page 2 of 2). Error Log Detail for I/O-Detected Error Log, Bytes 12-39

Byte	Bit(s)	Description
26-27		PCI "Vendor ID" of the sending device at the time of error (from configuration register)
28		PCI "Revision ID" of the sending device at the time of error (from configuration register)
29		Slot Identifier number of the sending device at the time of error '00' if system board device 'FF' if sender cannot be identified, or if no sender, for example, internal SERR#
30-39		Reserved

Table E-6 (Page 1 of 2). Error Log Detail for Power-On Self Test-Detected Error Log, Bytes 12-39

Byte	Bit(s)	Description
12	0	1 = Firmware Error
	1	1 = Configuration Error
	2	1 = CPU POST Error
	3	1 = Memory POST Error
	4	1 = I/O Subsystem POST Error
	5	1 = Keyboard POST Error
	6	1 = Mouse POST Error
	7	1 = Graphic Adapter / Display POST Error
13	0	1 = Diskette Initial Program Load (IPL) Error
	1	1 = Drive Controller IPL Error (SCSI, IDE, etc.)
	2	1 = CD-ROM IPL Error
	3	1 = Hard disk IPL Error
	4	1 = Network IPL Error
	5	1 = Other IPL Device Error (Tape, Flash Card, etc.)
	6	Reserved
	7	1 = Self-test error in firmware extended diagnostics
14-25		Device Name (Open Firmware Device for which self-test failed. Name truncated if longer than 12 bytes.)
26-29		POST Error Code
30-31		Firmware Revision Level

Table E-6 (Page 2 of 2). Error Log Detail for Power-On Self Test-Detected Error Log, Bytes 12-39

Byte	Bit(s)	Description
32-39		Location Name (platform-specific identifier which points to specific instance of failing device)

Table E-7. Event Log Detail for Environmental and Power Warnings Event Log, Bytes 12-39

Byte	Bit(s)	Description
12-15		EPOW Sensor Value (low-order 4 bits contain the action code)
16-39		Reserved

Table E-8 (Page 1 of 2). IBM-specific Extended Log Format for Service Processor Errors, Bytes 12-39

Byte	Bit(s)	Description
12-15		Contains ASCII characters "IBM<null>" to indicate that this is an IBM-unique log format
16	0	1 = Time-out on communication response from service processor
	1	1 = I/O (I2C) general bus error
	2	1 = Secondary I/O (I2C) general bus error
	3	1 = Internal service processor memory error
	4	1 = Service processor error accessing special registers
	5	1 = Service processor reports unknown communication error
	6	1 = Internal service processor firmware error
	7	1 = Other internal service processor hardware error
17	0	1 = Service processor error accessing Vital Product Data EEPROM
	1	1 = Service processor error accessing Operator Panel
	2	1 = Service processor error accessing Power Controller
	3	1 = Service processor error accessing Fan Sensor
	4	1 = Service processor error accessing Thermal Sensor
	5	1 = Service processor error accessing Voltage Sensor
	6:7	Reserved

Table E-8 (Page 2 of 2). IBM-specific Extended Log Format for Service Processor Errors, Bytes 12-39

Byte	Bit(s)	Description
18	0	1 = Service processor error accessing serial port
	1	1 = Service processor error accessing NVRAM
	2	1 = Service processor error accessing Real-Time Clock / Time-of-day clock
	3	1 = Service processor error accessing JTAG/COP controller/hardware
	4	1 = Service processor or RTAS detects loss of voltage from the TOD backup battery
	5:6	Reserved
	7	1 = Service processor caused a reboot of the system due to surveillance time-out
19	Reserved	
20:23	Sensor Token, if failing device is a sensor defined in the Open Firmware device tree (otherwise = 0) **Note:** If 64-bit system, only contains least significant 4 bytes	
24:27	Sensor Index, if failing device is a sensor defined in the Open Firmware device tree (otherwise = 0) **Note:** If 64-bit system, only contains least significant 4 bytes	
28-39	Reserved	

Version 2 Extension of CHRP Error Log Format

Since the original definition of the CHRP error log format, most additional requirements for error reporting have been for new, unique types of errors that could be supported through vendor-specific log formats. However, there are also some areas covered by the original definition where it has become apparent that more information is needed. Examples of this include support of problem reporting for I/O expansion units, and extended reporting of the causes of EPOW conditions. The log format definition in CHRP provides a version number, which is the first byte in the returned buffer (byte 0 of the fixed-part information), and is defined in base CHRP to have a value of "1". The extension described here uses that version number to create a "Version 2" of the error log format. This version defines new fields within certain log areas that were reserved in Version 1, but does not change the meaning of any of the existing fields from Version 1, so that backward compatibility is preserved.

I/O Error Log, Version 2

Byte	Bit(s)	Description
12	0	1 = I/O Bus Address Parity Error **Note:** If failure cannot be isolated, these bits may all be 0
	1	1 = I/O Bus Data Parity Error
	2	1 = I/O Bus Time-out Error
	3	1 = I/O Device Internal Error
	4	1 = Signaling device is a PCI to non-PCI bridge chip, indicating an error on the secondary bus, for example, ISA IOCHK#
	5	1 = Mezzanine/Processor Bus Address Parity Error
	6	1 = Mezzanine/Processor Bus Data Parity Error
	7	1 = Mezzanine/Processor Bus Time-out Error
13	0	1 = Bridge is connected to Processor Bus
	1	1 = Bridge is connected to Memory Controller via Mezzanine Bus
	2	1 = Bridge is connected to I/O Expansion Bus
	3	1 = Error on Processor Bus detected by I/O Expansion Bus controller **Note:** When this bit = 1, bits 5:7 of byte 12 indicate the type of processor bus error.
	4	1 = I/O Expansion Bus Parity Error
	5	1 = I/O Expansion Bus Time-out Error
	6	1 = I/O Expansion Bus Connection Failure
	7	1 = I/O Expansion Unit not in an operating state (powered down, off-line)
14		PCI Bus ID of the device signaling the error
15	0:4	PCI Device ID of the device signaling the error
	5:7	PCI Function ID of the device signaling the error
16-17		PCI "Device ID" of the device signaling the error (from configuration register)
18-19		PCI "Vendor ID" of the device signaling the error (from configuration register)

Table E-9 (Page 1 of 2). Error Log Detail for I/O-Detected Error Log, Bytes 12-39

Byte	Bit(s)	Description
20		PCI "Revision ID" of the device signaling the error (from configuration register)
21		Slot Identifier number of the device signaling the error '00' if system board device 'FF' if multiple devices signaling an error
22		PCI Bus ID of the sending device at the time of error
23	0:4	PCI Device ID of the sending device at the time of error
	5:7	PCI Function ID of the sending device at the time of error
24-25		PCI "Device ID" of the sending device at the time of error (from configuration register)
26-27		PCI "Vendor ID" of the sending device at the time of error (from configuration register)
28		PCI "Revision ID" of the sending device at the time of error (from configuration register)
29		Slot Identifier number of the sending device at the time of error '00' if system board device 'FF' if sender cannot be identified, or if no sender (for example, internal SERR#)
30-39		Reserved

Table E-9 (Page 2 of 2). Error Log Detail for I/O-Detected Error Log, Bytes 12-39

EPOW Error Log, Version 2

Table E-10 (Page 1 of 2). Event Log Detail for Environmental and Power Warnings Event Log, Bytes 12-39

Byte	Bit(s)	Description
12-15		EPOW Sensor Value (low-order 4 bits contain the action code)
16	0	1 = EPOW detected by a defined sensor (see bytes 20-35)
	1	1 = EPOW caused by a power fault (see byte 17)
	2	1 = EPOW caused by fan failure
	3	1 = EPOW caused by over-temperature condition
	4	1 = EPOW warning due to loss of redundancy (For example, single failure in a group of N+1 power supplies, fans, etc.)
	5:7	Reserved

Byte	Bit(s)	Description
17	0	1 = General EPOW power fault due to an unspecified cause
	1	1 = EPOW power fault specifically due to loss of power source
	2	1 = EPOW power fault specifically due to internal power supply failure
	3	1 = EPOW power fault specifically due to manual activation of power-off switch
	4:7	Reserved
18-19	Reserved	
20-23	Token number of specific sensor causing the EPOW condition (If no CHRP-defined sensor caused the EPOW condition, this and the following values are set to 0. For example, a power loss condition currently does not have a defined CHRP sensor token.)	
24-27	Index number of specific sensor causing the EPOW condition	
28-31	Sensor value	
32-35	Sensor status (Status return value that would be returned from a get-sensor-state call)	
36-39	Reserved	

Table E-10 (Page 2 of 2). Event Log Detail for Environmental and Power Warnings Event Log, Bytes 12-39

Extended Log Debug Data

General Layout of Debug Data

The location code string for IBM error logs starts at byte 44 of the Extended Error Log Format, and ends in a NULL ("00") character. The rest of the log area beyond that point contains product-specific debug data that is usually used for bring-up, test, and field debug situations. However, it helps to have some defined structure to the data to make it easier to read or, if needed, write programs to look for specific values. For this reason, the individual pieces of debug data are recorded in the extended log area in a series of one or more records, where each record contains a length and identifier field in addition to the actual data. Table E-11 defines the general layout of these data records.

Byte	Bit(s)	Description
0-1		Total length (N) of debug data record, including length and identifier fields
		Note: Each record is aligned to start on a fullword boundary, padding previous records (or, in the case of the first record, the preceding location code string) with NULLs. The end of the list of debug data records is indicated by an "empty" record with a length = 0x0002, since the length itself takes two bytes.
2-3		Two character ASCII identifier of the data
		"00" - "99" are reserved for common registered data types "AA" - "ZZ" and "A0" - "Z9" are for product-specific use at the discretion of the developer. Preferably, something mnemonic should be used.
4-(N-1)		Actual debug data

Table E-11. General Format of Extended Log Debug Data

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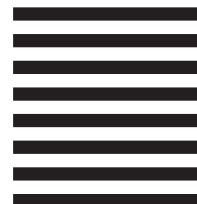
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