

Diagnosics Manual

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About This Manual

This Manual describes how to configure Hardware Diagnostics software and how to read the Error Log in the NuPoint Messenger™ Model 640 server.

In addition, this manual describes how to configure the Hardware Alarms Monitor (HAM) software for the Model 640 voice mail system.

For configuration information on the Model 640 voice mail system, refer to the *Model 640 Installation and Service Manual*.

Who Should Read This Manual

This manual is intended for technicians and administrators who are responsible for configuring the Hardware Diagnostics software and maintaining the Error Log for the NuPoint Messenger servers, and for administrators and technicians responsible for configuring the Hardware Alarms Monitor software on the Model 640 voice mail system.

How to Use This Manual

This manual contains detailed reference information, a list of tasks that you can perform, a collection of procedures for performing the tasks, and reader aids such as menu maps.

Reference Chapters

Use the material in this manual for detailed inquiry into the installation and configuration of the Hardware Diagnostics software and the Hardware Alarms Monitor software in a Model 640 voice mail system. These chapters discuss how components are related, elaborate on concepts, give operational details, and contain all necessary tables and figures about configuration. Use the Installation and Service Manual appropriate for your platform for an actual server installation and the Reference and Configuration Manual for NuPoint Voice™ software configuration.

Task Lists

Task lists follow Reference chapters that include procedures. Use the task list, starting with a principal task (shown in boldface), to install and configure Hardware Diagnostics Software or Hardware Alarms Monitor as appropriate to your platform. Each task listed is described in more detail in a procedure. The task list is alphabetized, which helps most readers find the desired task (and procedure) quickly. No particular sequence of tasks is implied.

Procedures

Procedures follow the task list in the Reference chapter. Follow the steps in the procedures (CPs) to accomplish the desired tasks. Readers familiar with a NuPoint Messenger server can use the CPs as a checklist if desired, while readers new to a NuPoint Messenger server can use CPs for step-by-step instructions.

A reference line in each CP contains pointers, when necessary, to supplemental information such

as another procedure, another manual or guide, a technical reference, or a menu map.

Each CP is numbered for document identification and referencing; numbering does not indicate a sequence of performance. A numerical list of all CPs in this guide is also provided. It gives each CP's title, Chapter number, and which other procedures either call it or are called by it.

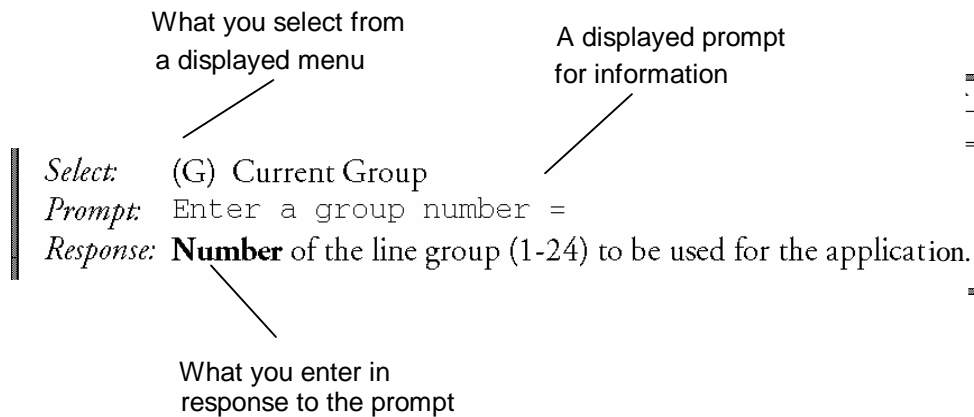
Menu Maps and Other Navigation Aids

Most of the documents in the NuPoint Messenger document library have menu maps. You can refer to these document navigation aids at any point to help you reach a menu.

Conventions Used in This Manual

The procedures in this manual use the following conventions to describe how you enter Diagnostics configuration information and how information is displayed on the NuPoint Messenger server console:

- Press Enter** Press the Enter key. For example, "Press Enter if the current number is correct." On some keyboards, this key is labeled "Return" or has a return arrow (↵) on it.
- Enter** Type the text shown, then press the Enter key. For example, "Enter the line number (1-24)" means type a number from 1 through 24, and then press the Enter key.
- bold** Words or characters in bold type indicate either a value to be entered by you exactly as shown or, when used to indicate a variable entry, describe the type of value to be supplied by you. See example above.



Note: Unless otherwise stated, press Enter after each response you enter.

Reader Advisories

Reader advisories used in this manual are shown below.

Note: Information especially useful in relation to this procedure.



CAUTION!

Information that helps you prevent equipment or software damage.



CAUTION!

Information that helps you avoid electrostatic discharge (ESD) damage to the equipment.



WARNING!

Information that helps you prevent an interruption to telecommunications traffic.



WARNING!

A hazard that can cause you personal injury.



DANGER!

Warns of a condition that could severely injure or kill you.

Before You Start

This guide assumes that you are familiar with using a console and keyboard. This section describes how to use the NuPoint Messenger server effectively.

Console Tips and Techniques

The tips and techniques offered in the following paragraphs can make configuration entry sessions at the NuPoint Messenger server console more productive.

Viewing Menus

- When you finish entering a value for a parameter, the server displays an abbreviated form of the current menu, called the "short menu." To view the complete current menu when a short menu is displayed, just press Enter.
- To return to the Main Menu from any NuPoint Voice configuration menu, press X (Exit), until the Main Menu appears.

Accepting Defaults

- To accept a default displayed in a *prompt*, just press Enter.
- To accept a default displayed in a *menu*, no action is necessary.

Avoiding Automatic Exit



CAUTION!

The NuPoint Messenger server "times out" after 15 minutes. This means that if you do not enter anything at the console for 15 minutes, the server automatically exits from the current program. When this happens, all work that has not been saved on the disk is lost.

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To avoid being timed out and losing your work, follow these steps:

1. When you need time to think, write down the name of the current menu.
2. Exit to the (server) Main Menu.
3. When you want to continue your work, enter the appropriate menu options to regain your place.

If you find that the server has timed out, follow the steps below. If your screen is blank, press any key to reactivate the screen and then continue with these steps.

1. Press any key to start the login sequence.
2. Enter your user ID and password (if requested).
3. Starting from the Main Menu, enter menu options to proceed to the menu from which the server timed out.
4. Reenter data as needed to regain lost work.

Quitting an Entry Session

At any point during entry of offline or online parameters, you can quit. Quitting discards all entries you have made and leaves the NuPoint Voice configuration the way it was before you started entering parameters.

To quit from the Configuration Offline or Online Menu:

Select: (Q) Quit -- Forget Changes
Prompt: Quit and forget changes? (y/n) =
Response: Y to return to the Configuration Main Menu.

Shortcut Commands

You can use the Ctrl (Control) key or the / (slash) key while simultaneously pressing another key to execute shortcut commands at a NuPoint Messenger server console.

To do this...	Type...
Activate a timed-out console.	any key
From the offline or online menus, or FCOS, LCOS, GCOS menus, return to the NuPoint Voice Configuration Menu and save any entries.	/X
From the offline or online menus, or FCOS, LCOS, GCOS menus, return to the NuPoint Voice Configuration Menu without saving any entries.	/Q Y
Stop scrolling a displayed report.	Ctrl-S
Resume scrolling a displayed report.	Ctrl-Q
Return to the NuPoint Voice application when a # or \$ prompt is displayed.	Ctrl-D or type exit

1 Hardware Alarms Monitor Overview

The Hardware Alarms Monitor (HAM) software works with the Model 640 Module Control Board (MCB) II hardware alarms subsystem to serve as an alarms monitor for your voice mail system.

The HAM software detects error events and posts those errors to the event log to assist in diagnosing system problems. HAM event counters track the number of times each type of alarm has occurred.

When an error or alarm occurs, the alarm event causes the following actions:

- The event is posted to the event log.
- The event is posted to the system logfile.
- The event is counted and added to the alarm event counters.
- Depending on the severity, the appropriate indicator (LED) lights.
- Depending on the severity, the audible alarm sounds if this feature is enabled.
- The event triggers a continuous interrupt protection (CIP) limit, and the alarm is disabled if the CIP limit is reached.

The NVRAM event log is non-volatile so that the alarm configuration and details are retained when the system power is off.

The indicator lights are light emitting diodes (LEDs) on the MCB II board. The indicators also show on the front panel of the Alarm and Monitor Power Supply. Each indicator is triggered by a relay. If you want to you can connect the relays to a peripheral device to trigger external alarms.

The three alarm indicators show critical, major, and minor faults. The indicators are identified as follows:

- Critical—Red
- Major—Yellow
- Minor—Green

Figure 1-1 shows the position of the alarm indicators on the MCB II card.

Figure 1-1 Alarm Indicators on the MCB II Card

Figure 1-2 shows the position of the alarm indicators on the front panel of the Alarm and Monitor Power Supply (AMPS).

Figure 1-2 Alarm Indicators on the Alarm and Monitor Power Supply (AMPS) Front Panel

HAM Software Features

The HAM software is included with NuPoint Voice software for all Model 640 systems that use the MCB II card. You access the HAM software from the System Maintenance Menu of the NuPoint Voice application.

The HAM software features allow you to perform the following tasks:

- Assign alarm levels
- Enable and disable alarms
- Set limits for Continuous Interrupt Protection (CIP)

- Enable alarms that have been automatically disabled by CIP
- Specify a default module to configure one module differently from other modules
- Initialize the event log and event counters and restore the default alarm configuration
- Reset the audible alarm, alarm event counters, indicator, and event log
- Reset alarms and indicators automatically after the fault is cleared
- Test the audible alarm and indicators
- Display, print, or save the alarm configuration, counters, or event log

The NuPoint Voice network allows up to four modules in the system and supports cross-monitoring of each module. Using HAM software you can choose to see any or all of the four modules, and the HAM software features affect the modules chosen.

By default, the HAM software applies all functions to all modules. However, you can select a specific module to work with. Once a module is selected, that module remains selected until you select another module or until you exit the Alarms Menu System. When you exit the Alarms Menu System, the HAM software resets to all modules.

Fault Types

The alarms are categorized by fault type, and a description of each fault type follows.

Power Supply Glitch Alarm

A power supply negative glitch alarm activates when a temporary negative voltage fluctuation occurs in the power supply. Similarly, a power supply positive glitch alarm activates when a temporary positive glitch occurs in the power supply. Each power supply has an acceptable range for voltage fluctuation, and the negative or positive glitch is outside of the acceptable range.

The glitch alarm could indicate that you have a bad power supply, that you need a line filter, or that you have other equipment that temporarily draws a large current on the same line. If a problem occurs in your system after a reported power glitch, the glitch could be the cause of the problem. You can set power glitch alarms separately for each main power supply, each drive bay power supply, or an external power supply.

Current Limit Alarm

The current limit alarm is affected by the external and local power supplies. The external power supply refers to the external +5 V power supply on another module. The local power supply refers to the +5 V power supply on the same module. A current limit alarm activates when one of the following conditions occurs:

1. The current for the external +5 V power supply exceeds the maximum value allowed (80 amps).
2. The current on the external +5 V power supply has a greater relative change than the delta value allowed.
3. The current on the local power supply has a greater relative change than the delta value allowed. (This value is set after all boards are installed, and reset when there is a change in the configuration.)

You can set current limit alarms separately for the ceiling (maximum) fault on the external +5 V supply, for the delta fault on the external +5 V supply, and for a fault on the local supply.

Fan Fault Alarm

A fan fault alarm is activated when a fan loses 20% of its speed. This can occur if lint slows the fan, if air flow to the fan is blocked, if a fan connector is disconnected, or if a fan goes bad. You can set fan fault alarms separately for each of the three CPU fans, each of the two drive bay fans, and each of the three main power supply fans.

Power Supply Surge Alarm

A power supply surge alarm activates when a sustained positive or negative voltage change occurs in the power supply. Each power supply has an acceptable range for voltage fluctuation, and the negative or positive surge is defined as a continued voltage change outside of the acceptable range. You can set power surge alarms separately for each main power supply, each drive bay power supply, or an external power supply.

Fuse Fault Alarm

A fuse fault alarm activates when a fuse is out. You can set fuse alarms separately for the SCSI channel 0, 1, 2, and 3 fuses, for the drive bay fuse, and for the CSO/IO fuse.

MCB II Memory Parity Error Alarm

The MCB II memory parity error alarm activates when a parity mismatch is found. This alarm could indicate a problem with a memory module on the MCB II board.

Power Supply Failure Alarm

The power supply failure alarm activates when a power supply fails and no voltage is detectable. You can set power supply failure alarms separately for each main power supply, each drive bay power supply, or an external power supply.

Temperature Alarms

The temperature alarm activates when the temperature exceeds the normal operating temperature. This can happen because of poor air flow or any other condition that raises the temperature. You can set temperature alarms separately for the MCB II board, the main power supply, the drive bay power supply, the drive bay, and the CPU.

Assigning Alarm Levels

The Assign Alarm Levels Menu lets you assign an alarm level to a particular alarm. This assignment affects which indicator lights when the alarm condition is detected. You can assign the alarm level as critical, major, or minor. You can specify alarm levels for all alarms or separately for current fault alarms, fan fault alarms, power supply glitch alarms, MCB II memory parity error alarms, power supply surge alarms, power supply failure alarms, fuse alarms, and temperature alarms.

Table 1-1 shows the fault type and default settings for the alarm level classification.

Table 1-1 Default Alarm Levels				
Fault Type	Minor	Major	Critical	Audible Alarm
Power supply negative glitch	X			
Power supply positive glitch	X			

Current limits exceeded		X		X
Fan faults		X		X
Power supply surge		X		X
Fuse faults		X		X
Memory parity error			X	X
Power supply failure			X	X
Temperature alarms			X	X

The audible alarm is also configured using the Assign Alarm Levels Menu. By default, all major and critical faults trigger the audible alarm. You can change the fault level required to trigger the audible alarm. Table 1-2 shows the alarm level required to trigger the audible alarm, based on the level set for the audible alarm.

Audible Alarm Level	Fault Levels		
	Critical	Major	Minor
Critical	Enabled		
Major	Enabled	Enabled	
Minor	Enabled	Enabled	Enabled

For example, if you set the audible alarm level to critical, then only alarms of critical severity will trigger the audible alarm. If you set the audible alarm level to minor, then critical, major, and minor alarms will all trigger the audible alarm.

Enabling and Disabling Alarms

You can enable and disable alarms using the Enable Alarms Menu and the Disable Alarms Menu. Using the menus you can enable or disable all current fault alarms or only the fan fault alarms, power supply glitch alarms, power supply surge alarms, power supply failure alarms, fuse alarms, and temperature alarms.

Setting Continuous Interrupt Protection

You can enable continuous interrupt protection (CIP), which determines when an alarm should be automatically disabled. You use the Enable Menu to set CIP limits for the time period and number of faults. If the same alarm is reported the specified number of times within the specified time limit, the alarm is disabled.

You can specify a time limit of one second, one minute, or one hour and a fault limit of two to nine. By default, the CIP time limit value is two seconds and the CIP fault limit value is three. You can disable CIP using the Disable Menu. Also, the Reinstate Configuration options lets you reenale alarms that have been automatically disabled by CIP.

Specifying a Default Module

The Host Selection Menu allows you to perform functions on a specific module or specify that functions apply to all modules. After you select a module, all subsequent functions apply only to

the selected module. By default, all functions apply to all modules. Once a module is selected, that module remains selected for all operations until another module or all modules are selected. This option is useful when you want to configure one module differently from the others.

Initializing Alarms, Event Counters, and the NVRAM Event Log

The Initialize Menu restores alarm configuration default values. This menu also clears the NVRAM event log and event counters.

Resetting the Audible Alarm, Alarm Event Counters, Indicators, and Event Log

The Reset Menu lets you reset the audible alarm, alarm event counters, the front panel indicators, and the NVRAM event log.

The Reset Alarm Counters Menu lets you reset all alarms counters or reset separately the current fault counters, fan fault counters, power supply glitch counters, memory parity error counters, power supply surge counters, power supply failure counters, fuse counters, and temperature fault counters.

The Reset Indicators Menu lets you reset the indicators for all panel indicators or reset separately the critical, major, or minor LED indicators.

The Reset NVRAM Event Log Menu lets you clear the NVRAM event log for a specific module or modules. This feature is useful when you have corrected a fault and the fault history is no longer relevant.

Automatically Resetting Alarms

When an alarm turns on the appropriate indicator, the indicator remains lit until you reset it, even if you have cleared the fault that triggered the alarm. Optionally, you can use the Auto Reset feature to automatically reset an indicator after the fault that triggered the indicator has been cleared.

Testing the Audible Alarm and Indicators

The Test Menu lets you test and reset the audible alarm and the alarm indicators. When you test the audible alarm, a message is displayed for three seconds which states you should be hearing the audible alarm. If the audible alarm is not working, the hardware switch settings might not be correct or the cables might not be connected properly.

When you test the critical, major, or minor indicators, the panel indicator should light when you set the alarm indicator. The indicators should go out when the alarm indicator is reset.

Displaying, Printing, or Saving Alarm Information

The View Menu lets you display, print, or save to a file the alarm configuration, alarm counters, alarm faults, the NVRAM event log, the system temperature values, and the system voltage values. All options from the View menu display the Report Output Routing submenu from which you can direct the requested information. The information can be displayed on your screen, sent to one of two serial ports for printing, saved to a file, or appended to a file.

Hardware Alarms Monitor Task List

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Run a Voltage Values Report -----	CP 5866

CP 5850 Access HAM Software

This procedure describes how to access HAM software from within the NuPoint Voice application.

Procedure Steps

1. Reach the System Maintenance Menu, then go to the Additional Options Menu.

Reference: Menu Map 1

2. Access HAM software from the Additional Options Menu.

Select: (Q) System Alarms
Prompt: *** ALARMS Maintenance Menu ***
(C) - CONFIGURE
(I) - INITIALIZE
(M) - SELECT MODULE
(R) - RESET
(T) - TEST
(V) - VIEW
(X) - EXIT

Response: The letter corresponding to the task you want to perform.

You are now using the HAM software.

CP 5851 Assign Alarm Levels

This procedure describes how to assign alarm levels to specific alarms. This assignment affects the indicators and the audible alarm. You can assign alarm levels for:

- Default alarms
- Critical alarms
- Major alarms

- Minor alarms

Procedure Steps

1. Reach the Assign Alarm Levels Menu.
Reference: Menu Map 4
2. Go to the task you want to perform.

Assign Default Alarm Levels Menu

3. Enter the type of alarm that you want to assign to the default level.
Reference: Menu Map 4

Select: (0) Set default level

Prompt: ASSIGN Alarm Levels Menu
(A) All Alarms
(C) Current fault alarms
(F) Fan fault alarms
(G) Power supply glitch alarms
(M) MCB2 Memory parity error
(O) Power supply surge alarms
(P) Power supply failures
(S) Fuse alarms
(T) Temperature alarms
(Z) Audible alarm

Response: The letter corresponding to the alarm that you wish to set to the default level, or
A to set all alarms to their default levels.

Prompt: Alarm Level assigned.
Press any key to continue....

Response: Press any key. The alarm level is now set.

Assign Critical Alarm Levels Menu

3. Enter the type of alarm that you want to designate as critical.
Reference: Menu Map 4

Select: (1) Critical Alarm

Prompt: ASSIGN Critical Alarm Levels Menu
(A) All Alarms
(C) Current fault alarms
(F) Fan fault alarms
(G) Power supply glitch alarms
(M) MCB2 Memory parity error
(O) Power supply surge alarms
(P) Power supply failures
(S) Fuse alarms
(T) Temperature alarms
(Z) Audible alarm

Response: The letter corresponding to the alarm that you want to set to the critical level, or
A to set all alarms to the critical level.

Prompt: Alarm Level assigned.
Press any key to continue....

Response: Press any key. The alarm level is now set.

Assign Major Alarm Levels Menu

3. Enter the type of alarm that you want to designate as major.
Reference: Menu Map 4

Select: (2) Major Alarm

Prompt: ASSIGN Major Alarm Levels Menu
(A) All Alarms
(C) Current fault alarms
(F) Fan fault alarms
(G) Power supply glitch alarms
(M) MCB2 Memory parity error
(O) Power supply surge alarms
(P) Power supply failures
(S) Fuse alarms
(T) Temperature alarms
(Z) Audible alarm

Response: The letter corresponding to the alarm that you want to set to the major level, or
A to set all alarms to the major level.

Prompt: Alarm Level assigned.
Press any key to continue....

Response: Press any key. The alarm level is now set.

Assign Minor Alarm Levels Menu

3. Enter the type of alarm that you want to designate as minor.

Reference: Menu Map 4

Select: (3) Minor Alarm

Prompt: ASSIGN Minor Alarm Levels Menu
(A) All Alarms
(C) Current fault alarms
(F) Fan fault alarms
(G) Power supply glitch alarms
(M) MCB2 Memory parity error
(O) Power supply surge alarms
(P) Power supply failures
(S) Fuse alarms
(T) Temperature alarms
(Z) Audible alarm

Response: The letter corresponding to the alarm that you want to set to the minor level, or
A to set all alarms to the minor level.

Prompt: Alarm Level assigned.
Press any key to continue....

Response: Press any key. The alarm level is now set.

CP 5852 Disable Alarms and CIP

This procedure describes how to disable continuous interrupt protection (CIP) and the alarms. You can disable the following features:

- CIP
- Auto Reset alarm indicators
- Audible alarm
- All other alarms:
 - Current fault alarms
 - Fan fault alarms
 - Power supply glitch
 - MCB 2 memory parity error

- Power supply surge
- Power supply failure
- Fuse alarms
- Temperature alarms

Procedure Steps

1. Reach the Disable Menu.
Reference: Menu Map 5
2. Go to the task you want to perform.

Disable CIP

3. Disable CIP.
Reference: Menu Map 5
Select: (C) CIP Interrupt Protection
Prompt: Continuous Interrupt Protection disabled.
Press any key to continue....
Response: Press any key. CIP is now disabled.

Disable the Audible Alarm

3. Disable the audible alarm.
Reference: Menu Map 5
Select: (Z) Audible alarm
Prompt: Alarm feature(s) disabled.
Press any key to continue....
Response: Press any key. The audible alarm is now disabled.

Disable All Other Alarms

3. Disable all alarms.
Reference: Menu Map 5
Select: (A) Alarms
Prompt: Disable Alarms Menu
(A) All Alarms
(C) Current fault alarms
(F) Fan fault alarms
(G) Power supply glitch
(M) MCB2 Memory parity error
(O) Power supply surge
(P) Power supply failure
(S) Fuse alarms
(T) Temperature alarms
Response: A to disable all alarms.
Prompt: Alarm feature(s) disabled.
Press any key to continue....
Response: Press any key. All alarms are now disabled.

Disable Current Fault Alarms

3. Reach the Disable Alarms Menu.
Reference: Menu Map 5
4. Disable the current fault alarms.
Select: (C) Current fault alarms

Prompt: DISABLE Current Fault Alarms
(A) All current fault alarms
(C) Ceiling fault on remote supply
(D) Delta fault on remote supply
(L) Local supply current warning

Response: A to disable all current fault alarms,
C to disable the alarm activated when the current on the remote supply exceeds the ceiling limit,
D to disable the alarm activated when the current on the remote supply has a change greater than the delta limit, or
L to disable the alarm activated when the current on the local power supply changes.

Prompt: Alarm feature(s) disabled.
Press any key to continue....

Response: Press any key. The current fault alarm is now disabled.

Disable Fan Fault Alarms

3. Reach the Disable Alarms Menu.

Reference: Menu Map 5

4. Disable the fan fault alarms.

Select: (F) Fan fault alarms

Prompt: DISABLE Fan Fault Alarms
(A) All fan fault alarms
(1) CPU Fan #1
(2) CPU Fan #2
(3) CPU Fan #3
(4) Drive Bay Fan #1
(5) Drive Bay Fan #2
(6) Main P.S. Fan #1
(7) Main P.S. Fan #2
(8) Main P.S. Fan #3

Response: The number corresponding to the fan fault alarm that you want to disable, or
A to disable all fan fault alarms.

Prompt: Alarm feature(s) disabled.
Press any key to continue....

Response: Press any key. The fan fault alarm is now disabled.

Disable Power Supply Glitch Alarms

3. Reach the Disable Alarms Menu.

Reference: Menu Map 5

4. Disable the power supply glitch alarms.

Select: (G) Power supply glitch

Prompt: DISABLE Power Supply Glitch Alarms
(A) All power supply alarms
(1) Main 5 volt power supply alarm
(2) Main -5 volt power supply alarm
(3) Main 12 volt power supply alarm
(4) Main -12 volt power supply alarm
(5) Main -48 volt power supply alarm
(6) Drive Bay 5 volt supply alarm
(7) Drive Bay 12 volt supply alarm
(8) External 5 volt supply alarm

Response: The number corresponding to the power supply glitch alarm that you want to disable, or
A to disable all power supply glitch alarms.

Prompt: Alarm feature(s) disabled.
Press any key to continue....
Response: Press any key. The power supply glitch alarm is now disabled.

Disable the MCB 2 Memory Parity Error Alarm

3. Reach the Disable Alarms Menu.

Reference: Menu Map 5

4. Disable the MCB 2 memory parity error alarm.

Select: (M) MCB2 Memory parity error
Prompt: Alarm feature(s) disabled.
Press any key to continue....
Response: Press any key. The memory parity error alarm is now disabled.

Disable Power Supply Surge Alarms

3. Reach the Disable Alarms Menu.

Reference: Menu Map 5

4. Disable the power supply surge alarms.

Select: (O) Power supply surge
Prompt: DISABLE Power Supply Surge Alarms
(A) All power supply alarms
(1) Main 5 volt power supply alarm
(2) Main -5 volt power supply alarm
(3) Main 12 volt power supply alarm
(4) Main -12 volt power supply alarm
(5) Main -48 volt power supply alarm
(6) Drive Bay 5 volt supply alarm
(7) Drive Bay 12 volt supply alarm
(8) External 5 volt supply alarm
Response: The number corresponding to the power supply surge alarm that you want to disable, or
A to disable all power supply surge alarms.
Prompt: Alarm feature(s) disabled.
Press any key to continue....
Response: Press any key. The power supply surge alarm is now disabled.

Disable Power Supply Failure Alarms

3. Reach the Disable Alarms Menu.

Reference: Menu Map 5

4. Disable the power supply failure alarms.

Select: (P) Power supply failure
Prompt: DISABLE Power Supply Failure Alarms
(A) All power supply alarms
(1) Main 5 volt power supply alarm
(2) Main -5 volt power supply alarm
(3) Main 12 volt power supply alarm
(4) Main -12 volt power supply alarm
(5) Main -48 volt power supply alarm
(6) Drive Bay 5 volt supply alarm
(7) Drive Bay 12 volt supply alarm
(8) External 5 volt supply alarm
Response: The number corresponding to the power supply failure alarm that you want to disable, or
A to disable all power supply failure alarms.
Prompt: Alarm feature(s) disabled.
Press any key to continue....
Response: Press any key. The power supply failure alarm is now disabled.

Disable Fuse Alarms

3. Reach the Disable Alarms Menu.

Reference: Menu Map 5

4. Disable the fuse alarms.

Select: (S) Fuse alarms

Prompt: DISABLE Fuse Alarms
(A) All Fuse faults
(0) SCSI channel #0
(1) SCSI channel #1
(2) SCSI channel #2
(3) SCSI channel #3
(4) Drive Bay Fuse
(5) CSOIO Fuse

Response: The number corresponding to the fuse alarm that you want to disable, or

A to disable all fuse alarms.

Prompt: Alarm feature(s) disabled.
Press any key to continue....

Response: Press any key. The fuse alarm is now disabled.

Disable Temperature Alarms

3. Reach the Disable Alarms Menu.

Reference: Menu Map 5

4. Disable the temperature alarms.

Select: (T) Temperature alarms

Prompt: DISABLE Temperature Sensor Alarms
(A) All temperature sensor alarms
(1) MCB2 Temperature sensor
(2) Main Power Temperature sensor
(3) Drive Bay Power Supply sensor
(4) Drive Bay Temperature sensor
(5) CPU Temperature sensor

Response: The number corresponding to the temperature sensor alarm that you want to disable, or

A to disable all temperature sensor alarms.

Prompt: Alarm feature(s) disabled.
Press any key to continue....

Response: Press any key. The temperature sensor alarm is now disabled.

CP 5853 Enable Alarms and CIP

This procedure describes how to enable continuous interrupt protection (CIP) and the alarms. You can complete the following tasks:

- Enable CIP
- Set the CIP fault limit
- Set the CIP time limit
- Enable the audible alarms
- Enable all other alarms
- Enable current fault alarms

- Enable fan fault alarms
- Enable power supply glitch alarms
- Enable the MCB 2 memory parity error alarm
- Enable power supply surge alarms
- Enable power supply failure alarms
- Enable fuse alarms
- Enable temperature alarms

Procedure Steps

1. Reach the Enable Menu.
Reference: Menu Map 6
2. Go to the task you want to perform.

Enable CIP

3. Enable CIP.

Reference: Menu Map 6

Select: (C) CIP Interrupt Protection

Prompt: ENABLE Continuous Interrupt Protection
(D) Default Setting
(F) Fault Limit
(T) Time Limit

Response: D to enable CIP using the default settings for the fault and time limit,
F to set the CIP fault limit, or
T to set the CIP time limit.
The default value for fault limit is three, and the default value for time
limit is two seconds.

Prompt: Continuous Interrupt Protection limits updated.
Press any key to continue....

Response: Press any key. CIP is now enabled.

Set the CIP Fault Limit

3. Reach the Enable Continuous Interrupt Protection Menu.
Reference: Menu Map 6
4. Set the CIP fault limit.

Select: (F) Fault Limit

Prompt: Setup CIP Fault Limit Menu
(2) Fault limit = 2
(3) Fault limit = 3
(4) Fault limit = 4
(5) Fault limit = 5
(6) Fault limit = 6
(7) Fault limit = 7
(8) Fault limit = 8
(9) Fault limit = 9

Response: The number of the fault limit you want to set for CIP.

Prompt: Continuous Interrupt Protection limits updated.
Press any key to continue....

Response: Press any key. The CIP fault limit value is now enabled.

Set the CIP Time Limit

3. Reach the Enable Continuous Interrupt Protection Menu.

Reference: Menu Map 6

4. Set the CIP time limit.

Select: (T) Time Limit

Prompt: Setup CIP Time Limit Menu
(S) One Second limit
(M) One Minute limit
(H) One Hour limit

Response: S to set the CIP time limit to one second,
M to set the CIP time limit to one minute, or
H to set the CIP time limit to one hour.

Prompt: Continuous Interrupt Protection limits updated.
Press any key to continue....

Response: Press any key. The CIP time limit value is now enabled.

Enable the Audible Alarm

3. Reach the Enable Menu.

Reference: Menu Map 6

4. Enable the audible alarm.

Select: (Z) Audible alarm

Prompt: Alarm feature(s) enabled.
Press any key to continue....

Response: Press any key. The audible alarm is now enabled.

Enable Other Alarms

3. Reach the Enable Menu.

Reference: Menu Map 6

4. Enable the alarms.

Select: (A) Alarms

Prompt: ENABLE Alarms Menu
(A) All Alarms
(C) Current fault alarms
(F) Fan fault alarms
(G) Power supply glitch
(M) MCB2 Memory parity error
(O) Power supply surge
(P) Power supply failure
(S) Fuse alarms
(T) Temperature alarms

Response: The letter of the alarm type that you want to enable, or
A to enable all alarms.

Prompt: Alarm feature(s) enabled.
Press any key to continue....

Response: Press any key. The alarms are now enabled.

Enable Current Fault Alarms

3. Reach the Enable Alarms Menu.

Reference: Menu Map 6

4. Enable the current fault alarms.

Select: (C) Current fault alarms

Prompt: ENABLE Current Fault Alarms
(A) All current fault alarms
(C) Ceiling fault on remote supply
(D) Delta fault on remote supply
(L) Local supply current warning<,N>Response:A to enable all current fault alarms,
C to enable the alarm activated when the current on the remote supply exceeds the ceiling limit,
D to enable the alarm activated when the current on the remote supply has a change greater than the delta limit, or
L to enable the alarm activated when the current on the local power supply changes.

Prompt: Alarm feature(s) enabled.
Press any key to continue....

Response: Press any key. The current fault alarm is now enabled.

Enable Fan Fault Alarms

3. Reach the Enable Alarms Menu.

Reference: Menu Map 6

4. Enable the fan fault alarms.

Select: (F) Fan fault alarms

Prompt: ENABLE Fan Fault Alarms
(A) All fan fault alarms
(1) CPU Fan #1
(2) CPU Fan #2
(3) CPU Fan #3
(4) Drive Bay Fan #1
(5) Drive Bay Fan #2
(6) Main P.S. Fan #1
(7) Main P.S. Fan #2
(8) Main P.S. Fan #3

Response: The number corresponding to the fan fault alarm that you want to enable, or
A to enable all fan fault alarms.

Prompt: Alarm feature(s) enabled.
Press any key to continue....

Response: Press any key. The fan fault alarm is now enabled.

Enable Power Supply Glitch Alarms

3. Reach the Enable Alarms Menu.

Reference: Menu Map 6

4. Enable the power supply glitch alarms.

Select: (G) Power supply glitch

Prompt: ENABLE Power Supply Glitch Alarms
(A) All power supply alarms
(1) Main 5 volt power supply alarm
(2) Main -5 volt power supply alarm
(3) Main 12 volt power supply alarm
(4) Main -12 volt power supply alarm
(5) Main -48 volt power supply alarm
(6) Drive Bay 5 volt supply alarm
(7) Drive Bay 12 volt supply alarm
(8) External 5 volt supply alarm

Response: The number corresponding to the power supply glitch alarm that you want to enable, or
A to enable all power supply glitch alarms.

Prompt: Alarm feature(s) enabled.
Press any key to continue....
Response: Press any key. The power supply glitch alarm is now enabled.

Enable the MCB 2 Memory Parity Error Alarm

3. Reach the Enable Alarms Menu.

Reference: Menu Map 6

4. Enable the MCB 2 memory parity error alarm.

Select: (M) MCB2 Memory parity error
Prompt: Alarm feature(s) enabled.
Press any key to continue....
Response: Press any key. The memory parity error alarm is now enabled.

Enable Power Supply Surge Alarms

3. Reach the Enable Alarms Menu.

Reference: Menu Map 6

4. Enable the power supply surge alarms.

Select: (O) Power supply surge
Prompt: ENABLE Power Supply Surge Alarms
(A) All power supply alarms
(1) Main 5 volt power supply alarm
(2) Main -5 volt power supply alarm
(3) Main 12 volt power supply alarm
(4) Main -12 volt power supply alarm
(5) Main -48 volt power supply alarm
(6) Drive Bay 5 volt supply alarm
(7) Drive Bay 12 volt supply alarm
(8) External 5 volt supply alarm
Response: The number of the power supply surge alarm that you want to enable,
or
A to enable all power supply surge alarms.
Prompt: Alarm feature(s) enabled.
Press any key to continue....
Response: Press any key. The power supply surge alarm is now enabled.

Enable Power Supply Failure Alarms

3. Reach the Enable Alarms Menu.

Reference: Menu Map 6

4. Enable the power supply failure alarms.

Select: (P) Power supply failure
Prompt: ENABLE Power Supply Failure Alarms
(A) All power supply failure alarms
(1) Main 5 volt power supply alarm
(2) Main -5 volt power supply alarm
(3) Main 12 volt power supply alarm
(4) Main -12 volt power supply alarm
(5) Main -48 volt power supply alarm
(6) Drive Bay 5 volt supply alarm
(7) Drive Bay 12 volt supply alarm
(8) External 5 volt supply alarm
Response: The number corresponding to the power supply failure alarm that you
want to enable, or
A to enable all power supply failure alarms.
Prompt: Alarm feature(s) enabled.
Press any key to continue....
Response: Press any key. The power supply failure alarm is now enabled.

Enable Fuse Alarms

3. Reach the Enable Alarms Menu.

Reference: Menu Map 6

4. Enable the fuse alarms.

Select: (S) Fuse alarms

Prompt: ENABLE Fuse Alarms
(A) All Fuse faults
(0) SCSI channel #0
(1) SCSI channel #1
(2) SCSI channel #2
(3) SCSI channel #3
(4) Drive Bay Fuse
(5) CSOIO Fuse

Response: The number corresponding to the fuse alarm that you want to enable, or

A to enable all fuse alarms.

Prompt: Alarm feature(s) enabled.
Press any key to continue....

Response: Press any key. The fuse alarm is now enabled.

Enable Temperature Alarms

3. Reach the Enable Alarms Menu.

Reference: Menu Map 6

4. Enable the temperature alarms.

Select: (T) Temperature alarms

Prompt: ENABLE Temperature Sensor Alarms
(A) All temperature sensor alarms
(1) MCB2 Temperature sensor
(2) Main Power Temperature sensor
(3) Drive Bay Power Supply sensor
(4) Drive Bay Temperature sensor
(5) CPU Temperature sensor

Response: The number corresponding to the temperature alarm that you want to enable, or

A to enable all temperature alarms.

Prompt: Alarm feature(s) enabled.
Press any key to continue....

Response: Press any key. The temperature alarm is now enabled.

CP 5854 Initialize Alarms

This procedure describes how to initialize the alarms to restore the default configuration values. Initialize also clears the NVRAM event log and event counters.

Procedure Steps

1. Reach the Alarms Maintenance Menu.

Reference: Menu Map 1

2. Initialize the alarms.

Select: (I) INITIALIZE

Prompt: INITIALIZE alarm subsystem on selected host(s)?
(N) No
(Y) Yes
(M) Select Module

Response: Y to initialize the alarms.

Prompt: Alarm indicator(s) reset on module 1.
Alarm Counters reset on module 1.
Event Log reset on module 1.
Alarm enabled for SCSI board 1 on module 1.
Alarm enabled for SCSI board 2 on module 1.
Alarm feature(s) enabled.
Event Log already enabled.
Alarm Level assigned.
Configuration Reinstated.
Continuous Interrupt Protection limits updated.
Press any key to continue....

Response: Press any key. The alarms are now restored to the default values,
and the event log and event counters are cleared.

CP 5855 Reset Alarm Counters, Indicators, and Event Log

This procedure describes how to reset the audible alarm, alarm counters, the panel indicators, and the NVRAM event log. You can accomplish the following tasks:

- Reset the audible alarm
- Reset alarm counters
- Reset current fault counters
- Reset fan fault counters
- Reset power supply glitch counters
- Reset MCB 2 memory parity error counter
- Reset power supply surge counters
- Reset power supply failure counters
- Reset fuse counters
- Reset temperature fault counters
- Reset panel indicators
- Reset NVRAM event log

Procedure Steps

1. Reach the Reset Menu.
Reference: Menu Map 7
2. Go to the task you want to perform.

Reset Audible Alarm

3. Reset the audible alarm.

Select: (A) Audible alarm

Prompt: Alarm indicator(s) reset on host 1.
Press any key to continue....

Response: Press any key. The audible alarm is now reset.

Reset Alarm Counters

3. Reset the alarm counters.

Response: The letter corresponding to the alarm counter that you want to reset,
or
A to reset all alarm counters.

Prompt: Press any key to continue....

Response: Press any key. The alarm counters are now reset.

Reset Current Fault Counters

3. Reach the Reset Alarm Counters Menu.

Reference: Menu Map 7

4. Reset the current fault counters.

Select: (C) Current fault counters

Prompt: RESET Current Fault Counters
(A) All current fault counters
(C) Ceiling fault on remote supply
(D) Delta fault on remote supply
(L) Local supply current fault

Response: A to reset all current fault counters,
C to reset the event counter set by a ceiling fault on a remote supply,
D to reset the event counter set by a delta fault on a remote supply,
or
L to reset the event counter set by a local supply current fault.

Prompt: Press any key to continue....

Response: Press any key. The current fault counters are now reset.

Reset Fan Fault Counters

3. Reach the Reset Alarm Counters Menu.

Reference: Menu Map 7

4. Reset the fan fault counters.

Select: (F) Fan fault counters

Prompt: RESET Fan Fault Alarms
(A) All fan fault counters
(1) CPU Fan #1
(2) CPU Fan #2
(3) CPU Fan #3
(4) Drive Bay Fan #1
(5) Drive Bay Fan #2
(6) Main P.S. Fan #1
(7) Main P.S. Fan #2
(8) Main P.S. Fan #3

Response: The number of the fan fault counter that you want to reset, or
A to reset all fan fault counters.

Prompt: Press any key to continue....

Response: Press any key. The fan fault counters are now reset.

Reset Power Supply Glitch Counters

3. Reach the Reset Alarm Counters Menu.

Reference: Menu Map 7

4. Reset the power supply glitch counters.

Select: (G) Power supply glitch

Prompt: RESET Power Supply Glitch Alarm Counters

- (A) All power supply alarm counters
- (1) Main 5 volt power supply alarm
- (2) Main -5 volt power supply alarm
- (3) Main 12 volt power supply alarm
- (4) Main -12 volt power supply alarm
- (5) Main -48 volt power supply alarm
- (6) Drive Bay 5 volt supply alarm
- (7) Drive Bay 12 volt supply alarm
- (8) External 5 volt supply alarm

Response: The number corresponding to the power supply glitch counter that you want to reset, or

A to reset all power supply glitch counters.

Prompt: Press any key to continue....

Response: Press any key. The power supply glitch counters are now reset.

Reset MCB 2 Memory Parity Error Counter

3. Reach the Reset Alarm Counters Menu.

Reference: Menu Map 7

4. Reset the MCB 2 memory parity error counter.

Select: (M) MCB2 Memory parity error

Prompt: Press any key to continue....

Response: Press any key. The memory parity error event counter is now reset.

Reset Power Supply Surge Counters

3. Reach the Reset Alarm Counters Menu.

Reference: Menu Map 7

4. Reset the power supply surge counters.

Select: (O) Power supply surge

Prompt: RESET Power Surge Alarm Counters

- (A) All power supply alarm counters
- (1) Main 5 volt power supply alarm
- (2) Main -5 volt power supply alarm
- (3) Main 12 volt power supply alarm
- (4) Main -12 volt power supply alarm
- (5) Main -48 volt power supply alarm
- (6) Drive Bay 5 volt supply alarm
- (7) Drive Bay 12 volt supply alarm
- (8) External 5 volt supply alarm

Response: The number corresponding to the power supply surge counter that you want to reset, or

A to reset all power supply surge counters.

Prompt: Press any key to continue....

Response: Press any key. The power supply surge counters are now reset.

Reset Power Supply Failure Counters

3. Reach the Reset Alarm Counters Menu.

Reference: Menu Map 7

4. Reset the power supply failure counters.

Select: (P) Power supply failure

Prompt: RESET Power Failure Counters
(A) All power supply failure counters
(1) Main 5 volt power supply
(2) Main -5 volt power supply
(3) Main 12 volt power supply
(4) Main -12 volt power supply
(5) Main -48 volt power supply
(6) Drive Bay 5 volt supply
(7) Drive Bay 12 volt supply
(8) External 5 volt supply

Response: The number corresponding to the power supply failure counter that you want to reset, or
A to reset all power supply failure counters.

Prompt: Press any key to continue....

Response: Press any key. The power supply failure event counters are now reset.

Reset Fuse Counters

3. Reach the Reset Alarm Counters Menu.

Reference: Menu Map 7

4. Reset the fuse counters.

Select: (S) Fuse alarms counters

Prompt: RESET Fuse Counters
(A) All Fuse faults
(0) SCSI channel #0
(1) SCSI channel #1
(2) SCSI channel #2
(3) SCSI channel #3
(4) Drive Bay Fuse
(5) CSOIO Fuse

Response: The number corresponding to the fuse counter that you want to reset, or
A to reset all fuse counters.

Prompt: Press any key to continue....

Response: Press any key. The fuse event counters are now reset.

Reset Temperature Fault Counters

3. Reach the Reset Alarm Counters Menu.

Reference: Menu Map 7

4. Reset the temperature fault counters.

Select: (T) Temperature fault counters

Prompt: RESET Temperature Sensor Counters
(A) All temperature sensor alarms
(1) MCB2 Temperature sensor
(2) Main Power Temperature sensor
(3) Drive Bay Power Supply sensor
(4) Drive Bay Temperature sensor
(5) CPU Temperature sensor

Response: The number corresponding to the temperature sensor counter that you want to reset, or
A to reset all temperature sensor counters.

Prompt: Press any key to continue....

Response: Press any key. The temperature sensor event counters are now reset.

Reset Panel Indicators

3. From the Reset Menu.

Reference: Menu Map 7

4. Reset the panel indicators.

Select: (I) Panel Indicators

Prompt: RESET Indicators menu
(A) All panel indicators
(1) Critical indicator
(2) Major indicator
(3) Minor indicator

Response: The number corresponding to the panel indicator that you want to reset, or
A to reset all indicators.

Prompt: Alarm indicator(s) reset on host 1.
Press any key to continue....

Response: Press any key. The panel indicators are now reset.

Reset NVRAM Event Log

3. Reach the Reset Menu.

Reference: Menu Map 7

4. Reset the NVRAM event log.

Select: (L) NVRAM event log

Prompt: Reset NVRAM event log?
(N) No
(Y) Yes, Clear event log
(M) Select Module
(V) View NVRAM Log

Response: Y to clear the NVRAM event log.

Prompt: Event Log reset on module 1.
Press any key to continue....

Response: Press any key. The NVRAM event log is now reset.

CP 5856 Select a Module

This procedure describes how to select a module. All functions that follow module selection apply only to the selected module. By default, the HAM software applies all functions to all modules, so you use module selection if you want functions to apply only to a specific module. Once a module is selected, that module remains selected until another module is selected or until you exit the Alarms Menu System. When you exit the Alarms Menu System, the HAM software resets to apply to all modules.

Procedure Steps

1. Reach the Alarms Maintenance Menu, then go to the Module Selection Menu.

Reference: Menu Map 2

2. Select a module.

Prompt: MODULE Selection Menu
(A) All Modules
(1) Select Module #1
(2) Select Module #2
(3) Select Module #3
(4) Select Module #4
(V) View Selected Module(s)

Response: A to select all modules,
V to display the currently selected modules, or
the number corresponding to the module you want to select.
Prompt: All modules selected.
Press any key to continue....
Response: Press any key. The module is now selected.

CP 5857 Test Alarms

This procedure describes how to test the audible alarm and panel indicators. For panel indicator tests, the indicator should light when the alarm indicator is set, and the indicator should turn off when the alarm indicator is reset. Also, if you have external alarms connected to the relays, you can test the alarms following these procedures. When the audible alarm is tested, the following message appears:

You should now be hearing the audible alarm on module 1...

At the end of the audible alarm test, the following message appears:

```
Test complete on module 1.  
Press any key to continue....
```

The messages show which module you are testing (1 through 4). If the audible alarm is not working, the hardware switch settings might be incorrect or the cables might not be connected properly.

Procedure Steps

1. Reach the Alarms Maintenance Menu, then go to the Test Menu.

Reference: Menu Map 2

2. Test the alarms.

Prompt: TEST Menu
(A) Alarm system
(R) Reset all alarm indicators
(S) Set all alarm indicators
(1) Reset Critical alarm indicator
(2) Reset Major alarm indicator
(3) Reset Minor alarm indicator
(4) Set Critical alarm indicator
(5) Set Major alarm indicator
(6) Set Minor alarm indicator
(H) Select Host

Response: A to test all alarms (the audible alarm and all indicators),
R to reset all indicators,
S to test all indicators, or
the number of the alarm you want to test or reset.

When you test (set) an indicator, the following prompt appears:

Prompt: Alarm indicator(s) set on module 1.
Press any key to continue....

When you reset an indicator, the following prompt appears:

Prompt: Alarm indicator(s) reset on module 1.
Press any key to continue....

CP 5858 Update the Alarm Configuration

This procedure describes how to update the alarm configuration. When you update the configuration, the most current alarm configuration is copied to the selected modules.

Procedure Steps

1. Reach the Alarms Maintenance Menu, then go to the Configure Menu.
Reference: Menu Map 3
2. Update the alarm configuration.
Select: (U) Update Configuration
Prompt: Configuration updated on selected host(s).
Press any key to continue....
Response: Press any key. The alarm configuration is now updated.

CP 5859 Reinststate the Alarm Configuration

This procedure describes how to reinststate the alarm configuration. When you reinststate the configuration, you reenble the alarms that have been automatically disabled by CIP.

Procedure Steps

1. Reach the Alarms Maintenance Menu, then go to the Configure Menu.
Reference: Menu Map 3
2. Reinststate the alarm configuration.
Select: (R) Reinststate Configuration
Prompt: Configuration Reinstated on selected module(s).
Press any key to continue....
Response: Press any key. The alarm configuration is now reinstated.

CP 5860 Use the Auto Reset Feature

This procedure describes how to use the Auto Reset feature. Auto Reset then automatically resets any indicator when the fault that triggered the indicator is recovered.

Procedure Steps

Enable Auto Reset

1. Reach the Enable Alarms Menu.
Reference: Menu Map 6
2. Turn on Auto Reset.
Select: (R) Auto Reset alarm indicators
Prompt: Alarm feature(s) enabled.
Press any key to continue
Response: Press any key. Auto Reset is now enabled.

Disable Auto Reset

1. Reach the Disable Alarms Menu.
Reference: Menu Map 5
2. Turn off Auto Reset.
Select: (R) Auto Reset alarm indicators
Prompt: Alarm feature(s) disabled.
Press any key to continue
Response: Press any key. Auto Reset is now disabled.

CP 5861 Run an Alarm Configuration Report

This procedure describes how to run an alarm configuration report.

Procedure Steps

1. Reach the Alarms Maintenance Menu, then go to the View Menu.
Reference: Menu Map 8
 2. Choose the Alarm configuration option and specify the destination of the report.
Select: (C) Alarm configuration
Prompt: REPORT OUTPUT ROUTING
(C) Console (screen)
(P) Console with pause
(1) Serial port 1
(2) Serial port 2
(F) File...
(A) Append to file...
Response: C to display the alarm configuration on the screen,
P to display the alarm configuration on the screen after a pause,
1 to send the alarm configuration listing to serial port 1,
2 to send the alarm configuration listing to serial port 2,
F to save the alarm configuration to a file, or
A to append the alarm configuration to a file.
- Figure 1 is a sample alarm configuration report.

```

=====
                A L A R M       C O N F I G U R A T I O N
=====
Date: Tue Aug  8 14:02:30 1995
Module: ALL
=====
      ALARMS      |      ALARM      |      UNIT
      LEVEL      |      0      1  2  3
=====
AUDIBLE ALARM    | Major  ENA  -  -  -
-----
FANS:
  CPU            | Major  DIS  DIS  DIS  -
  Drive Bay      | Major  DIS  DIS  -  -
  Power Supply   | Major  DIS  -  -  -
-----
FUSES:
  CSOIO          | Major  ENA  -  -  -
  Drive Bay      | Major  ENA  -  -  -
  SCSI           | Major  ENA  ENA  DIS  DIS
-----
MCB2 MEMORY     | Critical ENA  -  -  -
-----
TEMPERATURE:
  CPU            | Critical ENA  -  -  -
  Drive Bay      | Critical DIS  -  -  -
  Drive Bay Pwr. | Critical DIS  -  -  -
  Main P. S.     | Critical DIS  -  -  -
  MCB2           | Critical ENA  -  -  -
=====
      ALARM | Ext. |      Main Power Supply |      Drive Bay
      LEVEL | +5 | +5 +12 -5 -12 -48 | 5 12
=====
POWER SUPPLY:
  Failure      | Critical ENA  ENA  ENA  ENA  ENA  ENA  ENA  ENA  ENA
  Glitch       | Minor  ENA  ENA  ENA  ENA  ENA  ENA  ENA  ENA
  Surge        | Major  ENA  ENA  ENA  ENA  ENA  ENA  ENA  ENA -----
-----
CURRENT LIMIT:
  Ceiling      | Major  ENA  -  ENA  -  -  -  -  -
  Delta        | Major  ENA  -  -  -  -  -  -  -
-----
FEATURES:
      Alarm Indicator Auto Reset: ENA
      Continuous Interrupt Protection (CIP): ENA
      CIP Fault Limit: 3
      CIP Time Limit: 60 second(s)
      *****
      * CIP = Alarm disabled by CIP *
      * DIS = Alarm or feature disables *
      * ENA = Alarm or feature enabled *
      *****
All alarms enabled.

```

Figure 1 Alarm Configuration Report

CP 5862 Run an Alarm Event Counters Report

This procedure describes how to run an alarm event counters report.

Procedure Steps

1. Reach the Alarms Maintenance Menu, then go to the View Menu.
Reference: Menu Map 8
2. Choose the Alarm event counters option and specify the destination of the report.
Select: (E) Alarm event counters

Prompt: REPORT OUTPUT ROUTING
 (C) Console (screen)
 (P) Console with pause
 (1) Serial port 1
 (2) Serial port 2
 (F) File...
 (A) Append to file...

Response: C to display the alarm event counters listing on the screen,
 P to display the listing on the screen after a pause,
 1 to send the listing to serial port 1,
 2 to send the listing to serial port 2,
 F to save the listing to a file, or
 A to append the listing to a file.

- Figure 1 is a sample alarm event counters report.

```

+=====+
|                A L A R M   C O U N T E R S                |
+=====+

Date: Tue Aug  8 16:25:04 1995
Module: 1

              UNIT
ALARMS      | 0  1  2  3
+-----+
FANS:
CPU          | 0  0  0  -
Drive Bay    | 0  0  -  -
Power Supply | 0  -  -  -
+-----+
FUSES:
CSOIO        | 0  -  -  -
Drive Bay    | 0  -  -  -
SCSI         | 0  0  0  0
+-----+
MCB2 MEMORY  | 0  -  -  -
+-----+
TEMPERATURE:
CPU          | 0  -  -  -
Drive Bay    | 0  -  -  -
Drive Bay Pwr. | 0  -  -  -
Main P. S.   | 0  -  -  -
MCB2         | 0  -  -  -
+-----+
              Ext. |   Main Power Supply   | Drive Bay
              +5  | +5  +12  -5  -12  -48 | 5  12
+-----+
POWER SUPPLY:
Failure      | 0  0  0  0  0  0  0  0
Neg. Glitch  | 0  0  0  0  0  0  0  0
Pos. Glitch  | 0  0  0  0  0  0  0  0
Surge        | 0  0  0  0  0  0  0  0
+-----+
CURRENT LIMIT:
Ceiling      | 0  -  0  -  -  -  -  -
Delta        | 0  -  -  -  -  -  -  -

COUNTER TOTAL: 0
Date all counters reset: Tue Aug  8 15:59:40 1995

Press any key to continue....
  
```

Figure 1 Alarm Event Counters Report

CP 5863 Run an Alarm Faults Report

This procedure describes how to run an alarm faults report.

Procedure Steps

1. Reach the Alarms Maintenance Menu, then go to the View Menu.
Reference: Menu Map 8
2. Choose the Alarm faults option and specify the destination of the report.

Select:: (F) Alarm faults
Prompt: REPORT OUTPUT ROUTING
 (C) Console (screen)
 (P) Console with pause
 (1) Serial port 1
 (2) Serial port 2
 (F) File...
 (A) Append to file...
 (X) Exit (no report)

Response: C to display the alarm faults listing on the screen,
 P to display the listing on the screen after a pause,
 1 to send the listing to serial port 1,
 2 to send the listing to serial port 2,
 F to save the listing to a file, or
 A to append the listing to a file.

- Figure 1 is a sample alarm faults report.

```

=====
                        A L A R M   F A U L T S
=====
Date: Fri Mar 17 01:37:27 1995

MODULE | ALARM LEVEL | ALARM DETAIL
-----+-----+-----
  1      Major      Current delta fault on remote supply
  1      Major      #2 CPU Fan fault

  2                                NO ALARM FAULTS DETECTED ON THIS MODULE

  3      Critical    #5 CPU Temp. sensor fault
  3      Major      SCSI board #3 not installed

  4                                NO ALARM FAULTS DETECTED ON THIS MODULE

Press any key to continue....
  
```

Figure 1 Alarm Faults Report

CP 5864 Run an NVRAM Event Log Report

This procedure describes how to run an NVRAM event log report. The NVRAM event log for each host has the capacity to store 1000 events. When the event log fills to capacity, new information overwrites information in the log, with the oldest information overwritten first. Event information is processed in chronological order starting with the oldest events. Events in the log are grouped by module.

Procedure Steps

1. Reach the Alarms Maintenance Menu, then go to the View Menu.
Reference: Menu Map 8
2. Choose the NVRAM event log option and specify the destination of the report.

```

Select.: (L) NVRAM event log
Prompt:  REPORT OUTPUT ROUTING
         (C) Console (screen)
         (P) Console with pause
         (1) Serial port 1
         (2) Serial port 2
         (F) File...
         (A) Append to file...
    
```

Response: C to display the NVRAM event log on the screen,
 P to display the listing on the screen after a pause,
 1 to send the listing to serial port 1,
 2 to send the listing to serial port 2,
 F to save the listing to a file, or
 A to append the listing to a file.

- Figure 1 is a sample NVRAM event log report.

```

=====
                          N V R A M   E V E N T   L O G
=====
Date: Fri Feb  3 14:39:14 1995

MODULE |          TIME          |          EVENT DETAIL
-----+-----+-----
 1  Fri Feb  3 14:39:14 1995  Main -48 volt supply surge
 1  Fri Feb  3 14:39:14 1995  Main  -5 volt supply negative glitch
 1  Fri Feb  3 14:39:14 1995  Main -48 volt supply positive glitch
 1  Fri Feb  3 14:39:14 1995  Drive Bay12 volt supply positive glitch
 1  Fri Feb  3 14:39:14 1995  Main -12 volt supply failure

 2

 3  Fri Feb  3 14:39:14 1995  Current delta fault on remote supply
 3  Fri Feb  3 14:39:14 1995  Current ceiling fault on remote supply
 3  Fri Feb  3 14:39:14 1995  Current warning on local supply
 3  Fri Feb  3 14:39:14 1995  #1 CPU Fan fault
 3  Fri Feb  3 14:39:14 1995  #4 Main P.S. Fan fault
 3  Fri Feb  3 14:39:14 1995  #4 Main P.S. Fan fault recovered
 3  Fri Feb  3 14:39:14 1995  SCSI Board #2 Fuse fault
 3  Fri Feb  3 14:39:14 1995  #2 Main P. S. Temp. sensor fault
 3  Fri Feb  3 14:39:14 1995  MCB2 Memory Parity Error
 3  Fri Feb  3 14:39:14 1995  WDT timeout - possible system reset
 3  Fri Feb  3 14:39:14 1995  MCB2 Continuous Alarm Interrupt
 3  Fri Feb  3 14:39:14 1995  MCB2 Continuous Interrupt Fault
 3  Fri Feb  3 14:39:14 1995  SCSI Board #3 not installed
 4
                                EVENT LOG IS CORRUPTED ON THIS MODULE

Press any key to continue....
    
```

Figure 1 NVRAM Event Log Report

Notice the event log message for module four:

```
EVENT LOG IS CORRUPTED ON THIS MODULE
```

This message indicates that the event log data structures in NVRAM are not valid. If you see this message, clear this condition by resetting the NVRAM event log for

the specified module.

CP 5865 Run a Temperature Values Report

This procedure describes how to run a temperature values report.

Procedure Steps

1. Reach the Alarms Maintenance Menu, then go to the View Menu.
Reference: Menu Map 8
2. Choose the Temperature values option and specify the destination of the report.

Select: (T) Temperature values
Prompt: REPORT OUTPUT ROUTING
 (C) Console (screen)
 (P) Console with pause
 (1) Serial port 1
 (2) Serial port 2
 (F) File...
 (A) Append to file...

Response: C to display the alarm configuration on the screen,
 P to display the alarm configuration on the screen after a pause,
 1 to send the alarm configuration listing to serial port 1,
 2 to send the alarm configuration listing to serial port 2,
 F to save the alarm configuration to a file, or
 A to append the alarm configuration to a file.

- Figure 1 is a sample temperature values report.

```
+=====+
|           S Y S T E M   T E M P E R A T U R E           |
+=====+
Date: Tue Sep 19  9:20:04 1995

=====+=====+=====+=====+=====+=====+
Module |      CPU      Drive  Drive  Main
        |              Bay   Bay P.S. P.S.   MCB2
=====+=====+=====+=====+=====+=====+
   1    | 28C/82F  21C/70F  26C/79F  25C/77F  24C/75F
        |
   2    | 28C/82F  21C/70F  26C/79F  25C/77F  24C/75F
        |
   3    | 28C/82F  21C/70F  26C/79F  25C/77F  24C/75F
        |
   4    | 28C/82F  21C/70F  26C/79F  25C/77F  24C/75F

All alarms enabled.
Press any key to continue....
```

Figure 1 Temperature Values Report

2 Hardware Diagnostics Overview

The Hardware Diagnostics program is a series of offline diagnostics that allow you to test the following server components:

- MCB II
- Q-NET Cards
- QNX Network Nodes

The Hardware Diagnostics program requires all modules in the server be disabled (NuPoint Voice software is inactive). When running the Hardware Diagnostics program, the QNX operating system should be operating on all modules. The Hardware Diagnostics program must be run individually for each module in the server. In each case, you must install the console on the module to be tested.

Note: Please refer to the *Installation and Service Manual* for your server for console installation procedures.

The Hardware Diagnostics program can only be used to test Serial Ports 3 through 6. Serial Ports 1 and 2 cannot be tested with this program.

In some cases, a user-supplied loopback adapter is required to perform diagnostic tests. A loopback adapter is a common interface cable that connects the module output port with the input port to simulate signal transmission from the module to a destination.

Some hardware diagnostic tests are run for components that might not be presently installed in the server. In such cases, an error message is displayed. For example, when the QNX Network Node test is run, it tries to test for a system that has four modules. If the server under test contains only two modules, Modules 3 and 4 are shown as failures on the screen. This is a correct reading, since Modules 3 and 4 do not exist in the server.

Hardware Diagnostics Task List

Run Hardware Diagnostics From Diskette -----CP 5870

Shut Down a System -----CP 5700

CP 5870 Run Hardware Diagnostics From Diskette

This procedure describes how to run the hardware diagnostics program from the Diagnostics Diskette. This software version supports only the MCB 2 and Q-NET cards at this time. Future versions of this diagnostic software will support additional hardware products. Both the Floppy Boot Diskette and the Diagnostics Diskette are required to run this diagnostics program.



WARNING!

This version of the On-Site Diagnostics program requires that the server be removed from normal operation. When a server is shut down, it cannot take incoming calls. It is recommended that the diagnostics program be run during periods of low call traffic.



CAUTION!

Be sure to shut down and disable the server using the system shutdown procedure. When a module is booted from floppy, it is automatically disabled. In a multi-module server, each module must be individually shut down and disabled to run the diagnostics program.

Procedure Steps

1. Shut down the system.

Reference: CP 5700

2. Insert the Floppy Boot Diskette. Press the Reset button or turn on the system. The system displays the self test results.

Prompt: IPL100: Boot system from (Hard disk, Floppy)?

Response: f

3. The system only allows 4 seconds for the "f" to be entered. If the system did not accept the "f," press the reset button and try again. When the system accepts the "f," select the service option.

Prompt: Choose one of the following activities:

floppy
service

Enter one of the names:

Response: floppy

4. The system reads from the floppy boot diskette, then requests the next diskette.

Prompt: Insert the floppy diskette and press the CARRIAGE RETURN.

Response: Insert the On-Site Diagnostics Diskette, then press **Enter**.

5. The system displays the following Hardware Diagnostics Menu:

Prompt: Welcome to NuPoint Voice Hardware Diagnostics

Options:

(1)..MCB II
(2)..Test QNET Card(s)
(3)..Test QNX network Node(s)
(C)..Clear hardware diagnostics error log
(H)..Help
(L)..Display hardware diagnostics error log
(R)..Reboot

6. Select the test you want to run.

Prompt: Please enter your choice.

Response: Enter the desired test or operation. The system automatically displays the selected screen or runs the selected test.

Run MCB 2 Test Program

1. To run the MCB 2 test program:

Select: (1) MCB II

Prompt: Please enter your choice.

Response: 1. The system displays the following MCB 2 Test Menu.

Prompt: Running MCB 2 diagnostics...
Centigram™ Communications Corporation Copyright
(C) 1995
MCB II Diagnostics Version 1.0.0
MFG Ver. 1.0
=====

- (A) Local Memory Test
- (B) NCR 53C720
- (C) BIOS Test
- (D) EEPROM Test
- (E) NVRAM R/W Test
- (F) NVRAM Battery Test
- (G) Serial Port 3 Test (need loopback adapter)
- (H) Serial Port 4 Test (need loopback adapter)
- (I) Serial Port 5 Test (need loopback adapter)
- (J) Serial Port 6 Test (need loopback adapter)
- (K) System Monitor Test
- (Q) View the MCB logfile
- (R) Run All Tests except serial port tests
- (S) Set Test Loop <** Current Setting = 1 **>
- (X) Exit

2. Select the desired MCB 2 test option.

Prompt: Enter:

Response: Enter the letter of the desired MCB 2 test. The system automatically runs the test. After the test is completed, the system displays a pass or fail message prompt. All errors are recorded in the hardware diagnostic error logfile.

3. Select another test option or return to the Hardware Diagnostics Menu.

Prompt: Press any key to continue:

Response: To return to the MCB 2 test menu, press any key. To run another MCB 2 test, enter the character of the desired test.

4. When you are finished running tests, exit to return to the Hardware Diagnostics Main Menu.

Run Q-NET Card Test Program

1. To run the Q-NET Card test program:

Select: (2) Test QNET Card(s)

Prompt: Please enter your choice.

Response: 2. The system runs the Q-NET card test. After the test is completed, the system displays a pass or fail message prompt. All errors are recorded in the hardware diagnostic error logfile.

2. Return to the Hardware Diagnostics Menu.

Prompt: Press Enter to continue:

Response: Press Enter.

Run QNX Network Node Test Program

1. To run the QNX Network Node(s) test program

Select: (3) Test QNX Network Node(s)

Prompt: Please enter your choice.

Response: 3. The system runs the QNX Network Node(s) test. After the test is completed, the system displays a pass or fail message prompt. All errors are recorded in the hardware diagnostic error logfile.

2. Return to the Hardware Diagnostics Menu.

Prompt: Press Enter to continue:

Response: Press Enter.

Clear Hardware Diagnostics Error Log

1. To clear all records from the hardware diagnostic log:

Select: Clear Hardware Diagnostics Error Log

Prompt: Please enter your choice.

Response: C. All error messages are cleared from the error logfile.

2. Return to the Hardware Diagnostics Menu.

Prompt: Press Enter to continue:

Response: Press Enter.

Display Help Screen

1. To display the diagnostics help screen:

Select: (H) Help

Prompt: Please enter your choice.

Response: H. The system displays the help screen.

2. Return to the Hardware Diagnostics Menu.

Prompt: Press Enter to continue:

Response: Press Enter.

Display Hardware Diagnostics Error Log

1. To display the test error log results:

Select: (L) Display Hardware Diagnostics Error Log

Prompt: Please enter your choice.

Response: L. The system displays the error logfile.

2. Return to the Hardware Diagnostics Menu.

Prompt: Press Enter to continue:

Response: Press Enter.

Reboot the System

1. To reboot the system from the Hardware Diagnostics Menu:

Select: (R) Reboot

2. The system reboots. You must then enable the modules that were disabled.

Enable Modules

1. Reach the System Maintenance Menu, then go to the Module Maintenance Menu.

Reference: Menu Map 12

2. Enable a module.

Select: (E) ENABLE a module

Prompt: Which Module?

Response: The number of the module.

The specified module automatically resets itself and returns to normal operation.

3. Repeat step 2 until all modules are enabled.

CP 5700 Shut Down a System

This procedure describes how to shut down a module or an entire NuPoint Messenger server. You should use this procedure before turning off the power to a module, as the shutdown command halts call processing in a clean and orderly fashion.



WARNING!

You should follow the policies of the site to warn users prior to the system shutdown. This process removes the system from call processing. It is recommended that you perform this procedure only during periods of low call traffic.

Procedure Steps

1. Reach the System Maintenance Menu.

Reference: Menu Map 1

2. Execute a shutdown command.

Select: (S) System Shutdown

- The system displays the status of each line and the lengths of the message indicator request queues.

Prompt: WARNING!! This will terminate call processing.
Type "shutdown" if you really want to do this.

Response: shutdown

3. If you have a multi-module system, specify which modules to shut down.

Prompt: modules to shutdown:

Response: a for all modules, or the number of a specific module (1, 2, 3, or 4).
You can select multiple modules by entering the IDs separated by commas (3,4), or a range by using a hyphen (2-4).

- The system displays the status of each line of the specified modules as "idle," "active," or "stopped," and updates the status every minute until all lines are stopped. The system stops any calls still in progress after five minutes.

4. If you are executing a *system* shutdown, wait for the message waiting queue to clear.

If you are executing a *module* shutdown on a multi-module system, do not wait for the message waiting queue to clear.

Prompt: Wait for message waiting queues to be empty?

Response: Y to wait for the queue to clear,
N to continue immediately with the shutdown.

5. When the system has taken all lines of the specified modules off-hook, it continues by asking if a verify is to be executed.

Prompt: Perform Offline System Verification? (Y/N):

Response: Y to execute the verify,
N to skip verify and continue with the shutdown.

6. Specify if changes to the status of each module are to be made.

Prompt: Enable or Disable Modules?

Response: Y to change the status of modules,
N to keep the module status the same and continue at step 11

7. If you answered yes in step 6, a chart with the status of each module is displayed and then the Module Maintenance Menu is displayed.

8. Enable a module, if necessary:

Select: (E) ENABLE a module

Prompt: Which Module?

Response: The number of the module.

9. Disable a module, if necessary:

Select: (D) DISABLE a module

Prompt: Which Module?

Response: The number of the module. If you are disabling multiple modules, disable the module attached to the console last.

Prompt: type "disable" to confirm your request:

Response: disable

If you are disabling multiple modules, repeat this step.

If the status of the module attached to the console was changed to disabled, the balance of this procedure is not seen, due to the module resetting. The console then resets to the Maintenance From Hard Disk Menu.

10. When you are done configuring the modules, exit the menu.

11. The system completes the shutdown.

Prompt: ****SHUTDOWN COMPLETE****

The System Maintenance Menu is displayed. You can now either reboot the module(s) or remove power to the module(s).

List of Procedures

Procedure Number	Chapter Number	Title	CPs Called	Called By
CP 5700	2	Shut Down a System		
CP 5850	1	Access HAM Software		
CP 5851	1	Assign Alarm Levels		
CP 5852	1	Disable Alarms and CIP		
CP 5853	1	Enable Alarms and CIP		
CP 5854	1	Initialize Alarms		
CP 5855	1	Reset Alarm Counters, Indicators and Event Log		
CP 5856	1	Select a Module		
CP 5857	1	Test Alarms		
CP 5858	1	Update the Alarm Configuration		
CP 5859	1	Reinstate the Alarm Configuration		
CP 5860	1	Use the Auto Reset Feature		
CP 5861	1	Run an Alarm Configuration Report		
CP 5862	1	Run an Alarm Event Counters Report		
CP 5863	1	Run an Alarm Faults Report		
CP 5864	1	Run an NVRAM Event Log Report		
CP 5870	2	Run Hardware Diagnostics From Diskette		