

Encore

CONTROL SYSTEM

Release Notes



SOFTWARE VERSION 1.6.1

071815304
SEPTEMBER 2003

the most watched worldwide

Contacting Grass Valley

Region	Voice	Fax	Address	Web Site
North America	(800) 547-8949 Support: 530-478-4148	Sales: (530) 478-3347 Support: (530) 478-3181	Grass Valley P.O. Box 599000 Nevada City, CA 95959- 7900 USA	www.thomsongrassvalley.com
Pacific Operations	+852-2585-6688 Support: 852-2585-6579	+852-2802-2996		
U.K., Europe, Asia, Middle East	+44 1753 218 777	+44 1753 218 757		
France	+33 1 45 29 73 00			
Germany	+49 221 1791 234	+49 221 1791 235		

Copyright © Thomson Broadcast and Media Solutions All rights reserved.

Grass Valley Web Site

The www.thomsongrassvalley.com web site offers the following:

Online User Documentation — Current versions of product catalogs, brochures, data sheets, ordering guides, planning guides, manuals, and release notes in .pdf format can be downloaded.

FAQ Database — Solutions to problems and troubleshooting efforts can be found by searching our Frequently Asked Questions (FAQ) database.

Software Downloads — Software updates, drivers, and patches can be downloaded.

Contents

Purpose	5
Applicability	5
Materials Supplied	6
Software Required.	6
Equipment required	6
Redundancy	14
Automation Support	14
Router Control	14
Control Panel Server Application Redundancy	14
Sync Status	15
Encore Redundancy Limitations	15
Redundancy Configuration	15
IP Address Assignments.	16
IP Address Assignments - Control Panels	18
OUI Configuration Procedure for Redundancy	19
Router Control	27
Tie Line Manager (TLM) Application Configuration.	27
Redundancy Operation	28
Horizon Interface	30
Horizon Interface Protects and Unprotects	30
Destination Exclusions	33
Accessing the Destination Exclusion Set Configuration Screen	33
Lock And Protect.	36
Definitions.	36
Matrix Routers Supported	36
Control Panels Supported.	36
Configuration Items.	37
Lock And Protect Limitations	37
Control Panel Server Application Configuration	38
Operation	38
NetCentral/SNMP	40
Encore SNMP Agents	40
Encore SCB SNMP Agent Installation	40
System Controller Subsystems.	40
NetCentral SNMP Manager.	41
NetCentral Capabilities.	41
NetCentral Installation	41
NetCentral Encore SCB Device Provider.	41
General.	44
Modules.	45
LEDs.	46
Power Supply	47
Fans/Thermal	48
Network.	49
Software.	50
Communication Ports	51
GPI **	52
File System	53
Control Panel Groups of 48B Control Panels	57
Control Panel Group Configuration	58
Panel Group Identification	67
Miscellaneous Enhancements	69

NetConfig	69
Trinix Control	69
Concerto HD Interface	69
Auto Tally	70
Additional Keypad Set for XY Panel	70
Database Name	71
System Information Pane.	72
Encore ESswitch Control of Jupiter System	72
Support for Automation Clients to Query for Salvos	73
RCL Server Enhancements	73
Software Installation	75
Upgrading from Version 1.X to Version 1.6.1	75
Windows 2000 Service Pack 4, SCB Upgrade	79
Related Documents.	80
TAR Error Messages.	80
Troubleshooting	81
Error Messages.	81
Showing Status of SNMP Agent	81
Appendix A — Modify Buttons on the Panel Server OUI Screens.	83
Appendix B— Network Application Note - Router Broadcast Forwarding	91
Appendix C— Keypad Set Usage	95
Appendix D— Monitoring with Third-party SNMP Managers.	99

Version **1.6.1**
SEPTEMBER 2003

Encore Control System Release Notes

Purpose

This document addresses the changes from Encore Control System software release version 1.5.2 to version 1.6.1. Any last minute changes to the software are documented in a readme.txt file found on the Software CD-ROM.

Major enhancements provided with this release include:

- Redundancy (see [page 14](#))
- Horizon control (see [page 30](#))
- Destination exclusions (see [page 33](#))
- Lock/protect enhancements (see [page 36](#))
- SNMP/NetCentral (for Encore System Controller) (see [page 40](#))
- Control Panel Groups of 48B Control Panels ([page 57](#))

Applicability

This release can be installed on any Encore system presently in the field.

Materials Supplied

The Encore Control System Software Version 1.6.1 includes:

- A software CD-ROM that contains all Encore system and application files needed for Software installation or upgrade,
- These release notes, and
- A CD-ROM that contains electronic copies of all routing products documentation.

Software Required

NetCentral monitoring of the System Controller Boards requires installation of several software elements. For more information, see [page 40](#).

Equipment required

System PC

Minimum PC requirements for running the Encore Sharer and the Encore Operational User Interface (OUI) applications include:

- Network connection (and running the Encore Sharer application if you want to make system level configuration changes)

Note Only one Encore Sharer can be running on the network, and Thomson recommends that you always leave that one running and online.

- 1.3 GHz CPU
- 512 Mb RAM
- 10 Gb available hard disk space
- 100BaseT Ethernet Network Interface Card
- 15-inch monitor with a screen resolution of 1024 x 768
- NT 4.0 (SP 6) or Windows 2000 (SP 2) operating system
- Internet Explorer version 5.5 or later

System Controllers

Redundant functionality requires dual Encore System Controller Boards (SCBs), with network connections as described below.

For non-redundant installations, Thomson also now recommends installation of the configuration PC on a separate subnet if Encore responsiveness becomes degraded due to conflicts with IT or facility network operations.

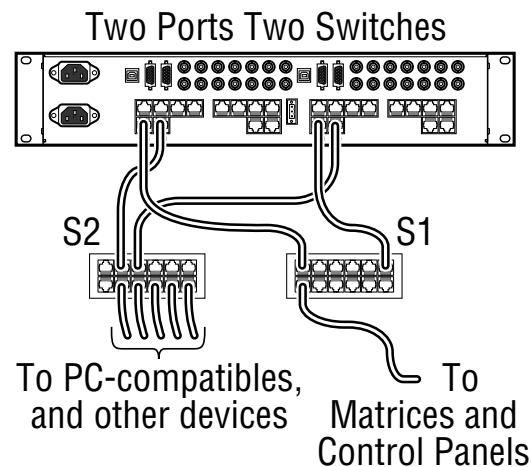
Because these connections may differ from those in existing systems, and because changing these connections will require reconfiguration of the network, upgrade of Encore systems should be scheduled in order to minimize the effect of system downtime.

Network Switches

Redundant systems support the following two network configurations:

1. Two Ports Two Switches

Figure 1.



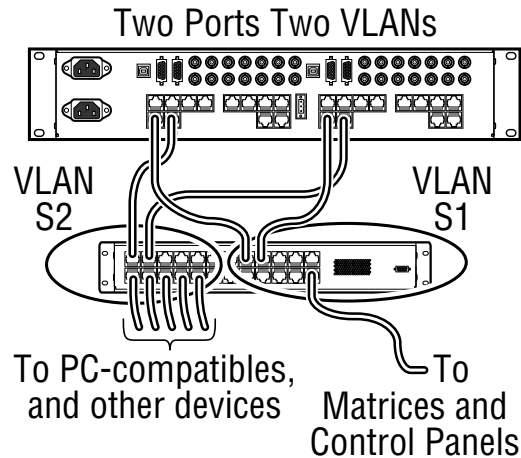
In this arrangement, the EN1 network interface on the System Controller Board (SCB) is connected to a dedicated network switch (S2 in this example) which in turn is connected to the configuration PC and (if desired) other devices on the “facility LAN.”

The control panels and matrices serviced by the redundant SCB pair are in a physically (or logically) separate network that is connected to the EN2 network interface through another switch (S1).

In this type of network the traffic from the control panels/matrices to the system controllers is isolated from the facility network.

2. Two Ports Two VLANs

Figure 2.



The separation of control panel/matrix traffic from other network traffic can also be accomplished by using a managed switch that is configured with separate virtual LANs (VLAN1 and VLAN2). In this configuration the control panels are physically bound to a single SCB redundant pair.

For a list of recommended Ethernet switches, please contact Thomson Technical Support.

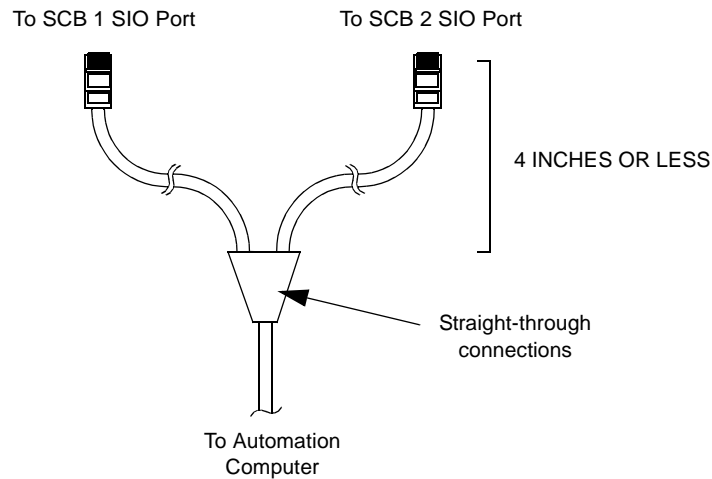
IP Addressing of EN1 and EN2 Network Interfaces

All network interface ports must be given an IP address that is appropriate for the network to which they are connected. For the system shown in [Figure 1](#) above, each of the four EN ports would need an IP address. The two EN1 ports would need IP addresses appropriate for the facility LAN (which includes the configuration PC) and the two EN2 ports would need IP addresses appropriate for the control panel / router matrix LAN. These addresses are set using the NetConfig utility. The procedure for setting these addresses is described later in this document.

Redundant Automation Serial Control Cables

Redundant automation serial control requires dual Category 5 UTP cables connected to SCB rear panel SIO ports operated in RS-422 mode. The two cables are combined to form a “Y” connection to the automation computer. See [Figure 3](#).

Figure 3.

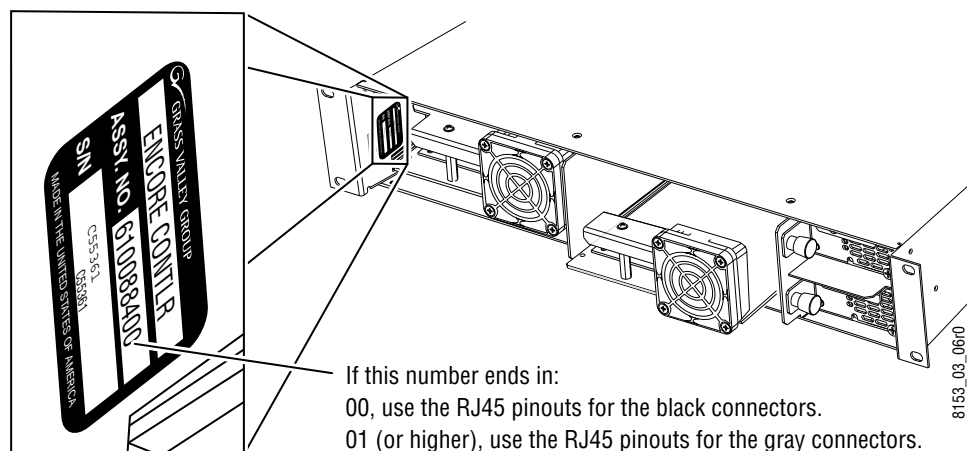


To specify RS-422 mode for ports 1-4, the RS-232/RS-422 jumper on the SIO board must be set between pins J3 and J4 for the port being used. Ports 5-8 are permanently set to RS-422 mode.

When connecting to early-model SCBs, the RJ45s connected to the Encore ports must be wired with “crossover” pinouts; when connecting to late-model SCBs “pin-to-pin” wiring is used.

Identification of early- and late-model SCBs is shown in [Figure 4](#). Pinouts are shown on [page 10](#).

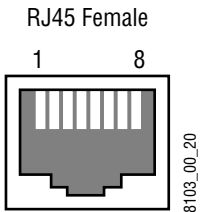
Figure 4. Identifying Early- and Late-model System Controllers.



Pinouts

Early-model (P/N 610088400) System Controllers (presently being manufactured) have black RJ45 female connectors with pinouts as shown in [Table 1](#).

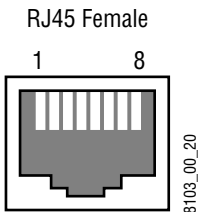
Table 1. RS-422 Pinouts for SIO Ports 1 to 8 with Black RJ45 Connectors.

RJ45	Wire Color	Pin	Function
	Orange White	1	RX+
	Orange	2	No connect
	Green White	3	TX+
	Blue	4	Ground
	Blue White	5	Ground
	Green	6	RX-
	Brown White	7	No connect
	Brown	8	TX-

Late-model (P/N 610088401) System Controllers planned for release in mid-2003 have gray RJ45 female connectors with pinouts shown in [Table 2](#).

Table 2. RS-422 Pinouts for SIO Ports 1 to 8 with Gray RJ45 Connectors.

Table 4-1.

RJ45	Wire Color	Pin	Function
	Orange White	1	TX+
	Orange	2	TX-
	Green White	3	Ground
	Blue	4	Ground
	Blue White	5	Ground
	Green	6	Ground
	Brown White	7	RX-
	Brown	8	RX+

Factory cable kit

A factory-built cable kit is in preparation. Please contact Thomson for more information.

Redundant Switcher Control Cables

Ethernet

This release supports redundant Ethernet control of Concerto and 7500 matrix routers. For example, connection can be made with Cat 5 cables from the EN2 Ethernet ports on the two SCBs, through two network switches, to redundant Ethernet connectors on the router. Refer to the documentation supplied with the router for additional redundant operation requirements.

Serial

This release also supports redundant serial control of certain routers having two serial control ports, including Jupiter-controlled switchers. For example, for a Venus router installation, two Cat 5 cables from the SIO Ethernet ports on the two SCBs would be connected to two SIO connectors on the Jupiter VM-3000 System Controller.

Horizon Control Cable

Although this release provides control a Horizon router, it does not support System Controller redundancy (auto switchover) for routers having only one serial control port (such as Horizon). In such systems switchover must be performed manually.

On the back of the Horizon Control frame is a 15-pin D female connector labeled **RS-422**; this is the connector to use for the interface. On the Encore Control frame the RS-422 serial connections use RJ45 female connectors. A 15-pin D male to RJ45 female adapter and a Cat 5 male to male cable is required. The adapter's 15-pin D connector end can be plugged directly into the Horizon frame or an RS-422 male to female cable can be used.

Encore Control frames have one of two types of RJ45 connectors: early models with black sockets and late models with gray sockets.

The specifications for connecting a Horizon to an Encore Control frame with the black RJ45 connectors are:

- A Cat 5 male to male cable that is ≤ 10.16 cm (4 in.),
- A RJ45 female to RS-422 male 15-pin D adapter, and
- A RS-422 female to male 15-pin D serial cable with a maximum length of 76.2 m (250 ft).

See [Figure 5](#) and [Table 3](#).

Figure 5. Horizon Connection to Encore with Black RJ45 SIO Connectors

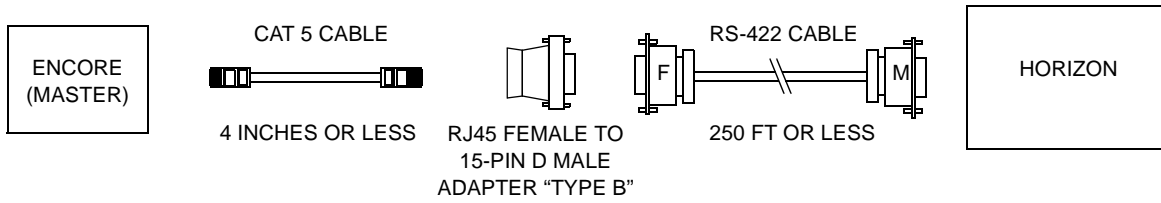


Table 3. RJ45 to RS-422 "Type B" Adapter Pinouts - Dark RJ45 Connector on Encore Frame

Wire Color	Pin	Function	Pin
Orange White	1	RX+	5
Orange	2	No connect	-
Green White	3	TX+	6
Blue	4	Ground	8
Blue White	5	Ground	
Green	6	RX-	13
Brown White	7	No connect	-
Brown	8	TX-	14

RJ45 Female		15 Pin D Male	
1	8	Pin 8	Pin 15
		Pin 1	Pin 9

The specifications for connecting a Horizon to an Encore Control frame with the light RJ45 connectors are:

- A Cat 5 male to male cable that is ≤ 100 m (328 ft),
- A RJ45 female to RS-422 male 15-pin D adapter, and
- (Optionally) an RS-422 male to female 15-pin D serial cable with a maximum length of 76.2 m (250 ft). This cable is optional because you can connect the adapter directly to the Horizon frame.

See [Figure 6](#) and [Table 4](#).

Figure 6. Horizon Connection to Encore with Gray RJ45 SIO Connectors

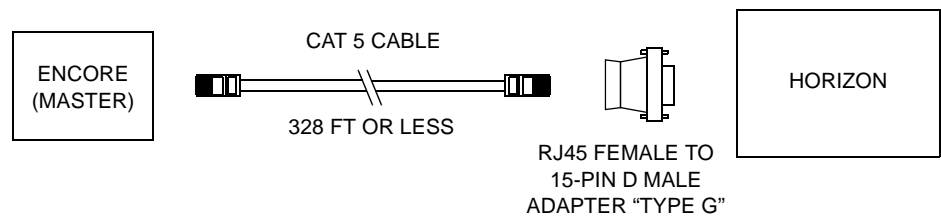
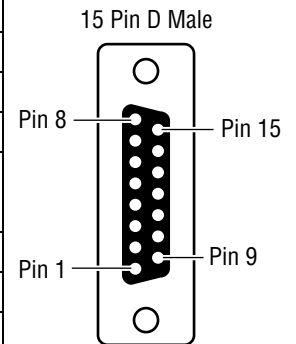
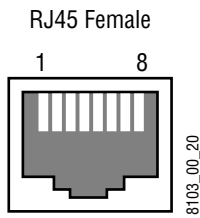


Table 4. RJ45 to RS-422 "Type G" Adapter Pinouts - Light RJ45 Connector on Encore Frame

Wire Color	Pin	Function	Pin
Orange White	1	TX+	6
Orange	2	TX-	14
Green White	3	Ground	-
Blue	4	Ground	8
Blue White	5	Ground	-
Green	6	Ground	-
Brown White	7	RX-	13
Brown	8	RX+	5



Redundancy

Two Encore System Controllers, configured as a mirrored redundant pair, can now operate in a coordinated manner to provide uninterrupted operation of the Encore system in the event of a single point failure.

Controllers are hot swappable, and normal system operation is maintained by the surviving controller should a failure of one controller occur.

Mirrored redundant operation is provided for the following Encore functions and applications:

- Automation via serial port control
- Router Control (“Router Engine”) application
- Control Panel Server application
- Tie Line Manager application

Automation Support

Redundancy support is provided for serial automation interface, where a “Y” cable set (see [page 8](#)) is used to connect redundant controllers to an automation controller having a single port.

This support is valid only if the automation controller is connected to the SIO ports (not valid for COM2 ports) and in RS-422 mode.

Note A failure in the connections provided by the Y cable will not cause an automatic switchover.

Router Control

System Controller redundancy is now available for use with the following matrix routers:

- Concerto (via Ethernet)
- 7500NB and 7500WB Series (via Ethernet)
- Trinix (as described on [page 69](#))

Note This release does not support serial System Controller redundancy (auto switchover) for routers having only one control port (such as Horizon). In such systems switchover must be performed manually.

Control Panel Server Application Redundancy

The system now provides for mirrored CP Server redundancy, where two CP Servers are configured to support the same group of panels.

Redundant CP Servers provide seamless operation (from the panel user(s) perspective) in the event of CP Server failure. “Seamless” is defined as imperceptible by the panel user(s), i.e. the system executes normally to control panel button pushes and displays status updates on buttons and displays with no discontinuities.

In the case of dual port redundant automation control, a failure of one CP Server results in the surviving CP Server executing the command since commands are mirrored on both ports by definition.

Sync Status

The Sync Status indicator under the Redundancy section of the CP Server screen shows the status of panel synchronization between the mirroring pairs, as follows:

No Redundancy - the CP Server is not configured for Mirrored operation

No Mirror - the mirroring partner is not online (either it is not up and running or it is turned offline).

No Sync - this CP Server is NOT synchronized with its mirroring partner (with respect to panels only).

In Sync - this CP Server is synchronized with its mirroring partner (with respect to panels only).

Note The master and mirror CP Servers can only achieve sync if they are serving an identical set of panels. That is, if the operator does not provide Primary Panel Server IP address as well as Secondary Panel Server IP address on the web page of each panel, the servers will never get In sync. Also, the CP Servers will never get In sync if there is no physical panel connected to them.

Encore Redundancy Limitations

Each redundant Encore application pair must execute in a System Controller set defined as a “mirrored pair,” in either the same or different system controller frames.

Redundant pair System Controller Boards (SCBs) must be configured identically with respect to system configuration and executing applications and must be executing the same revision level of application software.

Redundancy Configuration

Note To perform the following steps in the proper sequence, refer to [Software Installation on page 75](#).

IP Address Assignments

When a second System Controller is being added, both Ethernet ports must be used and each of these ports must be assigned a unique and appropriate IP address using the NetConfig application.

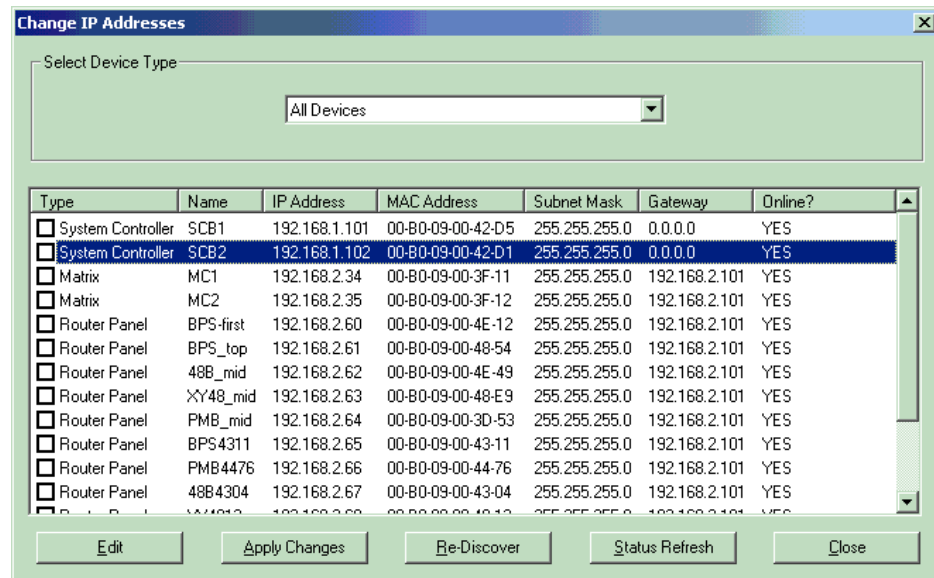
Also, Thomson now recommends that all systems, including non-redundant systems, keep the PC on a different subnet than the matrix and control panels.

Network changes needed will depend on the original network configuration. Some re-organization and re-addressing of Encore control panels or other devices may be required. For more information, see [page 6](#).

The following is a general description of the addressing procedure:

1. Launch NetConfig.
2. To set the IP Address for an EN1 port (this should be the port connected to the PC):
 - a. Select “Configure” > “Device IP Addresses.”
 - b. With “All Devices” selected for display, the EN1 ports should appear in the device list. Check to see that the IP addresses are compatible. See [Figure 7](#).

Figure 7.



For example, if the master controller EN1 address is “192.168.1.101,” then a suitable address for the redundant controller’s EN1 address might be “192.168.1.102.” If a change is needed, highlight the controller in the list and click on “Edit.” Then

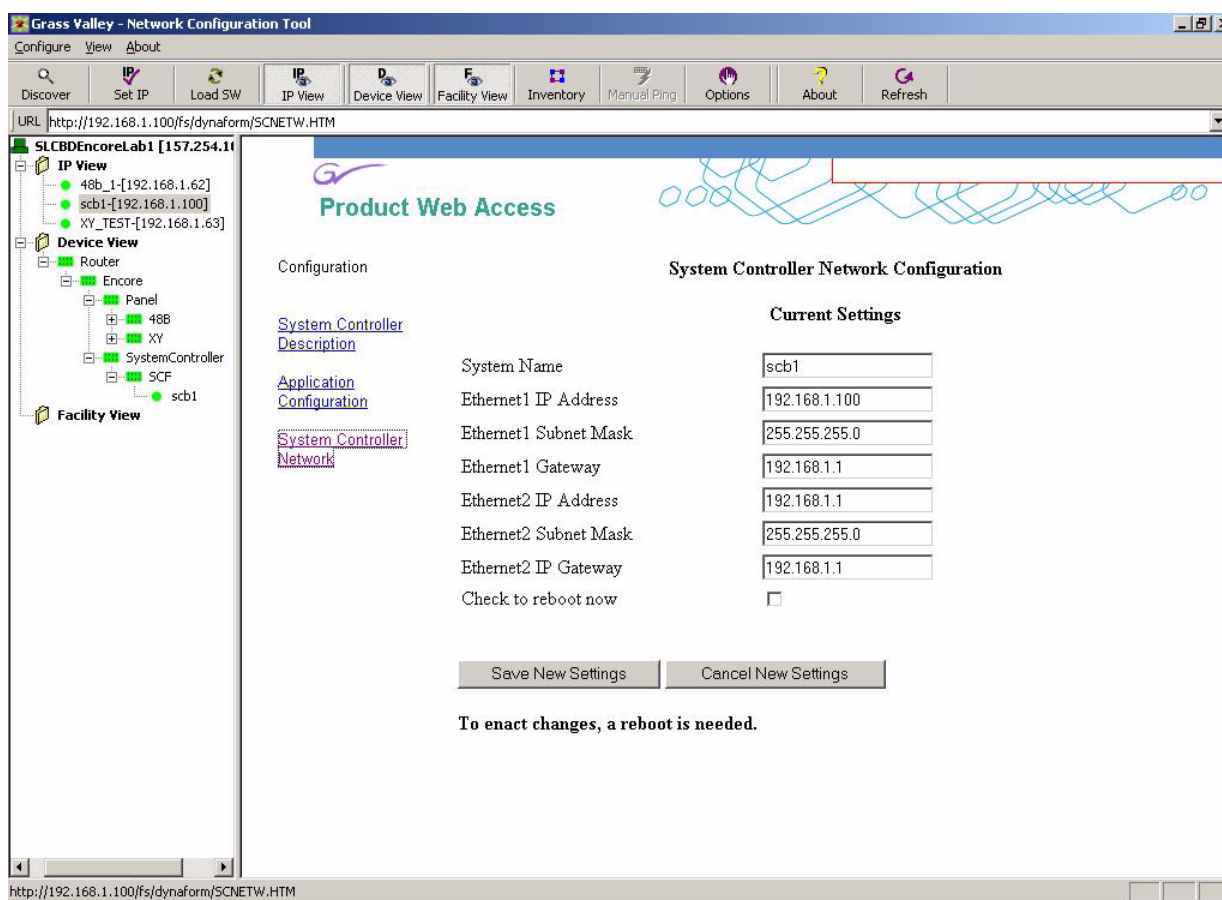
enter the appropriate IP address and subnet mask (usually 255.255.255.0). For most configurations, “Gateway” should be left blank (all zeros).

3. To set the IP address for an EN2 port:
 - a. Go to “View” and check that “IP View” is turned on.
 - b. In the left box, expand the IP View and select the desired SCB (System Control Board) in the list.

This will open the Product Web Access page for this SCB.

- c. Click on “System Controller Network.” This will display the page shown in [Figure 8](#).

Figure 8.



- d. This page is the source for the “System Name.”

As a convention, you may wish to name the left (master) controller “SCB1” and the right (mirror) “SCB2.”

This page can also be used to verify which SCB corresponds to which IP address: if EN1 on a given SCB is disconnected the system will report that “the page cannot be displayed.”

- e. The IP address for EN2 must be different from that used for EN1, *and* compatible with the addresses used for the control panels.

In this example, EN2 and the control panels are on network 192.168.2.xxx.

- f. For most configurations, the Subnet masks should be 255.255.255.0 and the “Gateway” fields should be blank.

- 4. Exit NetConfig.

IP Address Assignments - Control Panels

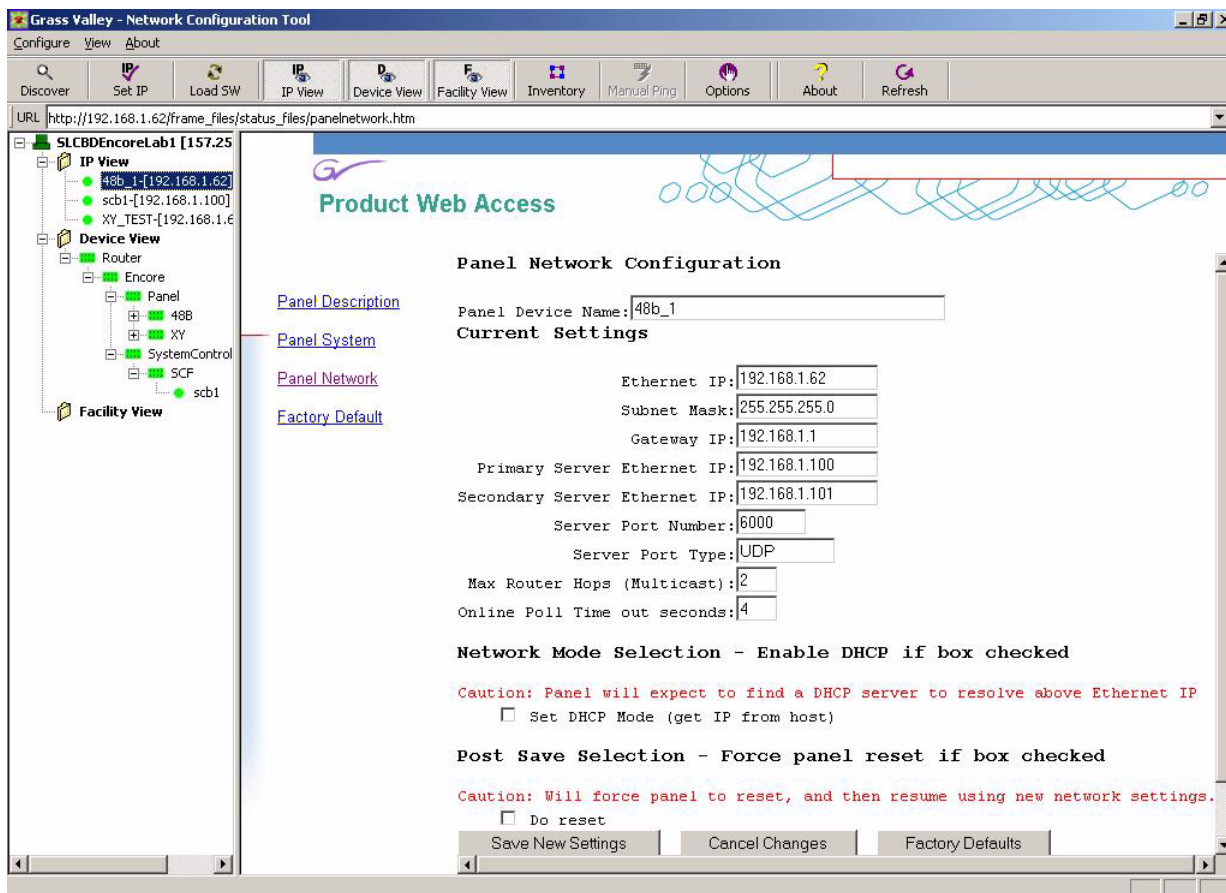
Note To perform the following steps in the proper sequence, refer to [Software Installation on page 75](#).

- 1. To set the network values for control panel(s):
 - a. Using the NetConfig application, expand the “IP View” in the left box.

If you don’t see all the installed panels in this list, cycle power to the missing panel(s). For example, if a panel display says “No Comm” or “No Router” cycle the power and use “Discover Devices” to see if the panel appears.
 - b. Select the desired control panel in the list.

This will open the Product Web Access page for this panel.
 - c. Click on “Panel Network.” This will display the page shown in [Figure 9](#).

Figure 9.



- d. The IP address for each panel must be different from other panels on this subnet, and compatible with the addresses used for the SCB EN2 port(s).
- e. For the "Gateway IP," enter the IP of the EN2 port of the master SCB.
- f. The "Primary Server" is the master; the "Secondary Server" is the mirror.

OUI Configuration Procedure for Redundancy

Note To perform the following steps in the proper sequence, refer to [Software Installation on page 75](#).

Note This procedure is based on “Configuring Encore Software on Your Routing System” in Section 1 of the User Manual.

1. Launch the OUI System Manager:
 - a. Check that the desktop application “Sharer” and desktop application “System Manager” (exe name “SysMan”) are both running. (The OUI System Manager and the desktop application System Manager are different programs.)
 - b. Launch the Encore OUI and log on by selecting Shift+Start.
 - c. Select “Special Application” and enter the IP address of the PC.
 - d. Select “!App_MAN3.”
 - e. For “User ID,” the conventional administrator log on is “sys,” no password. (This can be changed as desired).

You should now see the System Manager main menu.

2. Registering (adding and naming) applications for redundant systems:

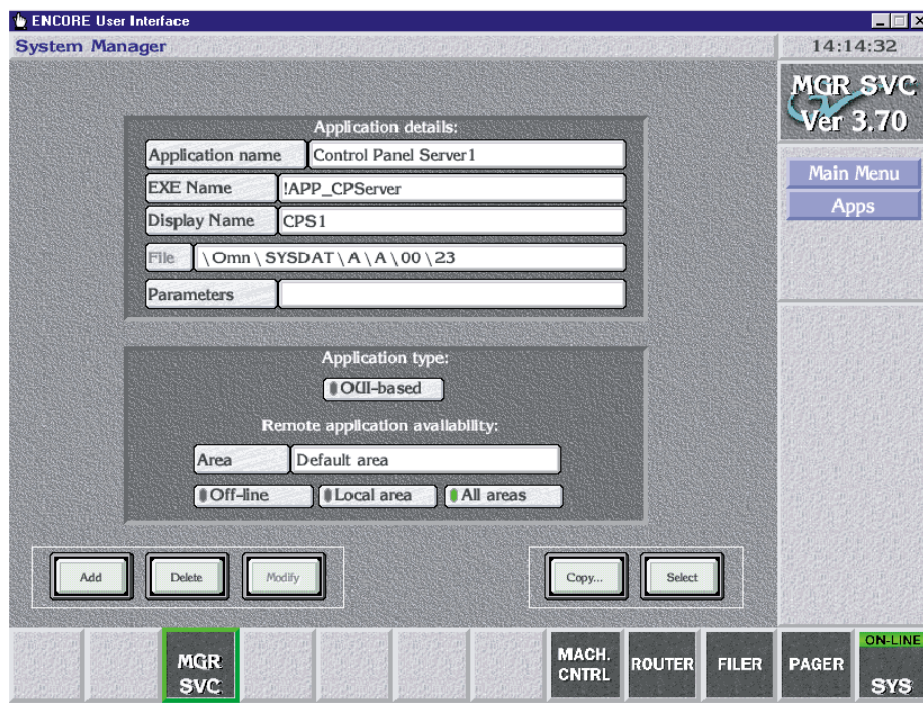
When a redundant SCB is added to the system, the applications that will run in each SCB must be uniquely identified and configured.

- a. Open the System Manager main menu and select “Applications.”
- b. Click on “Add.”
- c. Complete the executable name for the CP Server application:
!APP_CPserver
- d. Create an application name for the CP Server that will run in SCB no. 1.
Example: “Control Panel Server 1.”
- e. Create a Display (button) Name for this CP server.
Example: “CPS1.”
- f. Click on “All areas.”
- g. Click on “Modify.”

You should see a system-generated file name appear. An example is shown in [Figure 10](#).

Figure 10.

- h. To identify the second CP Server, click on “Add.”
- i. Complete the executable name for the CP Server application:
!APP_CPserver



- j. Create an application name for the CP Server that will run in SCB no. 2.

Example: "Control Panel Server 2."

- k. Create a button name for this CP server.

Example: "CPS2."

- l. Click on "All areas."

- m. Click on "Modify."

You should see a system-generated file name appear.

- n. Repeat the above steps for the Router Control application.

The executable name for the Router Control application is "**!APP_Route.**" Example names might be "Router Controller 1" with button name RTR1," and "Router Controller 2" with Display (button) Name "RTR2."

- o. Repeat the above steps for the Tie Line Manager (if TLM is being used by the system).

The executable name for the Tie Line Manager is "**!APP_TLM.**" Example names might be "Tie Line Manager 1" with button name TLM1," and "Tie Line Manager 2" with button name "TLM2."

3. Engine configuration:

This menu is used to assign applications to the various engines (platforms) in the system. When an application is properly configured on the Engine menu, the ">>" symbol will appear next to the application name on the Select Application menu, allowing it to be assigned to a button.

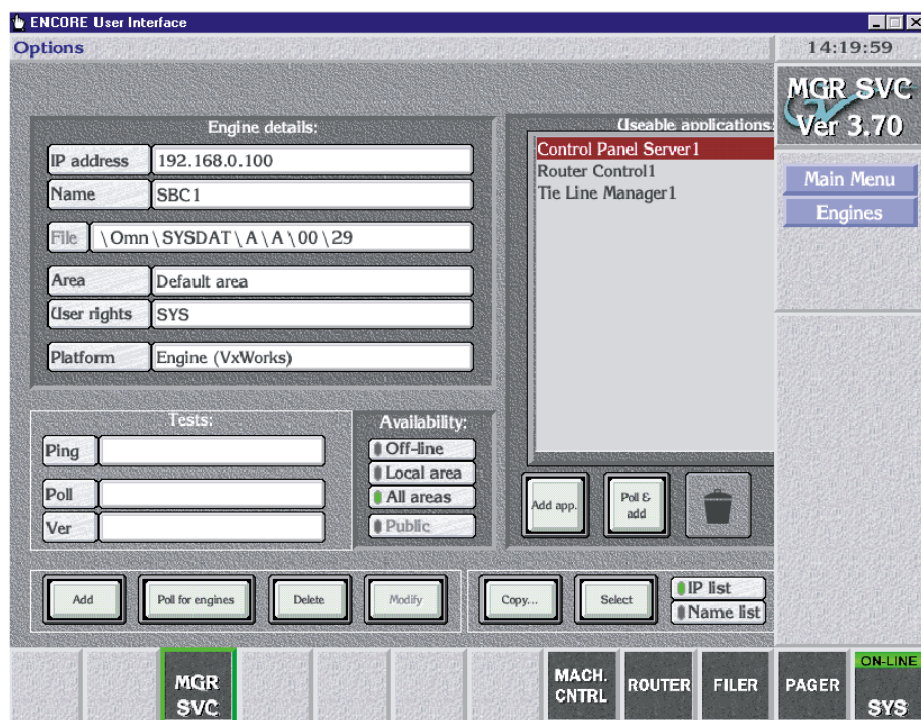
You should have three engines configured: the two Encore Controllers, and the Sharer (configuration) PC. For example, controller SCB1 might have "Control Panel Server 1," "Router Controller 1," and "Tie Line Manager 1" assigned as usable applications.

Similarly, controller SCB2 might have "Control Panel Server 2," "Router Controller 2," and "Tie Line Manager 2" assigned as usable applications.

- a.** On the System Manager main menu, select "Engines."

See [Figure 11](#).

Figure 11.



b. Click on “Select.”

You should see the IP addresses of the original SCB and the PC. (If not, you will need to add them as described below before you can continue assigning applications.)

c. Select the original SCB.

This will display the configuration values for this engine.

d. You may want to change the Name of the SCB to one that is appropriate for a redundant installation. E.g., “SCB1.”

e. In the “Usable applications” box, you should see the old applications listed. If so, delete them by selecting them and then selecting the trash can icon.

f. Select “Add app.”

You should see the names of the applications you registered in [Step 2](#) above.

g. Select the desired application(s). For example, “Control Panel Server 1” and “Router Controller 1.”

h. Check that “All areas” is selected, then click on “Modify.”

- i. In the case of the PC, it is necessary only to identify it as an engine. Applications assignments are made on another menu (the Station menu).

To add an engine:

This procedure will be required when a new SCB is added to the system.

- a. Click on "Add" and enter the IP address.
For SCBs, this field will always be the EN1 address.
- b. Enter a name for the new engine. Example: "SCB2."
- c. Select "Add app."
You should see the names of the applications you registered in [Step 2](#) above.
- d. Select the desired application(s). For example, "Control Panel Server 2" and "Router Controller 2."
- e. Select "All areas."
- f. Click on "Modify."

To verify SCB application assignments:

- a. From NetConfig, select the web page for the System Controller Board.
- b. Verify that the "Application Configuration" screen shows the appropriate applications selected for use.

4. Station (configuration PC) application assignment:

- a. Select "Stations," then "Select." You should see the IP address of the PC and the following Local Applications: Filer-Fax, Local Machine Control Panel, Local Router Panel, and Omni-Pager.
- b. If you don't see the PC, or if the Local Applications are not correct, then:
- c. Select "Add," enter the PC IP address, give the PC a name, select "Add app," then select the four applications listed above. Then select "Modify."

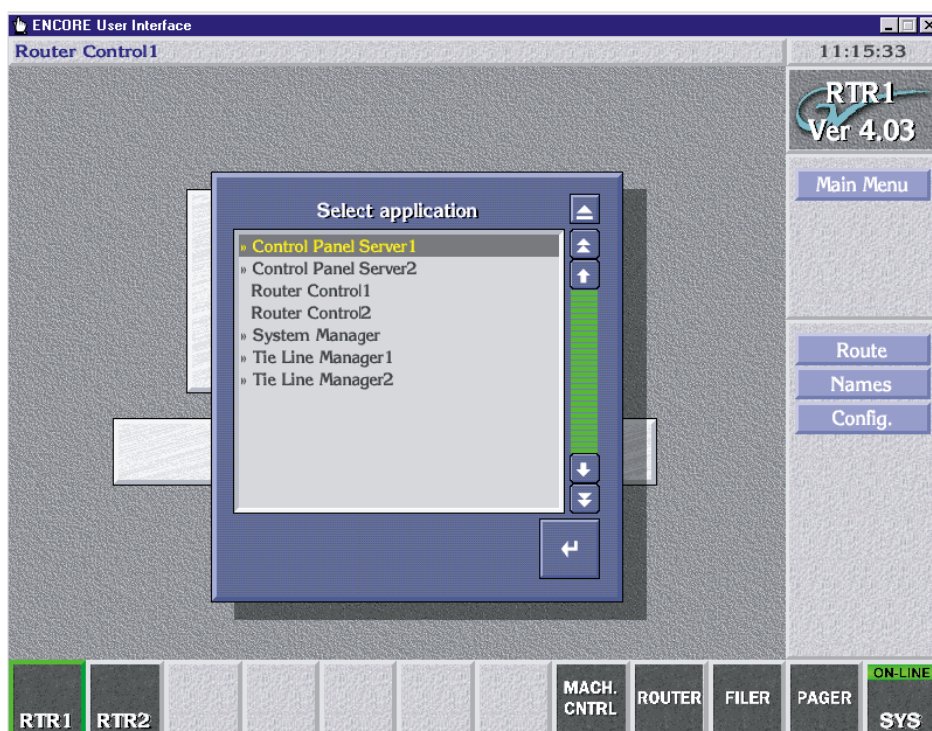
5. CP Server Configuration:

In a redundant installation, the various Encore applications run concurrently on both System Controllers. For maximum flexibility, either controller can be configured as the “master” for any given application. However, as a convention you may want to designate the left-hand controller as the master for all applications.

- a. Select an empty button position along the bottom of the OUI window.

You should see a **Select application** screen that shows all the applications you’ve configured. See [Figure 12](#).

Figure 12.



The double chevrons to the left of the applications mean the application is available for you to log into.

If you cannot see the applications it may be that the logged-in user doesn't have permission to access all applications. Go to OUI System Manager > Users and check that the “Available Applications” window is empty and the **Disallow** option is selected.

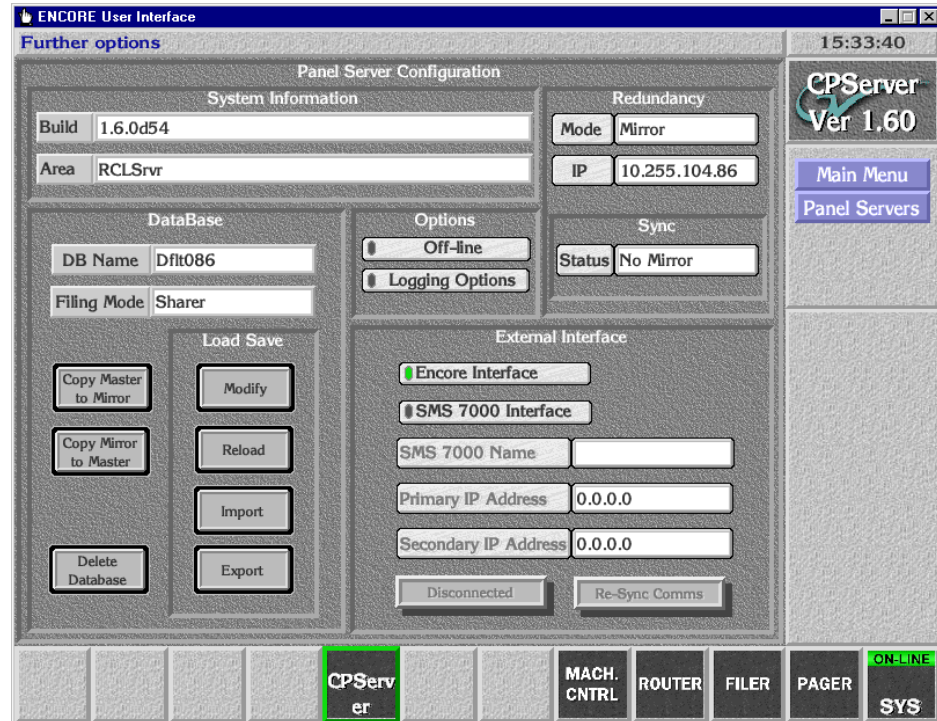
- b. Select the Control Panel Server application for the controller that will be the master (typically this would be “Control Panel Server 1” or “CPS1”)

When the application is selected it will be assigned automatically to one of the buttons along the bottom of the window.

- c. Click on “Panel Servers.”

See [Figure 13](#).

Figure 13.



- d. Rename the Database.
- e. If the Filing Mode is “Local,” select “Modify.” The system will ask “Are you sure you want to copy the database...” Answer Yes. This will switch the Filing Mode to “Sharer.”
- f. Take the controller offline.
- g. In the “Redundancy - IP” field, enter the IP address of the controller that will be the **mirror**. Select “Master” in the “Redundancy - Mode” field. Then place the controller back online.
- h. Select “Modify.” The system will ask “Are you sure...” Answer Yes.
- i. Repeat this process for the CP Server application that will be running on the mirror (e.g., “Control Panel Server 2.”) Assign a button and open the CP Server Configuration screen. This CP Server should already be configured and only require selection of “Modify.” In any case, the “Redundancy - IP” field should have the IP address of the controller that will be the **master**; and “Mirror” should be in the “Redundancy - Mode” field.

- j. Visit the web page (through NetConfig) of each panel that has to be served by these mirrored panel servers and go to the "Panel Network" page. Make sure that the field "Primary Panel Server" is filled with the IP address of the master CP Server and the field "Secondary Panel Server" is filled with the IP address of the mirror CP Server. Please note that the EN2 interface of the CP Servers must be used for the Panel Network; therefore, the IP address of the panel should be appropriate for use with EN2. For example, if the EN2 IP is 192.168.2.101, then a control panel connected to that port should have an IP address of the form 192.168.2.xxx.

Router Control

This procedure is similar to that just described for the CP Server.

1. Assign a button to the Router Controller application that will run in the master SCB (e.g., "Router Controller 1.") Select "Config." on the Router Main Menu. Take the controller offline (answer "Yes" to the warning about taking the Routing Service offline). Select "Mirror Master" in the "Redundancy - Mode" field. In the "Redundancy - IP" field, enter the IP address of the controller that will be the **mirror**. Select "Obey Rules" and "Sync Router." Select "Commit Changes" (answer "Yes" to the Warning).
2. By following the procedure just described, the mirror SCB should be configured automatically. To make sure this has happened, assign a button and open the Router Control Configuration screen for the controller that will run in the mirror (e.g., "Router Controller 2". Select "Config," and verify that "Mirror Slave" appears in the "Redundancy - Mode" field. The "Redundancy - IP" field should indicate the IP address of the controller that will be the **master**. "Obey Rules" and "Sync Router" should be selected.
3. Reboot the SCBs (this will apply the changes, but also disconnect the OUI from the SCBs). To check Redundancy Sync status, you will need to log back in to the CP Server on the master SCB.

Tie Line Manager (TLM) Application Configuration

This procedure is similar to that just described for the CP Server. Open the TLM System window for the controller that will be the master and select "**Mirrored Master TLM**" in the top field of the "Operating Mode" sub-window. In the address field, enter the IP address of the controller that will be the mirror.

Then open the TLM System screen for the controller that will be the mirror and select "Mirror TLM" in the top field of the "Operating Mode" box. In the address field, enter the IP address of the controller that will be the master.

Redundancy Operation

For proper redundancy protection, the two controllers should be in sync. This can be checked using the CP Server application's configuration windows in the "Sync Status" sub-window.

You may see brief "no sync" messages. It means that the panel servers are in the process of exchanging data related to one or more panels and synchronizing themselves. System redundancy is still functional under these conditions.

If a "no sync" state persists, the Panel Network configurations should be checked to make sure that all the panels have correct values for Primary and Secondary Panel Server IP addresses. Panel communications to both servers is easily verified by looking at the Panel Description Web page at the current primary server status and current secondary server status. Both should report "Server Comm OK."

If there is a "No Mirror" indication, then the opposite controller is offline or not working properly and should be checked.

One way to verify proper fail-over behavior is to take the Panel Server offline using the OUI. The other controller should assume control and allow normal switching to continue.

Notes:

1. All configuration tasks (except redundancy configuration) **MUST** be done from the master.
2. The CP Server should be taken offline prior to making any changes to redundancy parameters. The changes will come in to effect only when the CP Server is turned online again or when the CP Server or the SCB is re-started.
3. If a CP Server is turned offline and re-started without turning it online, the CP Server will come up in offline mode.
4. Copy Master to Mirror and Copy Mirror to Master operations can be initiated from the OUI of the master only.
5. Copy Master to Mirror and Copy Mirror to Master operations can be performed even when either the master or the mirror or both are turned offline.
6. A CP Server configured as mirror **SHOULD NOT** be promoted to master mode if the current master CP Server is online. This can be done only after making sure that the current master CP Server is reconfigured either as a mirror, as a standalone unit, or kept offline. This is intended to be done when the SCB running the master CP Server is broken and hence cannot serve the panels either temporarily or permanently.

7. If a mirror is promoted to master, the original master will come up in offline mode when it re-starts.
8. There is no simple way to determine which controller is active at any given time. It is recommended that the OUI be used periodically to log in to the controllers and check on sync status. It is also a good practice to periodically check the “Error” LEDs on the front edge of the controller boards. LED codes are located in the “Troubleshooting” section of the Installation and Service Manual.

Horizon Interface

This release provides support for Encore serial control of a Horizon Matrix as follows:

- Matrix sizes up to 128 x 128,
- Maximum of 4 levels,
- Serial matrix (XY port) communication baud rate of 19200, and
- The Encore RS-422 SIO port baud rate is user adjustable. Supported rates are 19200, 9600, 4800, and 2400.

The Horizon interface to the Encore control system allows users to perform Takes from any connected point of control (including, but not limited to, an Encore panel, a Horizon panel, and the OUI). Execution of such takes will result in corresponding tally on any connected point of control that is “observing” an affected destination.

Horizon Interface Protects and Unprotects

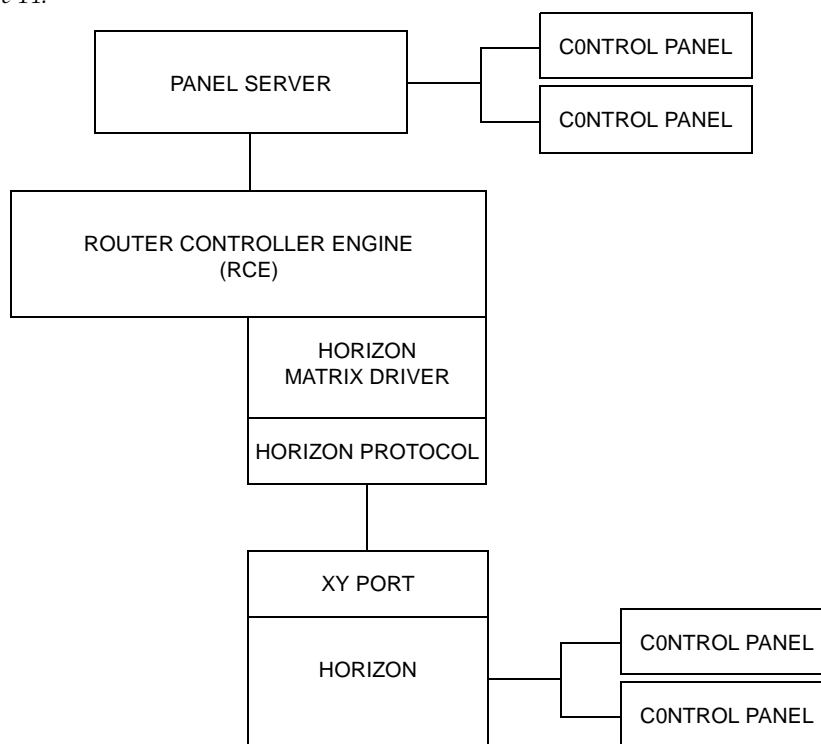
Refer to [Figure 14](#) for a sample configuration diagram.

Encore control of Horizon only supports all-level protects and unprotects. It does not support soft locks, hard locks, force unlocks, or lock/protect override.

An Encore issued protect to a Horizon router is removable using the force unprotect feature.

However, protects issued from within the Horizon control system are not removable by the Encore system. If the Horizon router is rebooted or loses connection with the Encore control system then all protects are lost.

Figure 14.



Horizon enforces a time-to-live on all destination protects. Horizon uses an 8-bit protocol and does not utilize text strings for identifying a protecting device. Also, Horizon cannot query for which device has protected a given destination (however the Encore Router Control Engine (RCE) does have this knowledge base). The Horizon system associates a device ID for a protect that cannot be externally accessed.

The Horizon recognizes the XY port connection as a single device. Therefore, a protect issued from the Encore RCE interface will always be identified as a single issuing device from within the Horizon system; however, the RCE has knowledge of which device has protected a Horizon Destination.

A Horizon issued protect cannot be unlocked or overridden by any Encore device. A Horizon issued protect must be removed by the Horizon issuing device.

An Encore issued protect cannot be unlocked or overridden by any Horizon device. An Encore issued protect must be removed by the Encore issuing device or Encore control system.

The Horizon does not broadcast tally status. It must be queried destination by destination in order to receive tally status information (polling)

The Horizon XY port was designed as a maintenance port. Many customers have placed a Horizon XY control panel on this port. If a Horizon XY control panel is placed on the normal control panel port it will act as master and conflict with Encore control through the XY port. Do not use the Horizon XY control panel when connecting with Encore. The Horizon XY port is also used by several 3rd party devices. It will be necessary to disconnect those devices if connected to the Horizon XY port. If a 2nd device is connected to the Horizon XY port, and interrupts a Encore control message (may be sequence of 7 bytes), the message will be discarded by Horizon and Encore will not be notified of the message loss.

Any lock or protect issued by the Encore system to a Horizon matrix will have the same functionality as that of controlling a Concerto matrix. However, Encore will not have control of protects issued from the Horizon side. Encore locks or protects do not have level granularity. In other words the entire destination must be protected.

Destination Exclusions

This version of CP Server supports destination exclusion sets, which can be configured from within PMB and XY panel configuration screens.

Destination exclusions provides a means to restrict the span of control of any control panel to a user-defined subset of destinations.

There is no limit to the number of configured and named destination exclusions a user may define. As well, a named destination exclusion set may be applied to any number of control panels.

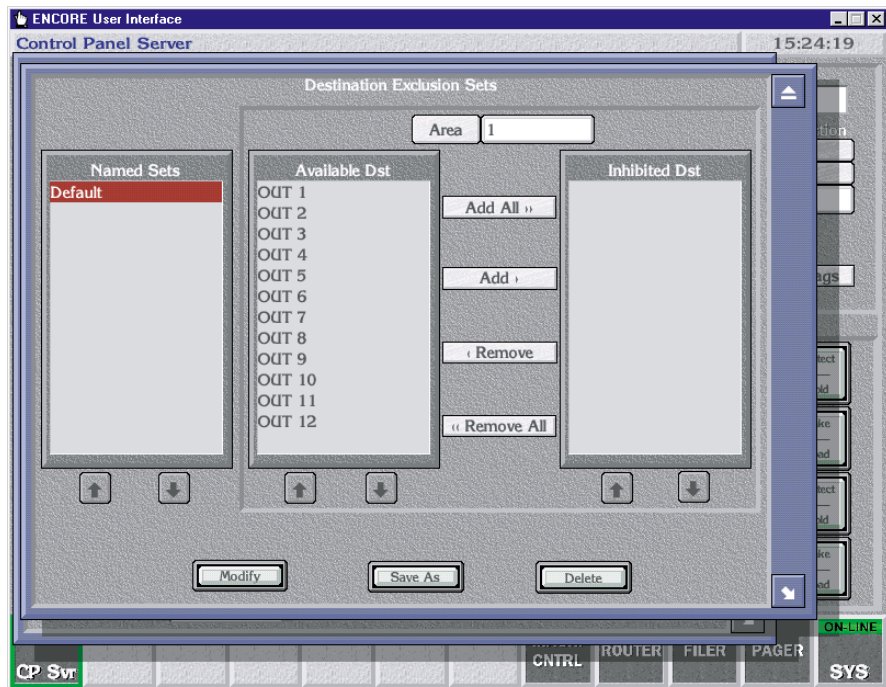
Accessing the Destination Exclusion Set Configuration Screen

1. Click on the menu item “Encore Panels” from the Main Menu of the CP Server OUI. The menu list (on the right hand side of the OUI) displays all of the supported panel types.
2. Select either PMB or XY panel type from the menu list. The menu list provides “Select” and “Modify” options.
3. Click on the “Select” menu item to choose a panel or a template for editing.
4. In the panel selection window, choose a panel or template and then click on “Edit.”
5. If a PMB panel or template is chosen, click on the “Configure PMB Flags” button. If an XY panel or template is chosen, click on the “Configure XY Flags” button.
6. The “Configuration Attributes and Flags” window appears as shown in [Figure 15](#) below. (The figure shown below is for a PMB panel configuration. A similar screen appears for XY Configuration Attributes and Flags.)
7. Click on “Dst Exclusion Set.”
8. The Destination Exclusion Sets configuration screen appears as shown in [Figure 16](#) below.

Figure 15.



Figure 16.



The Destination Exclusion Set Configuration Screen

A destination configuration screen is shown in [Figure 16](#). The list box “Named Sets” on the left hand side of the screen shows all the destination exclusion sets configured in the CP Server. When this version of CP Server starts up for the first time, only the “Default” Exclusion set appears in the Named Sets list box. If the number of exclusion sets in the system exceeds twelve, the Up and Down arrows appearing immediately below the list box can be used to scroll up/down the list. The selected destination exclusion set is highlighted in Red color (for example, “Default” is the selected destination exclusion set in [Figure 16](#)). The Panel configuration or Template currently being edited will use the destination exclusion set selected here.

The “Available Dst” list shows the destinations which are not excluded in the currently selected Area and the “Inhibited Dst” list shows the destinations which are inhibited in the currently selected area. (If a panel is configured to use this exclusion set, the destinations appearing under the “Inhibited Dst” list cannot be controlled from that panel). Both of these have Up and Down arrow buttons to scroll the list if the number of entries exceeds twelve.

The Available and Inhibited destination lists can show destinations pertaining to only one Area at a given time. However, a destination exclusion set may exclude destinations from any or all defined Areas. Hence the User has to choose the area of interest by clicking on the Area button appearing above these two lists. The user can click on the Area button to get a list of Areas where Routing service is currently available. The Home area of the CP Server is chosen by default.

By default, global changes are enabled. This means that any change done to a destination exclusion set will affect all control panels using that specific destination exclusion set.

The buttons “Save As”, “Modify” and “Delete” on this screen have the same meaning and semantics as these buttons in any other screen.

- Clicking the Save As button will create a new destination exclusion set from the contents of the currently selected destination exclusion set with the name given by the user and select the newly created destination exclusion set. The default exclusion set cannot be edited.
- Clicking the Modify button will commit the changes to the database.
- Clicking the Delete button will delete the currently selected destination exclusion set and select the destination exclusion set which is just above the deleted one.

Lock And Protect

This release adds additional soft lock support as well as support for hard locks, protects, lock/protect override, and force unlock functionality.

Definitions

Protect - provides exclusive control of a resource by the control point that initiated the protect. An exception to this exclusive control is a control point with protect override enabled. Only the initiating control point, or a control point with force unprotect enabled, can remove a protect. Example: router control panel "CP1" is able to route different sources to the destination it protects; however, other control points (panels, OUI interfaces, automation controls) cannot route a source to that destination.

Soft lock - prevents control of a resource by all control points including the initiating control point. Any control point can remove a soft lock. Example: control panel CP1 switches a new source to destination 1 and soft-locks the destination. Any device including panel CP1 cannot change the source until the soft lock is removed. Removal of a soft lock can be performed by any control panel with a configure lock/protect button, by the LRP, or the RCE's OUI.

Hard lock - prevents control of a resource by all control points including the initiating control point. Only the initiating control point, or a control point with force unlock enabled, can remove a hard lock.

Lock/protect override - temporarily removes a hard lock, soft lock, or protect to allow a single operation (such as a Take). The resource then returns to the previous lock/protect state. Lock/protect override is configurable to be enabled or disabled on a control point basis.

Force unlock/unprotect - forces the removal of a soft lock, hard lock, or protect. Requires that a lock/protect button type be assigned to the panel using this function.

Matrix Routers Supported

- Concerto
- 7500 NB, 7500 WB
- Horizon (protect support only)

Control Panels Supported

Encore XY, PMB, 48B and BPS control panels support the new lock/protect features.

The OUI-based Local Router Panel (LRP) only supports soft locks.

Configuration Items

Note Specific hard lock configuration procedures begin on [page 38](#).

Lock/protect configuration is via the CP Server OUI.

The OUI allows the user to define a panel configuration flag for lock/protect override as well as force unlock/unprotect.

The OUI displays a new “Protect-Lock” button type for all control panel types. This button type can function as a soft lock, hard lock, or protect depending on the active soft lock, hard lock, or protect flag.

Online Control Panel Configuration (Live)

With this release, for all XY, BPS, PMB or 48B control panel applications that sign on and have existing Protect button types configured the following will occur:

- The system will automatically replace the existing Protect button type, within the configuration, with the new multi-functional Lock/Protect button type.
- The system will save this newly modified control panel configuration to the database to make the change permanent.

Lock And Protect Limitations

- The /NP Server protocol implemented in Encore doesn't support protect/soft lock and hard lock. This applies to commands from automation systems.
- Soft lock/unlock, hard lock/unlock and protect/unprotect functionality are not supported for sources or any other resource other than destinations in this release.
- This release will not support individual level granularity for destinations applying lock/protects.
- The LRP OUI panel can only execute destination soft lock/unlock.

Control devices can only perform protect/lock operations on resources that are accessible to that point of control, i.e., resources that are not restricted due to an applied destination exclusion set.

Points of control can only unprotect resources if that point of control initiated the protect or has one of the following defined capabilities and is not limited by the listed configuration restrictions above:

- Force unlock/unprotect
- RCE User Interface Destination Control

Control Panel Server Application Configuration

The Lock/Protect button on the BPS, XY, and PMB panels can now be configured to function as a soft lock, hard lock, or protect button.

1. Open the CP Server application.

If the system is operating in redundant mode, you'll need to open the CP Server application for the master controller.

2. Select "Encore Panels."
3. Select a panel type, e.g., "BPS."
4. Navigate to a specific panel by clicking "Select." Select the name of the panel you wish to modify and select "Edit."

Button legends should now appear on the panel graphic.

5. Select "Configure BPS Flags."

To remove the "swipe bar" menu listing (and uncover the right side of the window), click on the clock.

6. In the "Configuration Attributes and Flags" screen, select either "Soft Lock," "Hard Lock," "Protect," or none of the above to remove any of this capability. Close the screen.
7. Open the "swipe bar" menu listing and click on "Modify."
8. Go to "Main Menu," then "Panel Servers." In the "Load/Save" pane, select "Modify."

When the pop-up message appears on the OUI screen that asks if the user wants to copy the database from memory to the sharer and flash choose "YES."

Operation

Destinations are locked or protected by selecting the output for control and pressing the Protect button on the BPS, XY, 48B, or PMB panels.

Attempt to Control Locked or Protected Device

If a request is made by any point of control (other than the current protecting device for the resource) that:

1. Control be given to this new device even though the resource is protected by another device (not having lock/protect override or force unlock/unprotect).

--or--

2. A protected resource be protected when it is already protected (not having lock/protect override or force unlock/unprotect).

Then the following occurs:

- The request will be denied.
- The requesting device will receive an error message indicating that the resource is locked or protected and by which device.

Unlock/Unprotect

There are several ways for a destination to be unlocked/unprotected:

- For a protected destination, go the panel that initiated the protect and still has the "Protect" flag enabled and press the Protect button.
- For a soft locked destination, press the Protect key at any panel that has a "Soft Lock," "Hard Lock," or "Protect" flag enabled, or from the LRP or RCE.
- For a hard locked destination, go to the panel that initiated the hard lock and still has the "Hard Lock" flag enabled and press the Protect button.

The RCE Status screen can also be used to remove soft locks, hard locks, and protects.

NetCentral/SNMP

Encore SNMP Agents

Simple Network Management Protocol (SNMP) is supported for the Encore System Controller in this release.

Encore SCB SNMP Agent Installation

The SNMP agent will be installed automatically during this upgrade process (see [Upgrading from Version 1.X to Version 1.6.1 on page 75](#)).

System Controller Subsystems

The Encore SNMP agent allows SNMP Managers to monitor the following subsystems:

- General System Parameters
- Add-on Modules
- Power supply
- Fans and Temperature
- Network and Communication Ports
- Flash File system
- GPI Relays

The Encore SNMP Agent generates alarms (traps) to registered SNMP Managers when there is a failure detected in any of the subsystems. Similarly, traps are generated by the SCB for the corresponding subsystem when the subsystems return to normal state after the correction of error. The *NetCentral SNMP Manager* registers itself with Encore SCB upon identification. However, the other SNMP Managers (non NetCentral) should manually register itself with Encore SCB. Please refer to Appendix D for detailed information on SNMP Manager registration.

The attributes monitored and the alarms (traps) generated by the System Controller are documented in the *NetCentral Encore SCB Device Provider* section below.

NetCentral SNMP Manager

The NetCentral III system is a suite of software modules residing on one or more centrally located computers. These modules work together to monitor and report the operational status of devices (broadcast equipment such as an Encore System Controller), using Simple Network Management Protocol (SNMP).

The Encore SNMP Agent for the SCB provides support for NetCentral, but does not include the actual NetCentral product, which is available separately. Once the Encore SNMP Agent for the SCB is installed and configured, it can be monitored by NetCentral, or by any other SNMP manager.

NetCentral Capabilities

When the Encore SNMP Agent is installed and configured, it automatically sends trap messages to the NetCentral Monitoring Station, reporting the system status. The NetCentral Monitoring Station can be configured to listen to and respond to these trap messages. Each trap message is assigned a severity status and a response. The responses can range from “sound an alarm,” to “send E-mail,” to “call someone on the phone/ pager” or “log the status.”

For detailed information please refer to the *NetCentral III* documentation.

NetCentral Installation

NetCentral manager software and the Device providers for SCB are not part of the CD for this release. These applications must be purchased and installed separately.

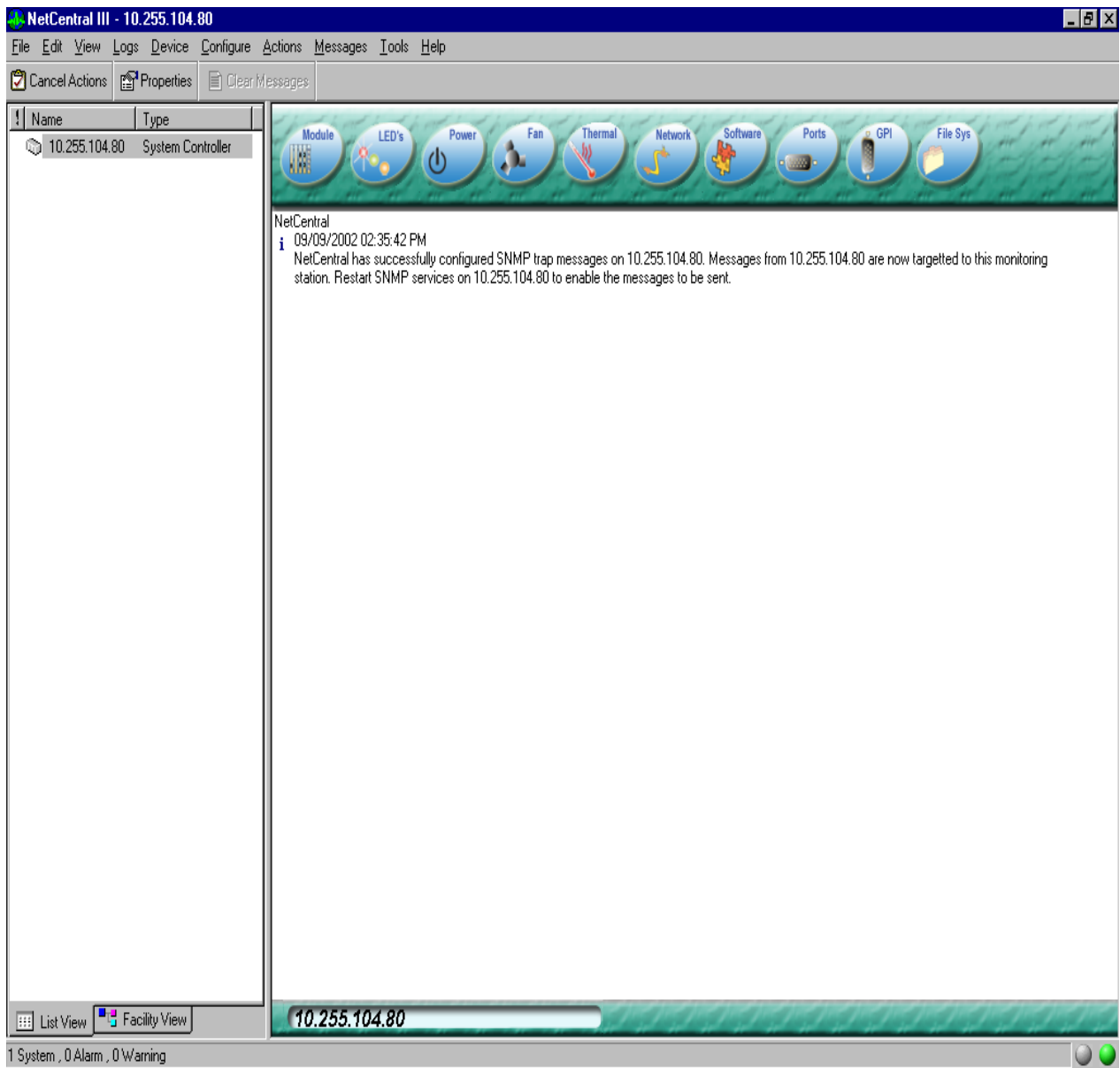
Refer to the *NetCentral III User Guide* for specific instructions on how to install, configure, and use NetCentral with a device (the Encore system).

Note **SNMP messages originating from Grass Valley Group equipment conform to the SNMPv1 protocol (IETF RFC 1157) and SNMPv2c. These messages can also be trapped by other SNMP management stations.**

NetCentral Encore SCB Device Provider

After installing the NetCentral Encore SCB Device provider, NetCentral sends a broadcast request to the LAN to identify the Encore System Controllers on the Network. Upon identification of the device, it is included in the list of devices (List View) to be monitored and registers itself with the System Controller for traps. The figure below shows the Encore System Controller device provider at startup:

Figure 17.



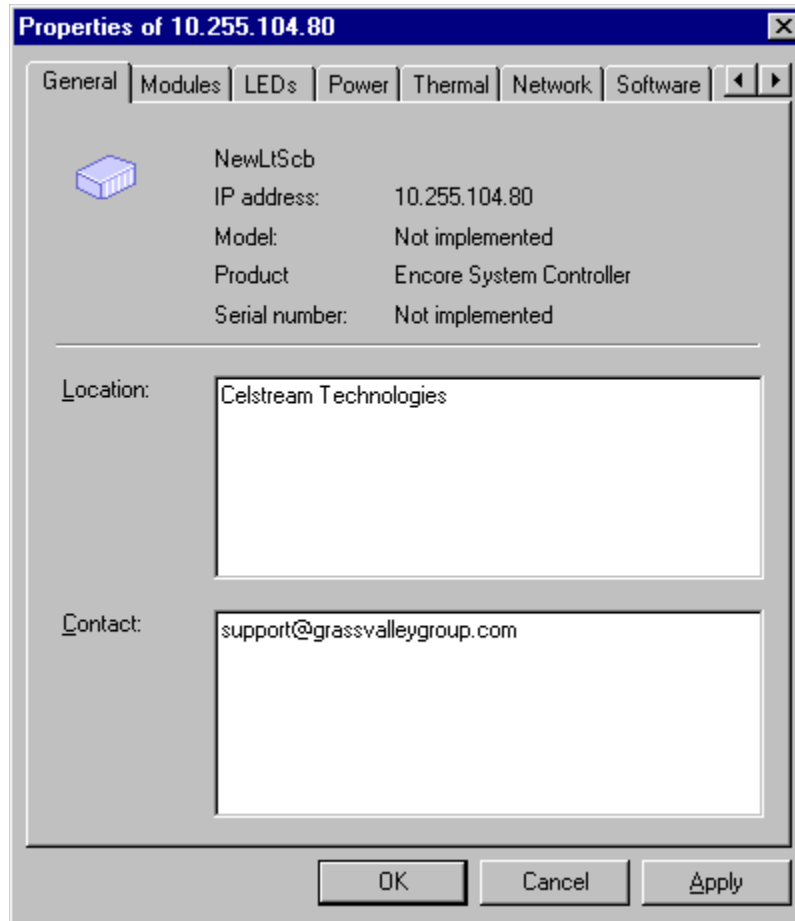
The system controller is classified into various subsystems for better manageability.

Subsystem	Description
General	General Information about the system controller board like System Controller Name, IP Address, Model Number, Product Name and Serial Number.
Modules	Information about Module/Board presence and their status (SIO board / GSC board /CPU Mezzanine board)
LEDs	Current status of LEDs on the system controller (Error, Busy, Power, Done, Sync TC, Sync RF1, Sync RF2, Sync Error LEDs)
Power	Current status of Power supply 1 and 2 present, AC and DC
Fan	Current status of Frame fan, CPU fan, Power supply1 fan and Power supply2 fan
Thermal	Current CPU temperature in Fahrenheit and centigrade
Network	Details about Name, Status, IP Address, Subnet mask and Gateway Address for Network Interface 1 and 2
Software	Details about Boot software version, Application software version, Name, Software versions and status of various applications running on SCB - Panel Server, Router Controller, Tie-line Manager
Ports	Details about Port Number, Port Name and Port Status of SIO and COMM ports
General Purpose Interface	Details about GPI Number, GPI Name, GPI Type and GPI Status for all the GPI's
File System	Details about File system Status, File System Type, Use Space, Free Space and File System Capacity

General

This screen provides general information about the Encore System controller, such as SCB name, IP address, model number, product details, serial number of the device, location of the device, and contact information.

Figure 18.



Location and Contact information can be changed at run time; that is, after adding the SNMP device to NetCentral you can enter the location and contact person for that particular Encore System Controller.

Modules

This screen gives the status of boards installed in the system (SIO, GSC and CPU Mezzanine boards) as an optional component as shown below:

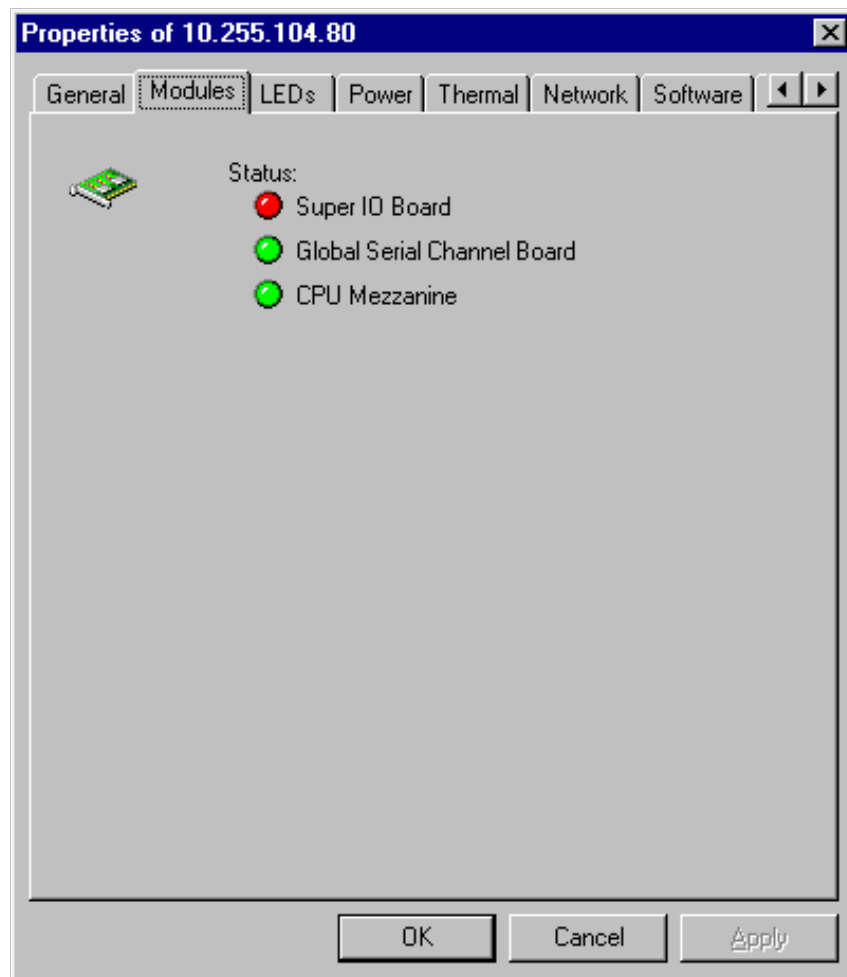
LED Coloring Scheme

GREEN LED indicates board is present and currently running properly.

RED LED indicates board is present and there was a malfunction detected.

BLACK LED indicates board is absent

Figure 19.



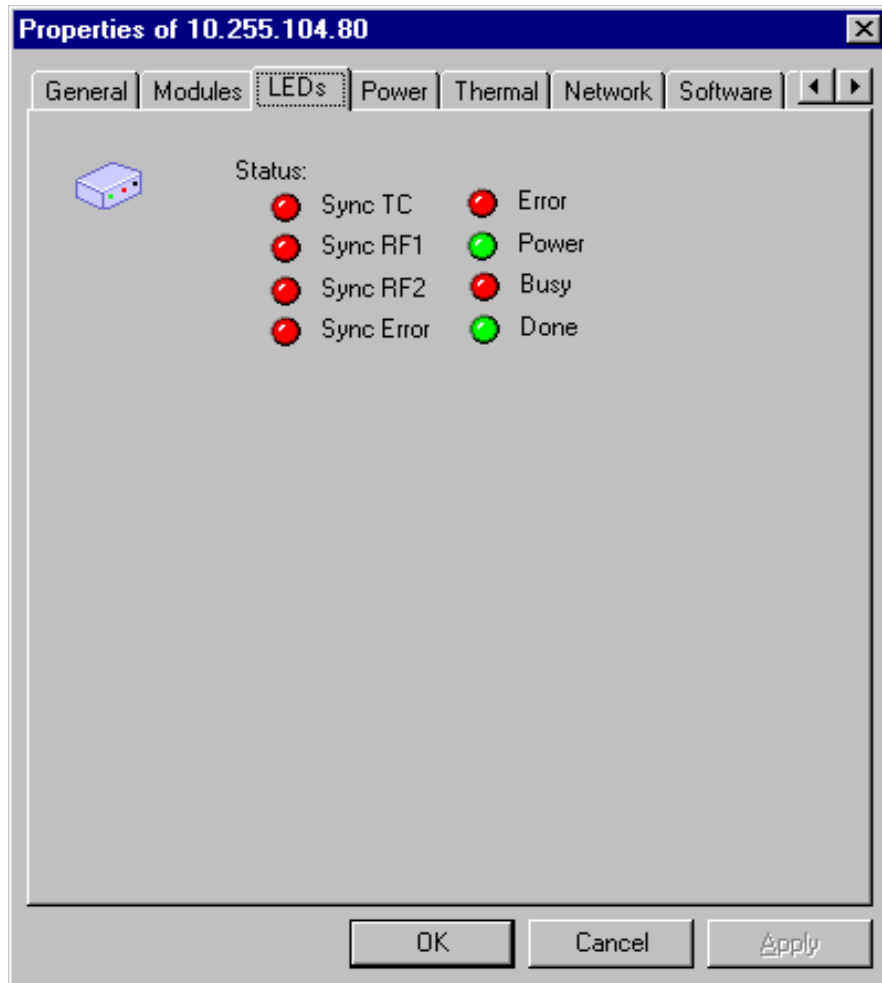
The above dialog box indicates the following:

- SIO board – is present but not working.
- GSC board – is present.
- CPU Mezzanine board – is present.

LEDs

This screen presents the status of the LEDs on the system controller board. The main LEDs are Sync TC, Sync RF1, Sync RF2, Sync Error, Error, Power, Busy, and Done.

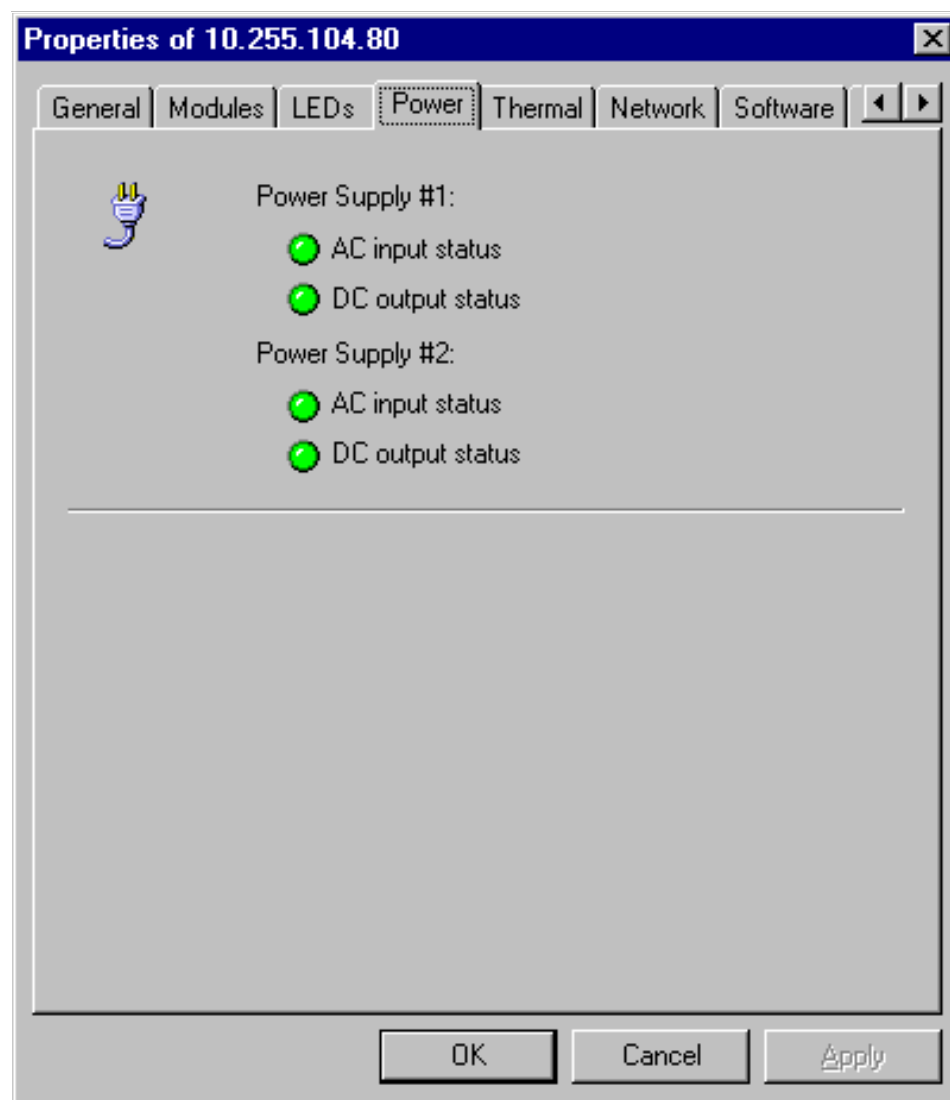
Figure 20.



Power Supply

The Encore System Controller frame has two power supply modules: one is primary and the other one is a backup power supply. Power supply monitoring is provided for AC input and DC output status (as well as fans—shown in Fans tab). The screen shown below displays power status information during normal operations.

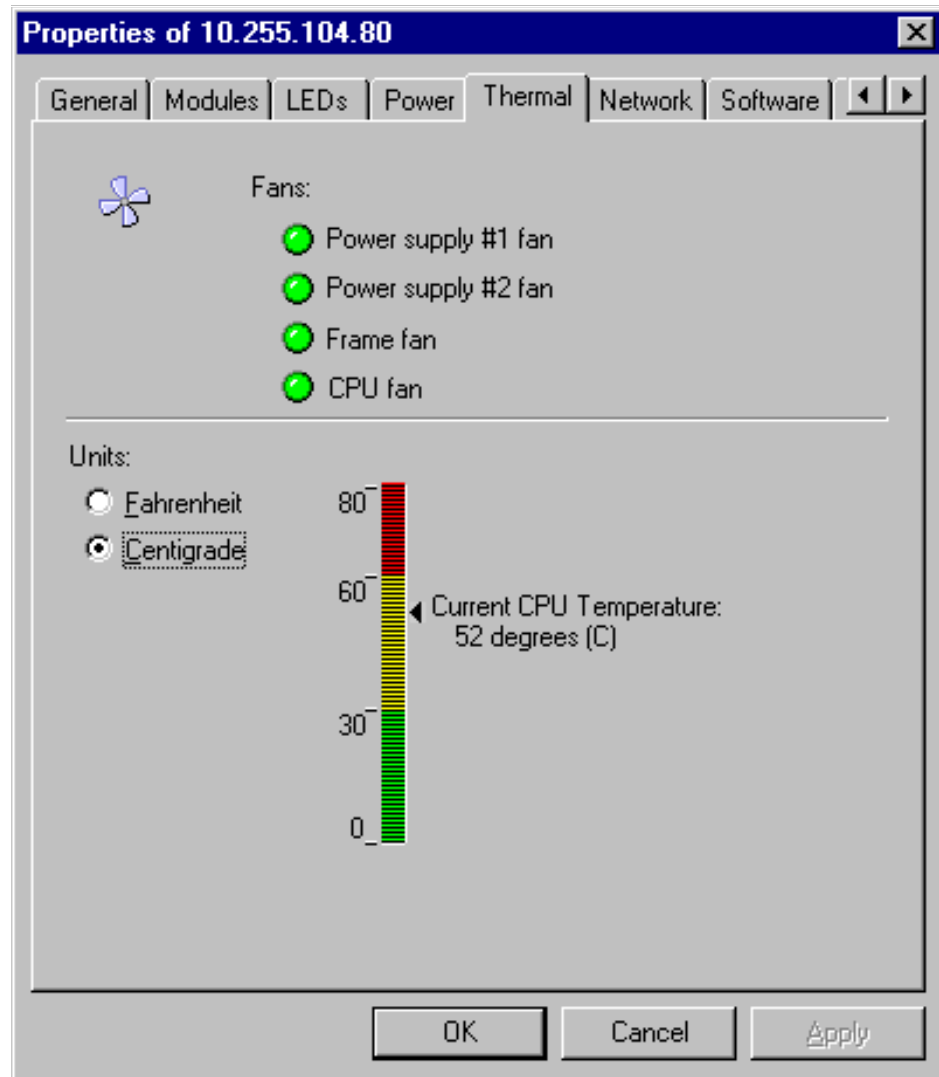
Figure 21.



Fans/Thermal

The dialog shown below presents the status of the system fans (Power supply 1 and 2, Frame and CPU). This dialog also displays the CPU temperature detail that includes Current temperature and Low and High threshold values of the CPU temperature. Here users have the option of viewing the temperature in Fahrenheit or Centigrade.

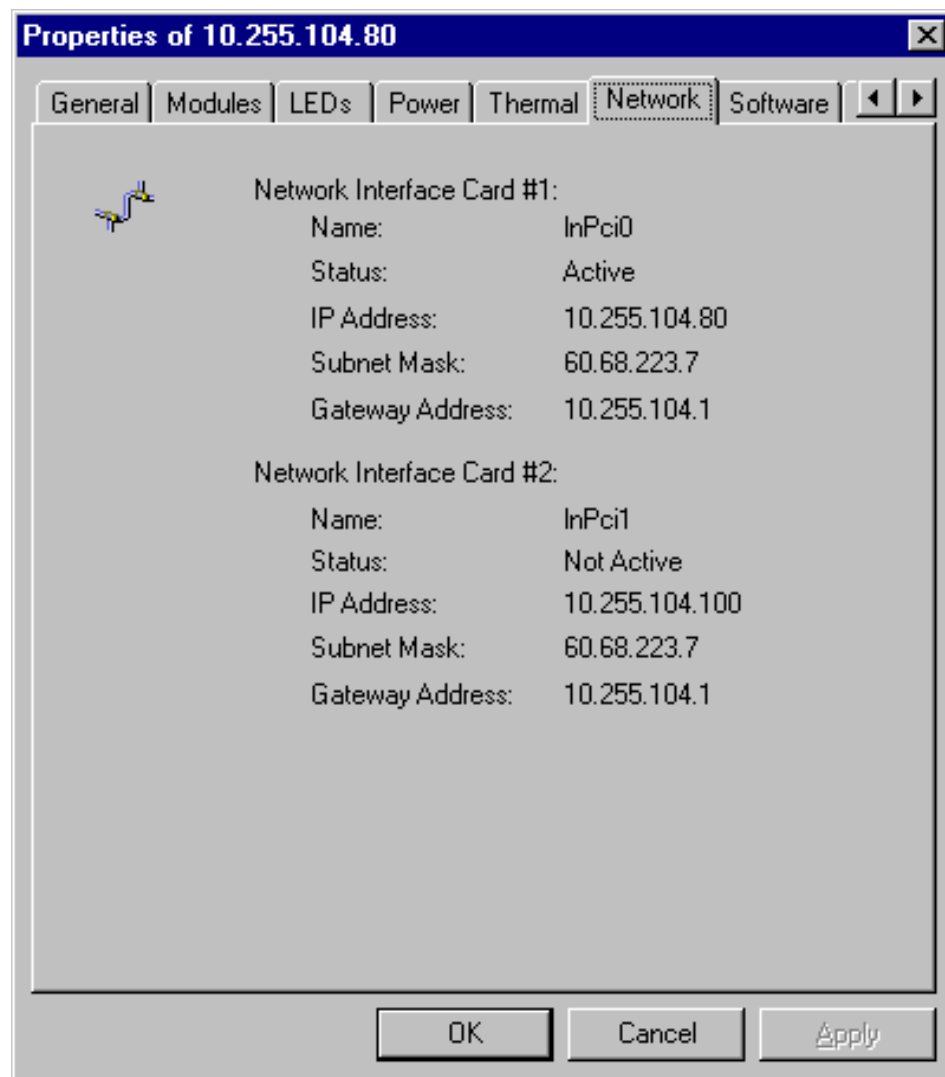
Figure 22.



Network

The Encore system is built as a distributed system with built-in support for Ethernet. The System controller has two network interfaces to communicate with devices (panels/matrices). The screen below indicates network configuration information such as IP Address, Gateway, and subnet mask along with the interface name and status.

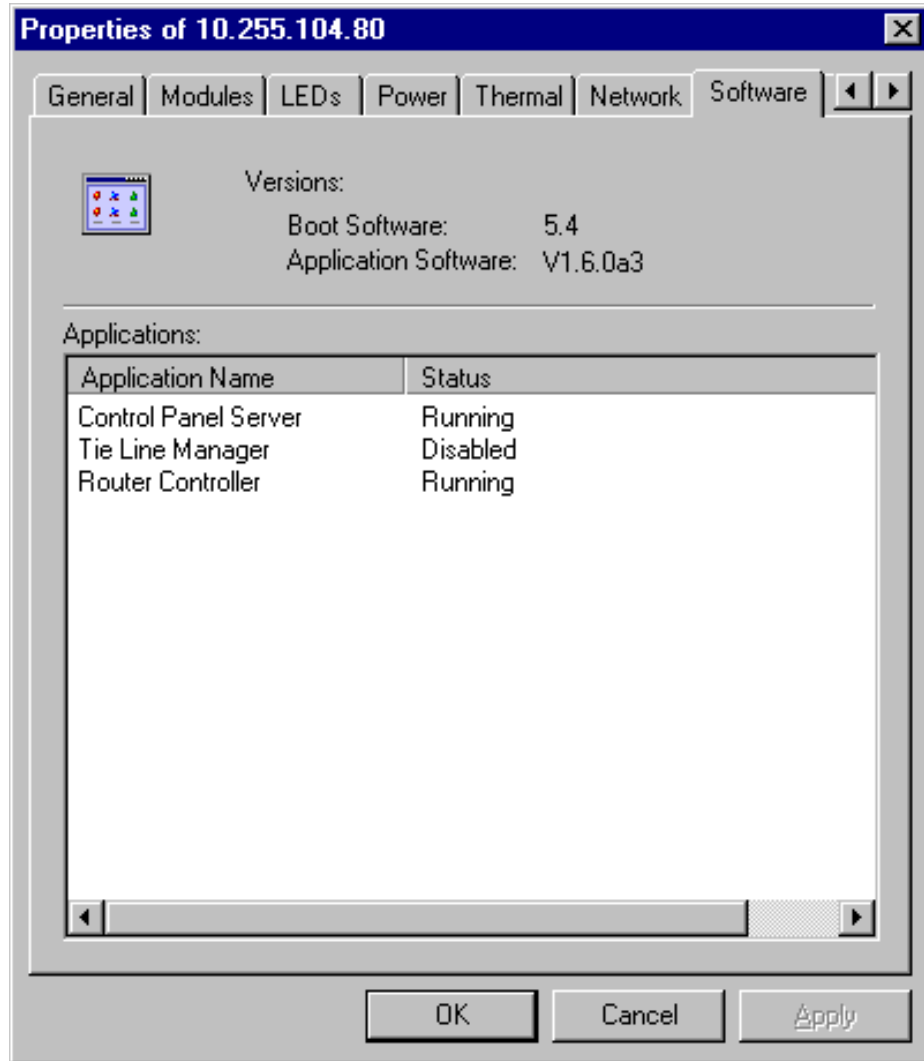
Figure 23.



Software

This screen details the software (boot software and application software) version currently running on the Encore System Controller; applications presently running, their version, and status like “running” or “disabled (not running)”.

Figure 24.

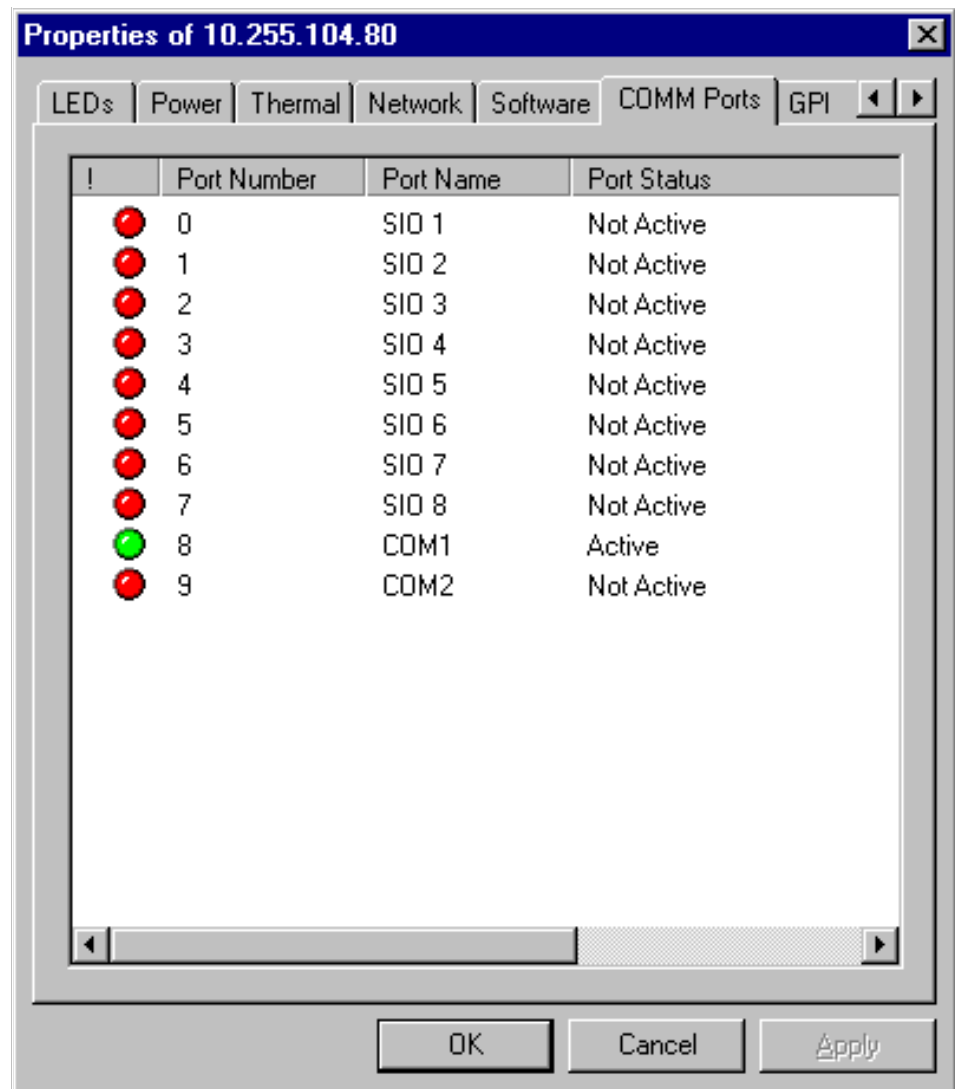


Application Status can be one of the following: Running, Not Responding, or Disabled. From the above tab we can observe “Control Panel Server” and “Router Controller” is in running state while “Tie Line Manager” is disabled.

Communication Ports

This screen gives the status of the communication ports (COM1, COM2, and SIO COMM ports): Number, Name and Status (Active or Not Active).

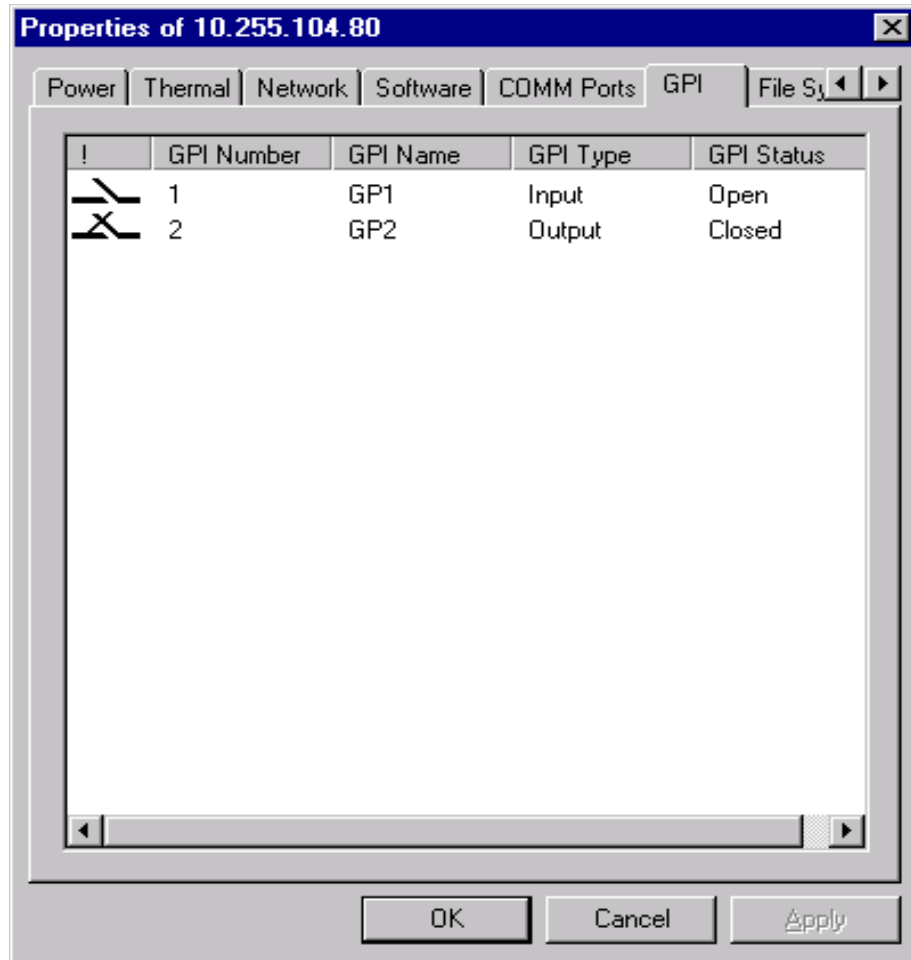
Figure 25.



GPI **

This screen details the GPIs of the Encore System Controller. It shows the GPI Name, GPI Type and GPI Status (Closed/Open)

Figure 26.

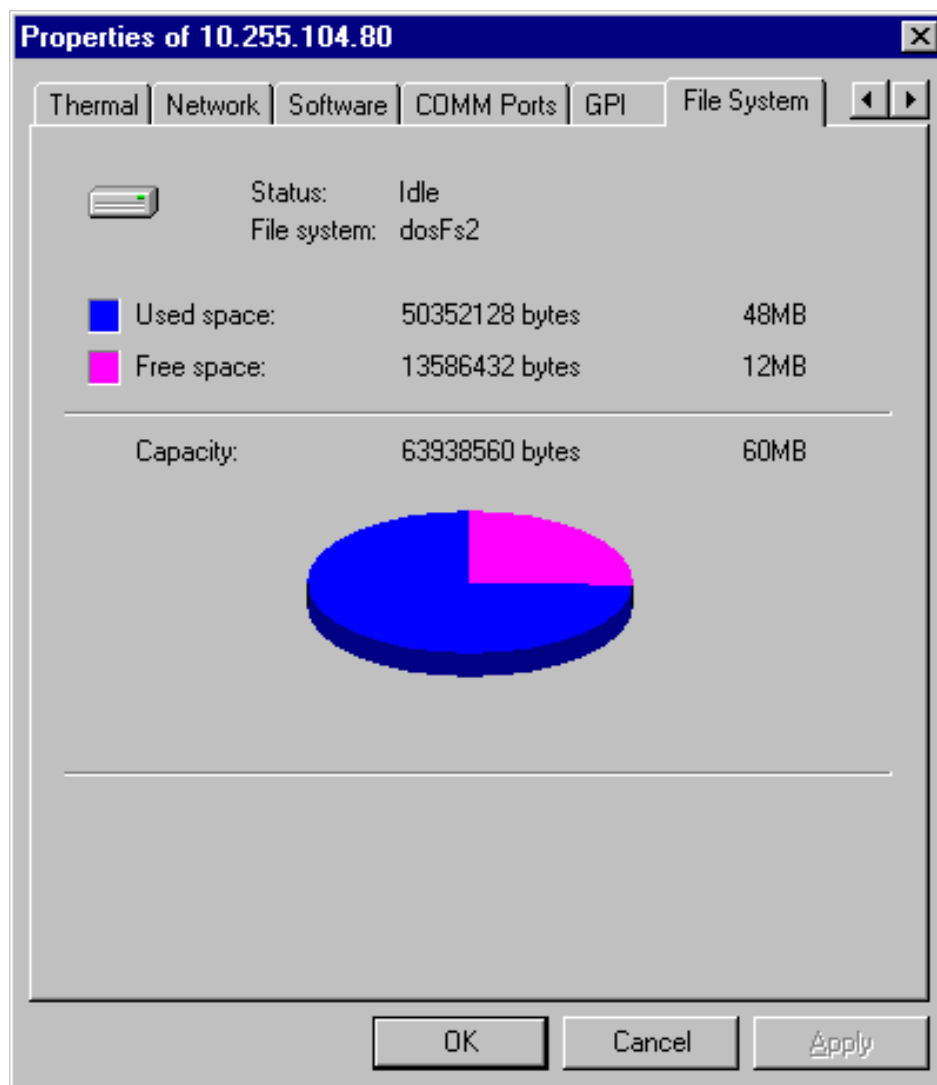


** There is no GPI support implemented in this release (or prior). However, support has been implemented in the Encore SCB device provider.

File System

The file system is a core component of the Encore System Controller. When the file system is locked-out or crashes the user must be notified about the state of the system in order to take corrective action. Here the user can view file system information such as Status, File System type, Used Space, Free Space and Total Capacity.

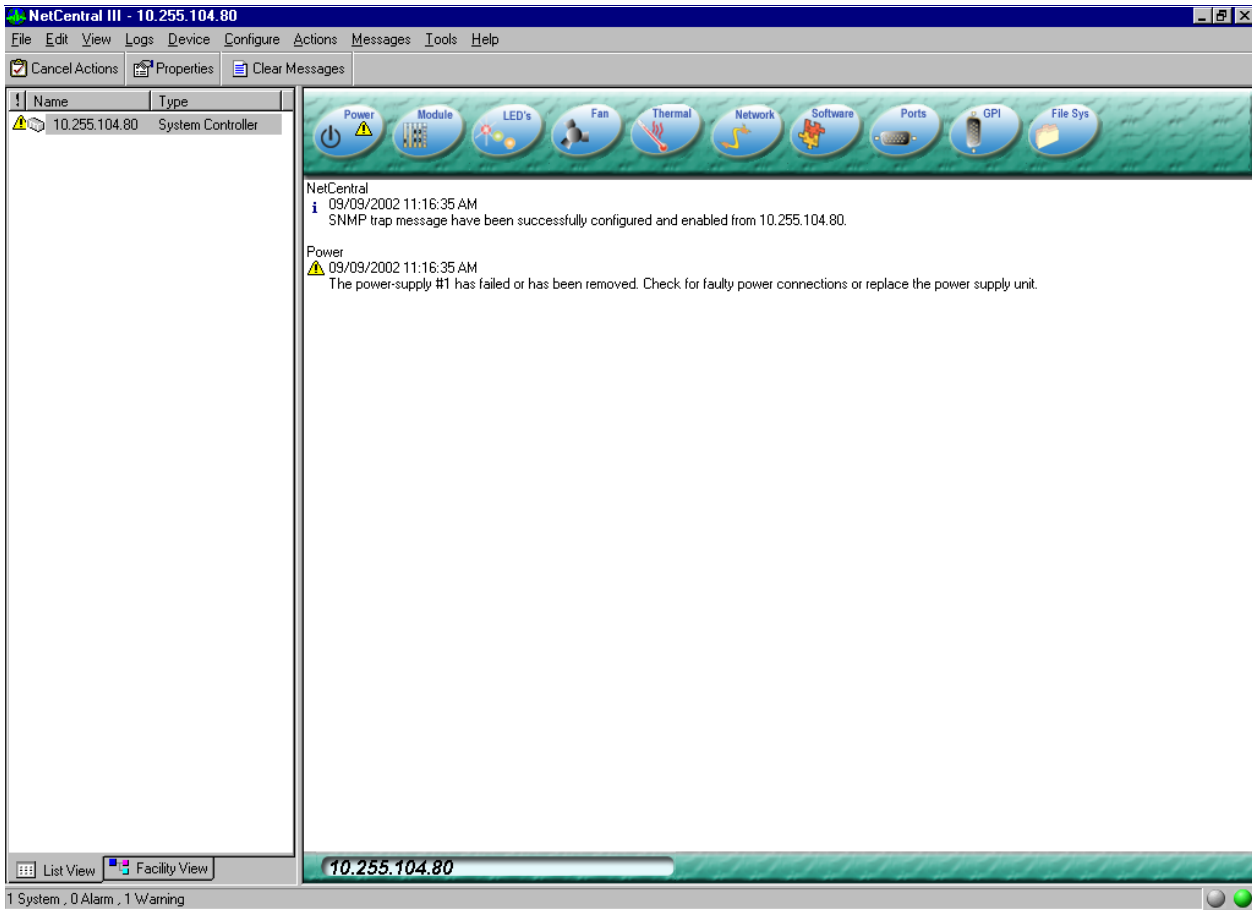
Figure 27.



Viewing Trap in NetCentral for Encore System Controller

Power supply 1 Error Trap: This trap or error condition will occur when there is any error in power supply 1 of the Encore System controller. You will see the following error message on NetCentral GUI:

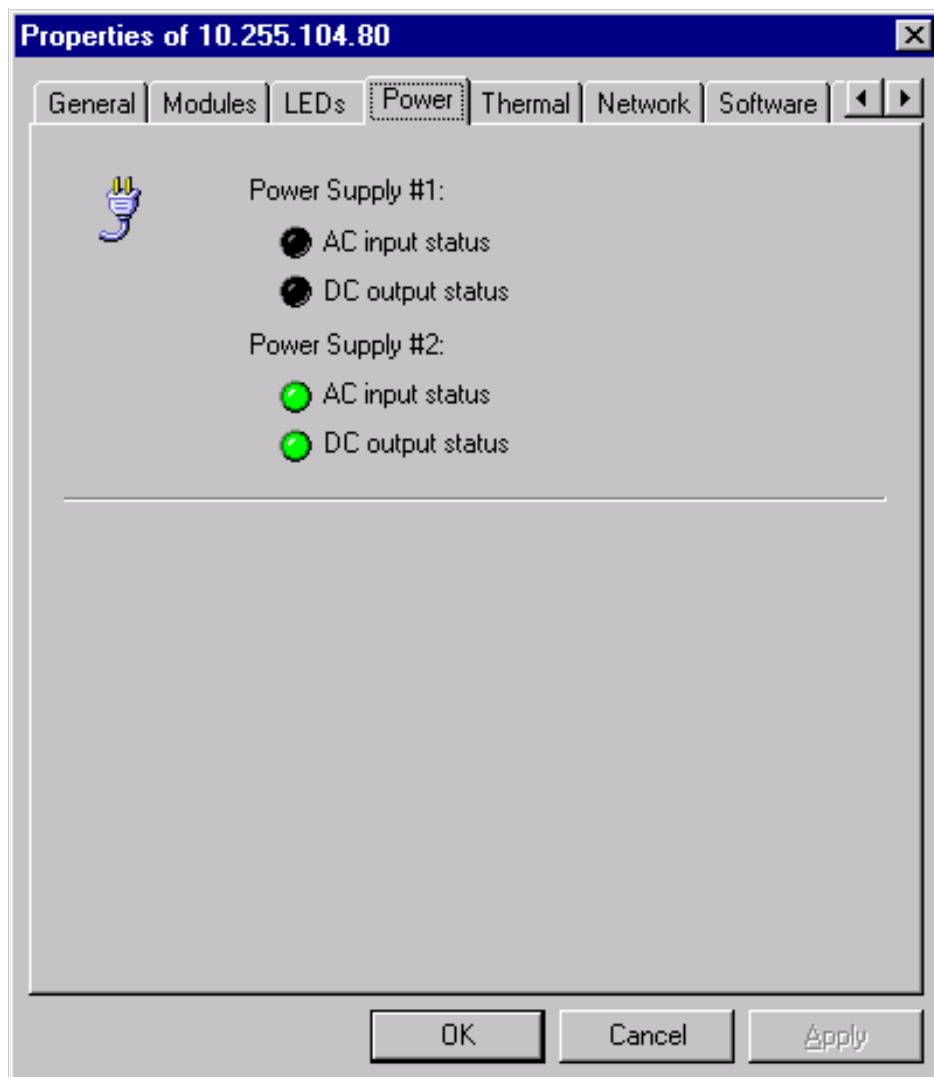
Figure 28.



This indicates “Power supply 1 has been removed or failed” (if you have a faulty power supply module – you can simulate this alarm – or just remove power supply module)

Power supply tab when power supply removed: You can identify whether the power supply was removed or it is NOT functioning. Go to the power supply tab and check the color – if BLACK, power is NOT present.

Figure 29.



Likewise, the Encore SCB SNMP Agent generates the following traps:

AC Input Trap: Generated when the AC input to the power supply of the SCB is missing or faulty.

DC Output Trap: Generated when the DC output from the power supply of the SCB is faulty.

Power Supply Fan trap: Generated when the power supply fan of the SCB is faulty.

Temperature out of Bounds trap: Generated when the CPU temperature is not between low and high threshold level of the SCB.

Frame Fan trap: Generated when an error or fault occurs in the Frame Fan of the SCB.

Fault LED trap: Generated when the SCB Fault LED is ON.

Error LED trap: Generated when the SCB Error LED is ON.

Out of Sync trap: Generated when the SCB Sync Error LED is ON.

SIO Board Fault trap: Generated when the SIO board is identified as faulty.

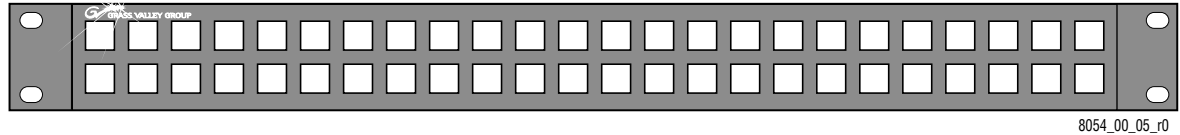
GSC Board Fault trap: Generated when the GSC board is identified as faulty (not implemented in this release).

GPIO state change trap: Generated when there is a state change in GPIO of SCB.

Control Panel Groups of 48B Control Panels

The 48B (Forty-Eight Button) panel has forty-eight user-programmable buttons. Any of the forty-eight buttons can be configured as a Source, a Level, a Destination, a Salvo, or a Lock/Protect. See [Figure 30](#).

Figure 30. 48B Control Panel



Control Panel Groups enable multiple 48B physical panels to be configured together to act as a single control panel. The Panel Server system treats any button press command from within a panel group as if it was generated from a single physical control panel. Each panel belonging to a defined panel group will behave according to the configuration of the Master panel of the group. All Take, Lock/Protect, or Level requests, and error responses are directed from and to the Master panel of the panel group. The behavior and response time of all panels within a 48B panel group will match that of a standalone 48B control panel.

For example, a user can group three 48B control panels together and have a total of 144 buttons that can be assigned as Sources, Destinations, Salvos, Levels, or Lock/Protect. The user can assign 128 buttons as Sources, and still have 16 buttons available for other assignments. The 48B control panel can be assigned a default destination without having to assign a Destination to a button, so a user could have a 128 Source to a single Destination, several Levels, a Lock/Protect, and some Salvos all in the same control panel group.

A single Panel Server can control a total of 64 grouped control panels (48B) and an additional 64 control panels that are not assigned to panel groups. The grouped control panels can be in a single group of 64 panels, or 32 groups of two panels, or any combination of groups as long as the total number of grouped panels does not exceed 64.

Grouped panels have to be on the same Control Panel Server, but the panels in a group do not have to be in the same rack or even the same room. A 48B panel can be either a standalone, or a master, or an expansion panel but can not be more than one of those or a member of more than one group.

Control Panel Group Configuration

The Master control panel of a group must be configured first before configuring expansion panels. To remove a control panel from being a Master of a group all expansion panels must first be removed from the group before the Master will be allowed to be removed in order to prevent leaving expansion panels without a Master panel.

1. Log onto the active or Master Panel Server (if running redundancy).
2. Click **Main Menu** button.
3. Click **Encore Panels** button.
4. Click **48B** button.
5. Click **Select** button.
6. Highlight an active 48B control panel.

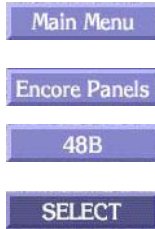
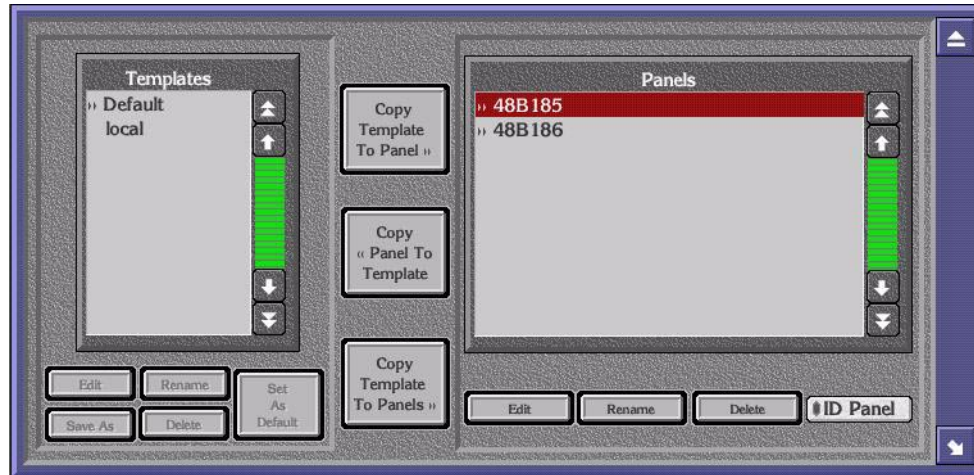
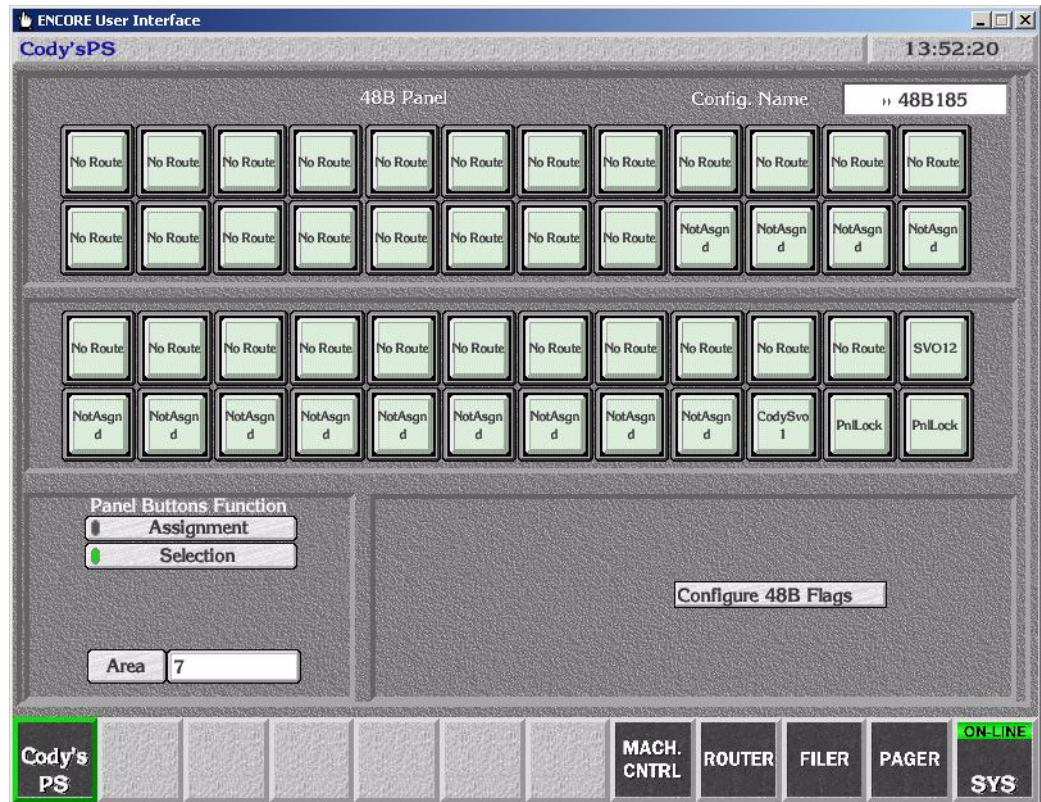


Figure 31. Edit Panel Select Screen



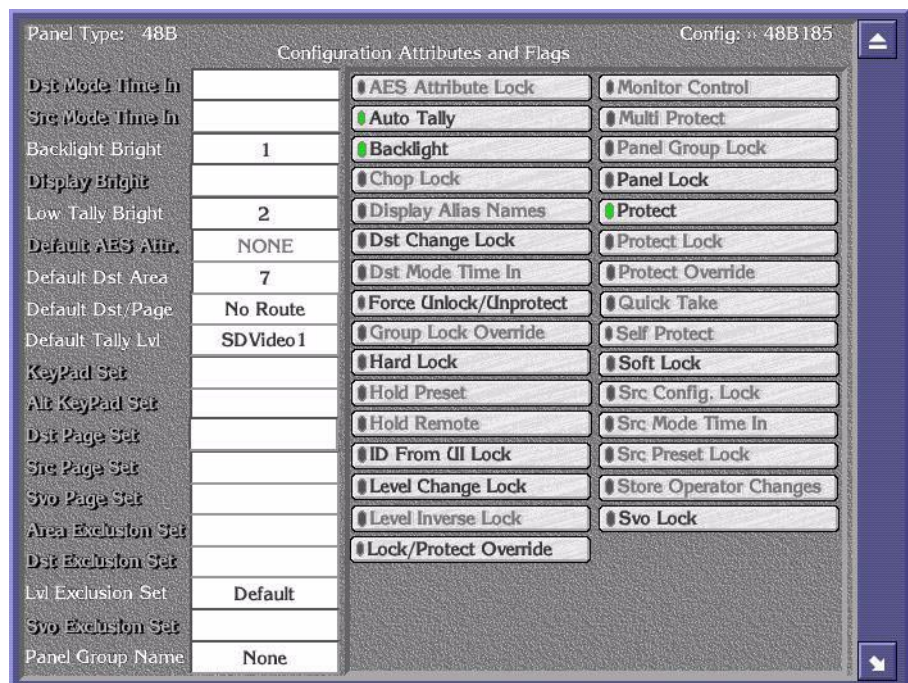
7. Click **Edit** button.
8. Click **Config 48B Flags** button.

Figure 32. Configure Buttons Screen



9. Click the **Panel Group Name** attribute box.

Figure 33. Configuration Attributes and Flags Screen



10. Highlight the name of the panel currently being edited to define the panel as a panel group Master.

Note Selecting **None** denotes that the panel will not belong to a panel group. Selecting the name of the current 48B panel being edited (second item in the list) identifies this panel as a new Master of a panel group with the same name.

Figure 34. Panel Group Names List Screen



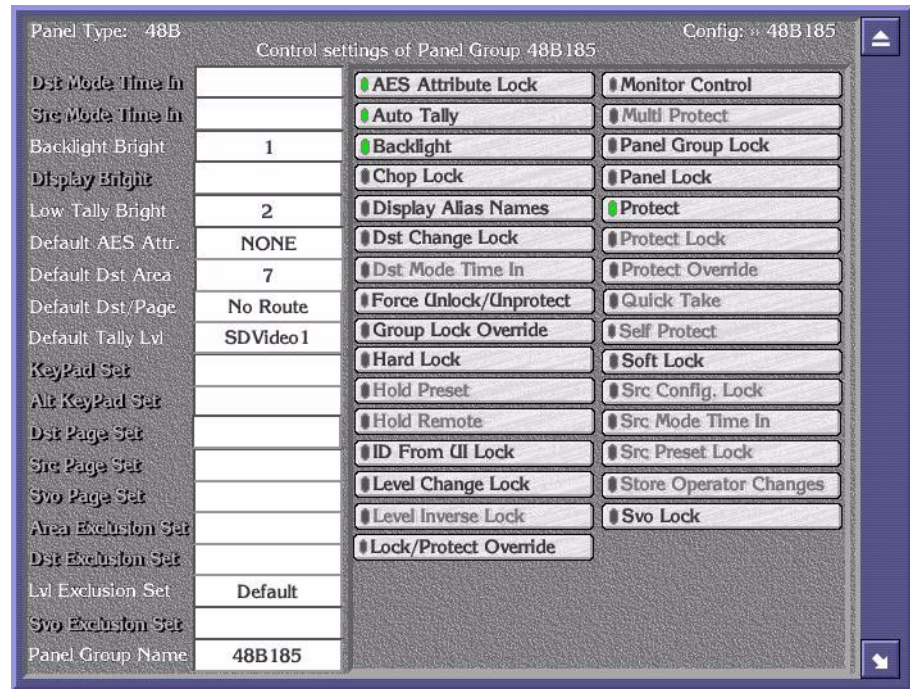
11. Click the **Return** button.

12. Configure Control Settings.

Once the panel is defined as a Master the **Configuration Attributes and Flags** screen title will change to **Control settings of Panel Group Panel Group Name** to denote the panel is the Master of a panel group.

These settings will apply to all the panels in the panel group. All expansion panels belonging to a defined Master panel group will behave according to the configuration of the Master panel.

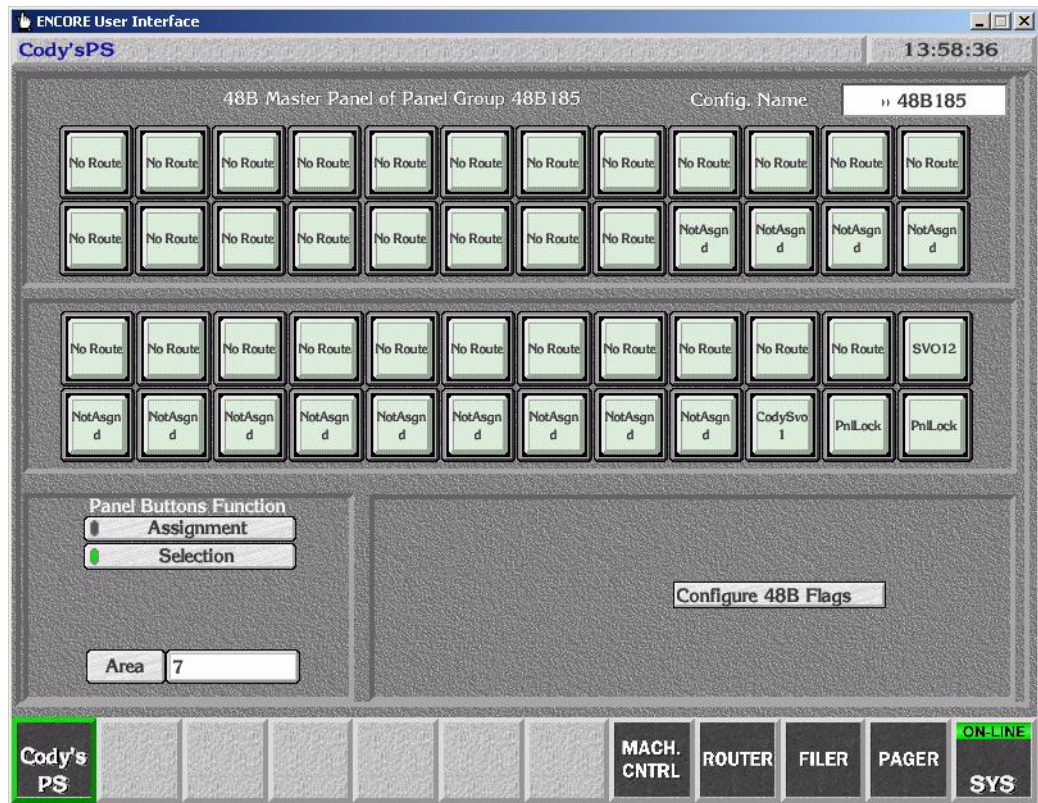
Figure 35. Control Settings of Panel Group Screen



13. Click the **Eject** button.

14. Configure the buttons on the Master panel.

Figure 36. Configure Master Panel Buttons Screen



MODIFY

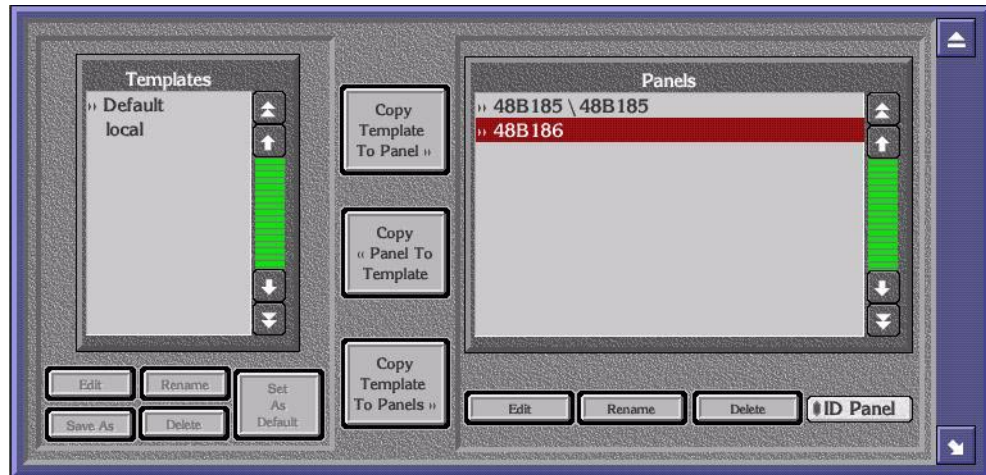
15. Click **Modify** button to save the Master panel configuration to the database.

SELECT

16. Click **Select** button.

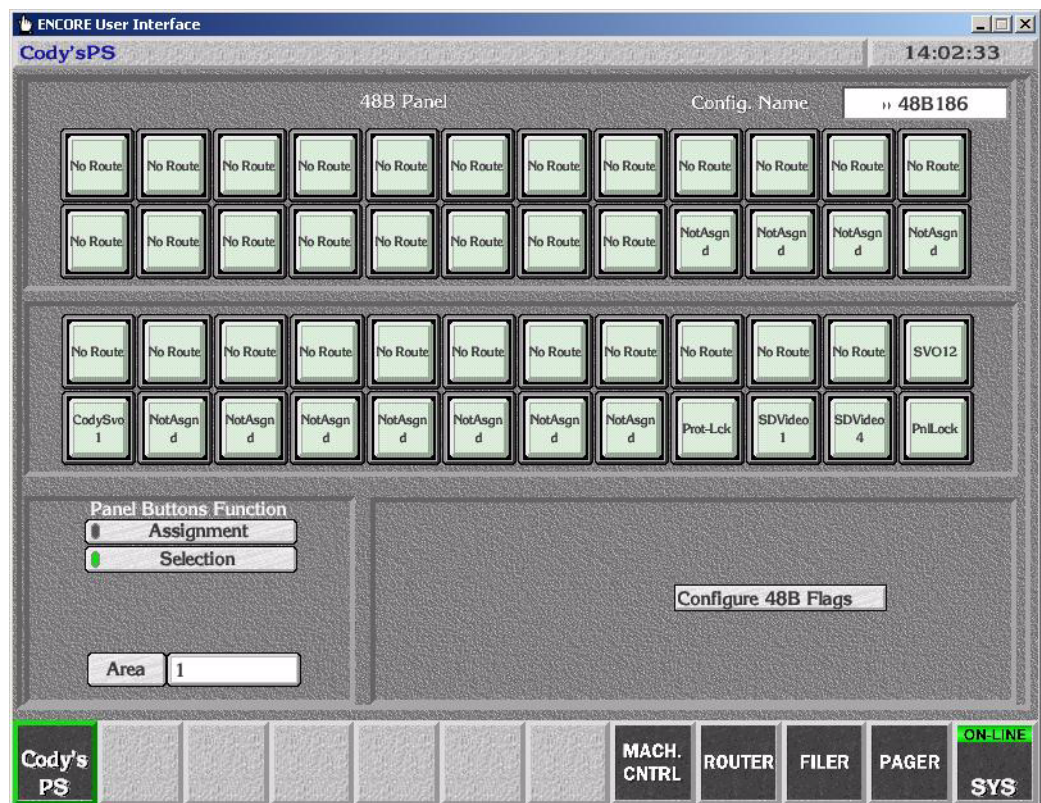
17. Highlight an active 48B control panel to add to the Master panel group as an expansion panel.

Figure 37. Edit Panels Screen



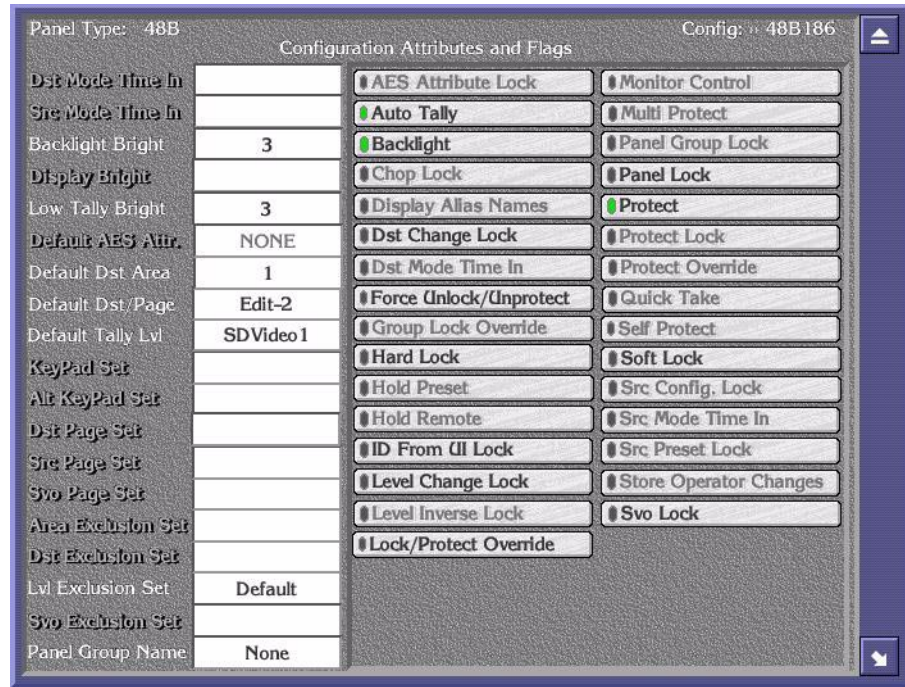
18. Click **Edit** button.
19. Click **Config 48B Flags** button.

Figure 38. Configure Panel Buttons Screen



20. Click the **Panel Group Name** attribute box.

Figure 39. Configuration Attributes and Flags Screen



21. Highlight the name of a Master panel group that you want to add the panel currently being edited to as an expansion panel.

Note Do not select the name of the expansion panel being edited.

Figure 40. Panel Group Names List Screen



22. Click the **Return** button.



23. Click the **Eject** button.

Once the panel is defined as an expansion panel the **Configuration Attributes and Flags** screen title will change to **Expansion panel of Panel Group Panel Group Name**.

The only available setting is **Panel Group Name**. All expansion panels belonging to a defined Master panel group will behave according to the configuration of the Master panel.

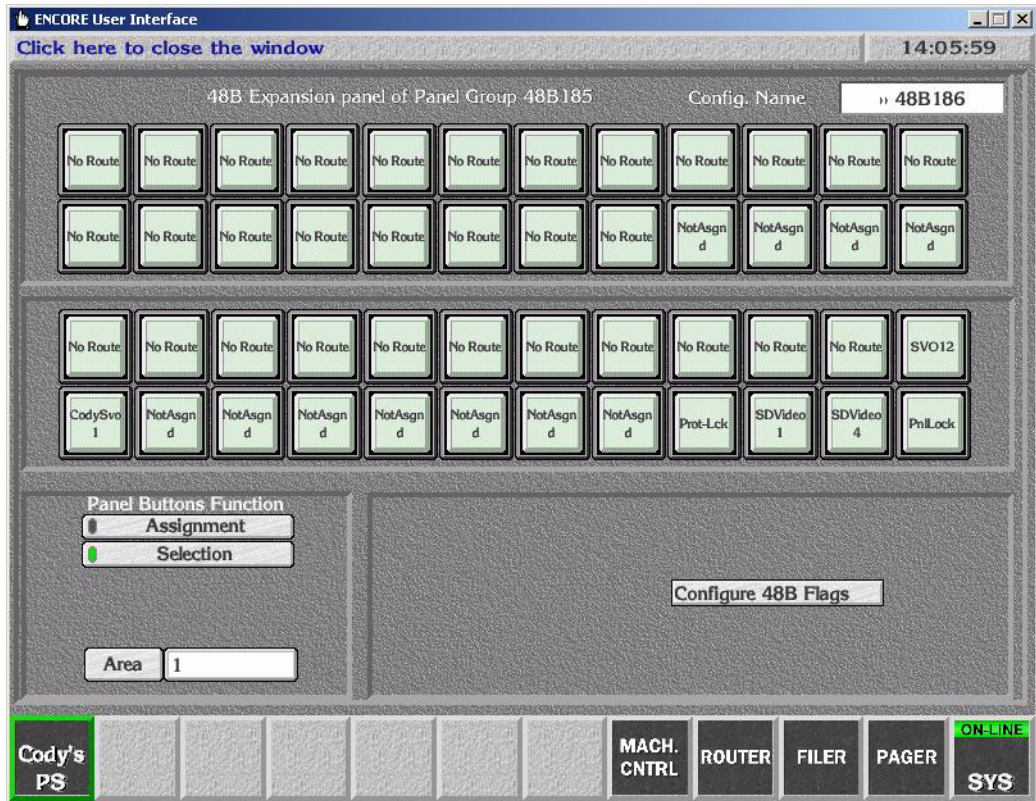
Figure 41. Expansion Panel of Panel Group Screen

Panel Type: 48B Expansion panel of Panel Group 48B185 Config: 48B186

Dst Mode Time In		<input type="checkbox"/> AES Attribute Lock	<input type="checkbox"/> Monitor Control
Src Mode Time In		<input type="checkbox"/> Auto Tally	<input type="checkbox"/> Multi Protect
Backlight Bright		<input type="checkbox"/> Backlight	<input type="checkbox"/> Panel Group Lock
Display Bright		<input type="checkbox"/> Chop Lock	<input type="checkbox"/> Panel Lock
Low Tally Bright		<input type="checkbox"/> Display Alias Names	<input type="checkbox"/> Protect
Default AES Attr.		<input type="checkbox"/> Dst Change Lock	<input type="checkbox"/> Protect Lock
Default Dst Area		<input type="checkbox"/> Dst Mode Time In	<input type="checkbox"/> Protect Override
Default Dst/Page		<input type="checkbox"/> Force Unlock/Unprotect	<input type="checkbox"/> Quick Take
Default Tally Lvl		<input type="checkbox"/> Group Lock Override	<input type="checkbox"/> Self Protect
KeyPad Set		<input type="checkbox"/> Hard Lock	<input type="checkbox"/> Soft Lock
Alt KeyPad Set		<input type="checkbox"/> Hold Preset	<input type="checkbox"/> Src Config. Lock
Dst Page Set		<input type="checkbox"/> Hold Remote	<input type="checkbox"/> Src Mode Time In
Src Page Set		<input type="checkbox"/> ID From UI Lock	<input type="checkbox"/> Src Preset Lock
Svo Page Set		<input type="checkbox"/> Level Change Lock	<input type="checkbox"/> Store Operator Changes
Area Exclusion Set		<input type="checkbox"/> Level Inverse Lock	<input type="checkbox"/> Svo Lock
Dst Exclusion Set		<input type="checkbox"/> Lock/Protect Override	
Lvl Exclusion Set			
Svo Exclusion Set			
Panel Group Name	48B185		

24. Configure the buttons on the expansion panel.

Figure 42. Configure Expansion Panel Buttons Screen



MODIFY

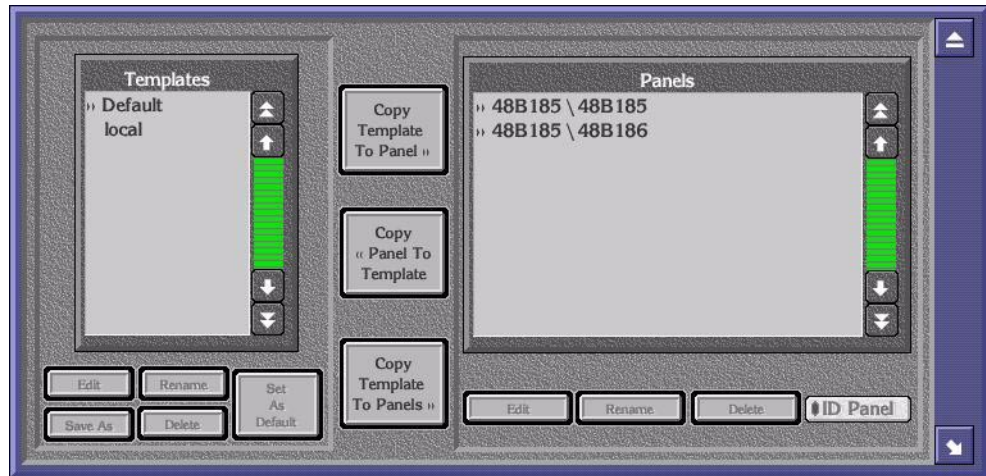
25. Click **Modify** button to save the Master panel configuration to the database.

Repeat [Step 16](#) to [Step 25](#) to add more expansion panels to an existing group, repeat [Step 5](#) to [Step 15](#) to create more Master panels.

Panel Group Identification

To verify which panels belong to a group go to the 48B edit screen. All panels belonging to a panel group have the name of the panel group pre-appended to the name of the panel. The master panel of the group will have the same name as the pre-appended group name. See [Figure 43](#).

Figure 43. Panel Edit Screen



Another way to physically identify panels belonging to a panel group is to flash all of the panel group's buttons using the **Backlight** button in the Master panel's **Control settings of Panel Group Panel Group Name** screen. Clicking the **Backlight** button will turn on and off the panel button lights on all the panels belonging to the group. By observing the physical panels while performing this step it will be easily recognizable which panels belong to the master panel being edited.

Figure 44. Control Settings of Panel Group Screen

Panel Type: 48B Config: " 48B 185

Control settings of Panel Group 48B 185

Dst Mode Time In		<input type="checkbox"/> AES Attribute Lock	<input type="checkbox"/> Monitor Control
Src Mode Time In		<input checked="" type="checkbox"/> Auto Tally	<input type="checkbox"/> Multi Protect
Backlight Bright	1	<input checked="" type="checkbox"/> Backlight	<input type="checkbox"/> Panel Group Lock
Display Bright		<input type="checkbox"/> Chop Lock	<input type="checkbox"/> Panel Lock
Low Tally Bright	2	<input type="checkbox"/> Display Alias Names	<input checked="" type="checkbox"/> Protect
Default AES Attr.	NONE	<input type="checkbox"/> Dst Change Lock	<input type="checkbox"/> Protect Lock
Default Dst Area	7	<input type="checkbox"/> Dst Mode Time In	<input type="checkbox"/> Protect Override
Default Dst/Page	No Route	<input type="checkbox"/> Force Unlock/Inprotect	<input type="checkbox"/> Quick Take
Default Tally Lvl	SDVideo1	<input type="checkbox"/> Group Lock Override	<input type="checkbox"/> Self Protect
Keypad Set		<input type="checkbox"/> Hard Lock	<input type="checkbox"/> Soft Lock
Alt Keypad Set		<input type="checkbox"/> Hold Preset	<input type="checkbox"/> Src Config. Lock
Dst Page Set		<input type="checkbox"/> Hold Remote	<input type="checkbox"/> Src Mode Time In
Src Page Set		<input type="checkbox"/> ID From UI Lock	<input type="checkbox"/> Src Preset Lock
Svo Page Set		<input type="checkbox"/> Level Change Lock	<input type="checkbox"/> Store Operator Changes
Area Exclusion Set		<input type="checkbox"/> Level Inverse Lock	<input type="checkbox"/> Svo Lock
Dst Exclusion Set		<input type="checkbox"/> Lock/Protect Override	
Lvl Exclusion Set	Default		
Svo Exclusion Set			
Panel Group Name	48B 185		

Miscellaneous Enhancements

NetConfig

NetConfig upgrade to 2.0 is part of this release. For documentation and more information about NetConfig, see the *NetConfig Instruction Manual*. An electronic copy is available on the Routing Products Documentation CD-ROM.

Trinix Control

Trinix control is supported through a Jupiter control system using the ES-switch protocol on RS-422. In this arrangement, the SCB provides ESswitch protocol commands on an SIO connection to a Jupiter VM-3000/CM-4000 control module, which in turn has a Thomson Crossspoint Bus connection to the Trinix. Essentially the VM/CM is used as a dedicated protocol converter.

Note If a VM/CM is used as part of an Encore control system, connecting the VM/CM to other control devices (e.g., Jupiter control panels) is not recommended (i.e., “Peer-to-Peer” applications are not supported).

Control using a direct Ethernet connection from Encore to a single-chassis Trinix will be supported with Trinix (Broadlinx) software version 2.0.1.

Concerto HD Interface

Control of a Concerto HD router is supported.

Auto Tally

An auto tally function for control panels has been added.

- Instead of “ALL Lvl,” the appropriate panels display “Auto Tly” when the Auto Tally flag is set on the panel’s “Configuration Attribute and Flags” menu.
- When enabled, auto tally causes the system to look at the level map for the selected destination(s) starting at level 1; the first configured and actively preset level found for the destination will be used as the tally level for that destination. E.g., assume the following levels are used in a system:

Level 1 = DV

Level 2 = DA

Level 3 = AV

Level 4 = AA

A “digital destination” would use levels 1 and 2; its tally level would be level 1. In the event of a breakaway Take operation such as deactivating Level 1 and performing a Take only on Level 2 Digital Audio (DA) the panel would tally on Level 2 to display the breakaway status.

An “analog destination” would use levels 3 and 4; its tally level would be level 3. In the event of a breakaway Take operation such as deactivating Level 3 and performing a Take only on Level 4 Analog Audio (AA) the panel would tally on Level 4 to display the breakaway status.

- If a level does not exist for a particular destination, the panel displays the message “NoDstLvl.”
- All current panel types (BPS, 48B, XY, and PMB) have this feature.
- If the Auto Tally flag is active on a panel configuration then it cannot be overridden at the panel itself. In other words a user cannot manually set the tally level in Source Mode of any panel type if Auto Tally is active.

Additional Keypad Set for XY Panel

A secondary keypad set has been added to the XY control panel. To use this second keypad set, one of the programmable button types needs to be configured as a “Shift A” button type. When the Shift A button is not illuminated the panel can use the existing primary keypad set. To use additional prefixes or suffixes in addition to this primary keypad set the user should press and illuminate the Shift A button; he or she will then have access to the secondary keypad set.

A keypad set screen pops up whenever the user clicks on the Alternate Keypad attribute in the configuration parameters and flags screen.

The user can click on any available keypad to select it as the Alternate keypad for the Current XY panel / template.

Procedure:

1. Open the CP Server OUI.
2. Go to Encore Panels > XY.
3. Click on "Select," select any active panel, and click "Edit."
4. Click on the "Configure XY Flags" button to access the Configure Attributes and Flags screen.
5. The Alt Keypad Set edit box is selectable and has a valid Keypad name.
6. Click on the keypad name; a Keypad Screen will appear through which the user can select a keypad.
7. The Selected keypad can be assigned as the Alternate Keypad and the currently selected XY panel will pick that up.
8. Go back to the main screen of the XY pane, select "Assignment" as the Panel Buttons Function and assign any of the eight programmable buttons as "Shift_A".
9. At the control panel, press the Shift A button to illuminate the button high Tally and use the secondary keypad set.
10. From the control panel press either the SRC or DST mode buttons to enter into either of these modes which use the keypad sets.
11. With the Shift A button illuminated high Tally then any keypad button press from the control panel will preset the appropriate secondary prefix or suffix set from the keypad set.

Database Name

Prior CP Server versions allowed the database name (PS DB Name field in the CP Server screens) to be empty (blank). However, This CP Server version does not accept blank DB names. When this CP Server starts up for the first time and finds a blank DB Name, it generates a default name and uses that name for saving the Database in flash and in Sharer. The Default DB name will be "Dfltxyz" where "xyz" is the LSB octet of the IP address of the Engine. For example, if the IP address of the Engine is 192.168.55.73, the Default DB name generated will be "Dflt073."

If the CP Server is configured as "Mirror" and if the Master's IP address entered is valid, the DB Name of the Master is automatically selected when the CP Server starts up again.

System Information Pane

Home Area

Similar to the Router Control application, the Home Area field in the CP Server is configurable. The user can click on the button to get a list of areas where Routing Service is currently available and select an area from the list. This selection is stored persistently. By default, the home area is set to Area 1. In CP Server versions prior to 1.6, this field was not configurable from the CP Server screen.

The home area affects control panel keypad sets only. Keypad set prefix and suffix set name lookups for destinations and sources must know what area the panel is operating in to compare name sets with the router database name sets. Each control panel can be assigned to any given home area so the associated keypad set will have access to the router database name sets in which it needs to access.

Encore ESswitch Control of Jupiter System

Application notes

- The “Address” field in Physical Matrix Configuration must be set to match the logical level in Jupiter. Otherwise, Encore only requests status for the first level.
- “Hardware Locks” must be turned on in the physical matrix configuration. Otherwise, if you lock an output on an Encore panel, the lock is not sent to the VM-3000 and the Jupiter side doesn’t see the lock.

Support for Automation Clients to Query for Salvos

This has been implemented in the RCL Server and tested with both Ethernet and serial clients.

1. Salvo commands: QV, Salvo_name - Query the Salvo status.

This command returns the salvo contents (namely the elements of the salvo along with the bitmap of the levels on which they are associated). An example of salvo elements that may comprise a salvo is shown below:

1. src1,dst1,00000003 (This salvo element comprises src1 and dst1 on levels 1 and 2.)
2. src5,dst6,00000007 (This salvo element comprises src5 and dst6 on levels 1, 2, and 3.)

For Automation clients operating in NP mode if the source / destination contained in the salvo element belongs to area other than the active area configured for the NP client the RCL Server will return "UNKSRC" / "UNKDST".

2. QN, V - Query the Salvo names.

This command returns the names of all the salvos that have been configured in the system.

3. TS, Salvo_name – Take Salvo.

This command allows the automation client to perform a take salvo using the salvo name.

RCL Server Enhancements

Active Area support for NP Clients

The RCL Server operates in two modes with respect to the Clients: NP and RCL. The RCL Server mode for a particular client is configured on the OUI in the "Flags and Parameters" screen by clicking the Protocol Type button and selecting "NP" or "RCL Protocol." **Currently the RCL Server supports only "NP" mode of operation for clients.**

In the NP mode of operation the clients can connect to the RCL Server and perform operations only on the configured area. This is also configured as part of the "Flags and Parameters."

Until Encore 1.5.2 RCL Server supported operations only on "area 1" for all connected clients. However with this release the RCL Server allows clients to configure the area on which it will operate. This is called the active area for the client.

The router control application (on the area configured as the active area for the NP client) should be online before a client can connect to the RCL Server and get proper response for the commands it sends.

The RCL Server supports the NP commands as listed in the Native Protocol document except the below mentioned command list.

Commands that Will Not Be Implemented in Encore RCL Server:

BK,A - Clears the flags associated with the "QD, no parameter" command. After which the next QD, no parameter command sent will return all assignment status.

AS - Assigns the machine control using (destination name, source name).

DA - Removes machine control using (destination name, source name).

QA - Returns machine assignment status for one or all destinations using (destination name or blank for all destinations).

Software Installation

Note Before starting software installation, please review the network wiring discussion starting on [page 7](#).

General instructions for software upgrade or installation are located in the *Encore Control System User Manual, Section 1, "Setting up Encore and Configuring Your Network."* Since Section 1 is 73 pages in length, it is not duplicated here. Instead, the following procedure refers to instructions in Section 1 in general terms and installation issues related specifically to this release are presented in detail.

Note Control panel configurations stored in the CSV format cannot be imported or exported. Older control panel configurations from previous versions are converted on initial installation of this release so as to be compatible with the newer version of software.

Upgrading from Version 1.X to Version 1.6.1

CAUTION During the following procedure your system will be taken off line. Router status will not change, but switching and control commands should be deferred until software installation is complete.

1. Quit all Encore programs on the configuration PC, including Sharer.
2. Rename the "C:\Omn" directory (in order to create a backup).

This step is done to ensure system configurations are not lost or corrupted during the upgrade process. (It is always a good idea to back up your OMN directory for recovery purposes.)

3. On the PC, open "Control Panel > Add/Remove Programs."
 - a. Uninstall "Encore" (using "Automatic" uninstall method).
 - b. Uninstall "Omnibus Base."
 - c. Uninstall "Omnibus Sharer."
 - d. Uninstall "OUI 4.30.16" (Automatic method).

Note The program names "Encore" and "OmniBus Base" may remain in the program list even though they have been uninstalled.

4. Delete the following directories:
 - a. C:\OmniBus.
 - b. C:\Program Files\Grass Valley Group\Encore.
 - c. C:\Program Files\Grass Valley Group\NetConfig (if present).

5. Install the new version of Encore.

General instructions for software upgrade are located in the *Encore Control System User Manual, Section 1*. Follow the steps in the “Installing Encore Software” section using the default options except:

- Choose to install the “Sharer” option.
- On the “Choose Window Size” dialog, choose the size that best fits your PC monitor size as this determines the OUI display size, which cannot be minimized. “Medium” is recommended for most situations.

Note You may see a question about exiting in order to uninstall “Site Manager.” Answer “No.”

Upon completion of the installation the PC may require a reboot; if so the PC will so indicate.

In any case, **stop** when you reach the “Completing a VxWorks Installation” in the manual. That procedure will be done later in this sequence.

6. On the PC, do NOT run any of the Encore applications (ensure all Encore applications are closed) at this time.

7. If you are adding a second SCB or have made other hardware changes:

- a. Install the new SCB in the controller frame at this time.
- b. Follow the *IP Address Assignments* procedure beginning on [page 15](#). Then return to [Step 8](#) below.

CAUTION If the Encore configuration PC is using Windows 2000 (Service Pack 4), mapping a drive from the PC to the Encore System Controller Board (SCB) is disabled until the *Windows 2000 Service Pack 4, SCB Upgrade on page 79* is completed for each SCB in the system. This procedure must be done before the next step.

8. The new software must now be loaded into the SCB(s) flash memory:

- a. On the PC, map drive(s) to the controller(s) if mapped drives do not exist. (This process is detailed under “Completing a VX Works Installation” in Section 1 of the manual.)
- b. Use Windows Explorer to open the original SCB’s mapped drive and delete the “encore.zip” file if it exists.

- c. Copy the contents of the “Encore Image” folder to flash memory (if prompted to overwrite existing files choose “Yes to All”—files such as “GUI data” and “GUI token” must be overwritten).

You may see an error message that a particular file cannot be copied because “the specified network name is no longer available.” Try copying the files again.

In the case of redundant SCBs, files must be copied to the flash memories of both units.

- 9. Reboot the SCB(s) using the white “Reset” push button on the front left area of the boards.
- 10. Update the software on the control panels (This process is detailed under “Loading or Updating Panel and Concerto Software” in Section 1 of the manual.):

- a. Run NetConfig.
- b. Select the 'LoadSW' icon, then select the appropriate device type of Encore Panel types purchased (10BaseT or 100BaseT).

You should see a list of all panels and their IP addresses; all should be selected for updating.

If you have rewired the panels, added new panels, or for any reason do not see all panels in the list, try selecting “Refresh.” If panels are still missing, see [IP Address Assignments - Control Panels on page 18](#) before continuing. (You must see all panels before you can update their software.)

- c. Select “Re-Boot when complete” and “Update.”

When this step is completed all devices listed in NetConfig should show “v.V1.6.1” as the device software version.

- 11. On the PC, run Windows Explorer and rename the “C:\OMN” directory to “C:\OMN161.” Then rename the backed up (previous) C:\OMN directory from [Step 2](#) of this process to its original name (C:\OMN).
- 12. On the PC, run “Release Sharer,” “System Manager,” and “OUI” applications.
- 13. If you are installing a redundant system, perform the steps in [OUI Configuration Procedure for Redundancy on page 19](#). Then return to [Step 14](#) below.
- 14. After installing this release, if no salvo has ever been created before, and a salvo is created on a Local Router Panel, it does not get updated to the Control Panel Server. To avoid this problem, create a dummy salvo and reboot the system. Salvos that are entered after that are immediately seen on the CP Server.

- 15.** If NetCentral is to be used to monitor the Encore system, please refer to [NetCentral/SNMP on page 40](#).
- 16.** This completes the upgrade process.

Windows 2000 Service Pack 4, SCB Upgrade

To meet the new Microsoft Service Pack 4 changes, modifications are required in the Encore SCB. To download these changes to the System Controller Board you must FTP the Encore image file from the PC to the SCB using a DOS command window.

1. Run a DOS command shell from the configuration PC.
2. Change the directory path to the installed location of Encore. The default directory is:
C:\Program Files\Grass Valley Group\Encore\Encore Image
3. At the DOS prompt enter:
ftp xxx.xxx.xxx.xxx
press **return**, (xxx.xxx.xxx.xxx is the IP address of the SCB).
4. Enter login name, press **return**. The default login name is encuser.
5. Enter login password, press **return**. The default password is encuser.
6. At the ftp prompt enter: bin, press **return**, to force a binary transfer of files.
7. At the ftp prompt enter: put encore, press **return**.

The following should be observed:

```
ftp> put encore
200 Port set okay
150 Opening BINARY mode data connection
226 Transfer complete
ftp: xxx bytes sent in xx.xx seconds xxxbytes/sec.
ftp>
```

8. At the ftp prompt enter: quit, press **return**. This will disconnect the SCB.
9. Reboot the SCB.
10. Repeat [Step 3](#) to [Step 9](#) for each SCB in the system being upgraded.
11. Enter exit, press **return**, to close the DOS shell command window. Do this only after all SCBs in the system have completed this procedure.
12. Go to [Step 8](#) on [page 76](#) to complete the software upgrade.

Related Documents

- *Encore Version 1.5 Installation and Service Manual*, March 7, 2002; part no. 071810302.
- *Encore Version 1.5 User Manual*, March 7, 2002; part no. 071810402.

These manuals, as well as release notes for previous versions of software, can be found on the CD-ROM supplied with these release notes. They are also located at <http://www.thomsongrassvalley.com/docs>.

TAR Error Messages

Since TAR files are introduced in 1.6.0, the system will display error messages regarding the Panel Server's database on the SCB's console log when it is started for the first time with 1.6.0 software in it. The error messages are in conjunction with the new method of compressing the database psApp.tar for data synchronization of the Panel Server system. If the steps to migrate from older versions to V1.6.0 are followed as listed in the Release Notes, these messages will not (and should not) be seen during subsequent reboots:

Can't open input file "C:/psAppTar" errno = 0x388002

Can't open input file "C:/psAppTar.bkp" errno = 0x388002

APPLICATION ERROR LOG: Capsule class: CapDBFileHandler, role: capFileHandler, index: 0

State: TOP, transition: Unable to rename the file

APPLICATION ERROR LOG: Capsule class: CapPanelConfigDatabaseContainer, role: capPanelConfigDatabaseContainerR1, Can't open input file "C:/psAppTar" errno = 0x388002

APPLICATION WARNING LOG: Capsule class: CapPanelConfigDatabaseContainer, role: capPanelConfigDatabaseContainerR1, index: 0

State: WaitForSharerSyncS, transition: reloadPSDBFromSharer: unable to rename the archive file for back up

APPLICATION WARNING LOG: Capsule class: CapPanelConfigDatabaseContainer, role: capPanelConfigDatabaseContainerR1, index: 0

State: WaitForSharerSyncS, transition: reloadPSDBFromSharer: Unable to reload the file from Sharer

APPLICATION ERROR LOG: Capsule class: CapDBFileHandler, role: capFileHandler, index: 0

State: TOP, transition: Unable to rename the file

Troubleshooting

Error Messages

For a description of encore error messages, including RCE error messages, please contact Thomson.

Showing Status of SNMP Agent

If the SNMP Manager is not able to communicate with the SNMP Agent then the **showSNMPStatus()** command can be used to find out the status of the agent.

Status of the SNMP Agent could be one of the following:

Not started: SNMP Agent has not started.

Running: SNMP is running successfully.

Communication suspended with the SNMP Manager: Agent is unable to communicate with any of the SNMP Manager because request task is suspended.

Possibly incorrect results: results returned by the SNMP Agent are may not be correct as either/both of Action/Polling task is suspended.

Status of Polling/Action/Request task could be one of the following:

READY Task is not waiting for any resource other than the CPU.

PEND Task is blocked due to the unavailability of some resource.

DELAY Task is asleep for some duration.

SUSPEND Task is unavailable for execution (but not suspended, delayed, or pended).

DELAY+-S Task is both delayed and suspended.

PEND+-S Task is both pended and suspended.

PEND+-T Task is pended with a timeout.

PEND+-S+-T Task is pended with a timeout, and also suspended.

...+-I Task has inherited priority (+-I may be appended to any string above).

DEAD Task no longer exists.

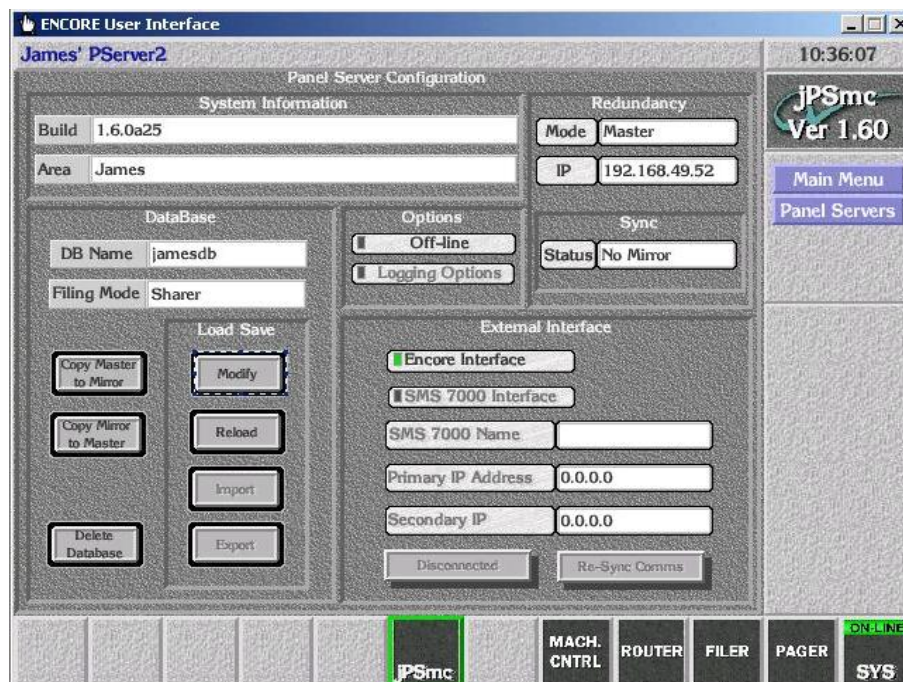
Modify Buttons on the Panel Server OUI Screens

Modify buttons

The Modify buttons appear in various screens of Panel Server OUI. This document attempts to classify and describe the buttons. The Modify buttons can be classified in to 3 categories.

- 1.The global modify button on the Panel Server screen
- 2.The modify buttons in the Panel Configuration screens
- 3.The modify buttons in the global Configuration screens

Global modify button on the Panel Server screen



The modify button in this screen serves a database maintenance purpose. On clicking this button, the Panel Server will copy the database residing in its flash to the sharer. This function can be used in the following scenarios:

1. To update the copy of this panel server's database residing on the sharer. This will be especially useful if the Panel Server started when the Sharer was offline. After the panel server startup, one or more configurations have changed before the sharer came online. In this case, the modify operation will ensure that the copy of database on the sharer is also up to date.
2. The Modify operation as well as Reload operation can promote the filing mode from 'local' to 'sharer' mode. If the modify operation is successful, the filing mode will be promoted to sharer mode automatically. Note that filing mode has to be in 'sharer' mode for most of the configuration changes to go through.
3. When the database is imported from an external source, it is necessary to hit this modify button so that the newly imported database is copied on to the sharer too. Note that, the import operation will only copy the database in to the Panel server's memory as well as flash. And the import and export operations will not be supported in 1.6 release.
4. Modify operation on this screen has to be necessarily performed whenever the user changes the **DB name**. When the DB Name is changed, the location of the copy database residing on the sharer also changes. Hence it is necessary to update the sharer's copy with that on the flash.
5. Modify operation is also required during software upgrades to specific Encore releases. For example, to upgrade to version 1.6 from the earlier versions of Encore, it is necessary to perform this modify operation in order to be able to continue to use the existing configurations. The details can be found in the respective release notes.

Modify buttons in the Panel Configuration screens



As shown in this picture, the configuration for each panel type has a right hand menu item labeled 'Modify'. This modify button will commit the changes done on the panel template or configuration on to the database. Given below are the important facts to keep in mind about modify menu item in these screens.

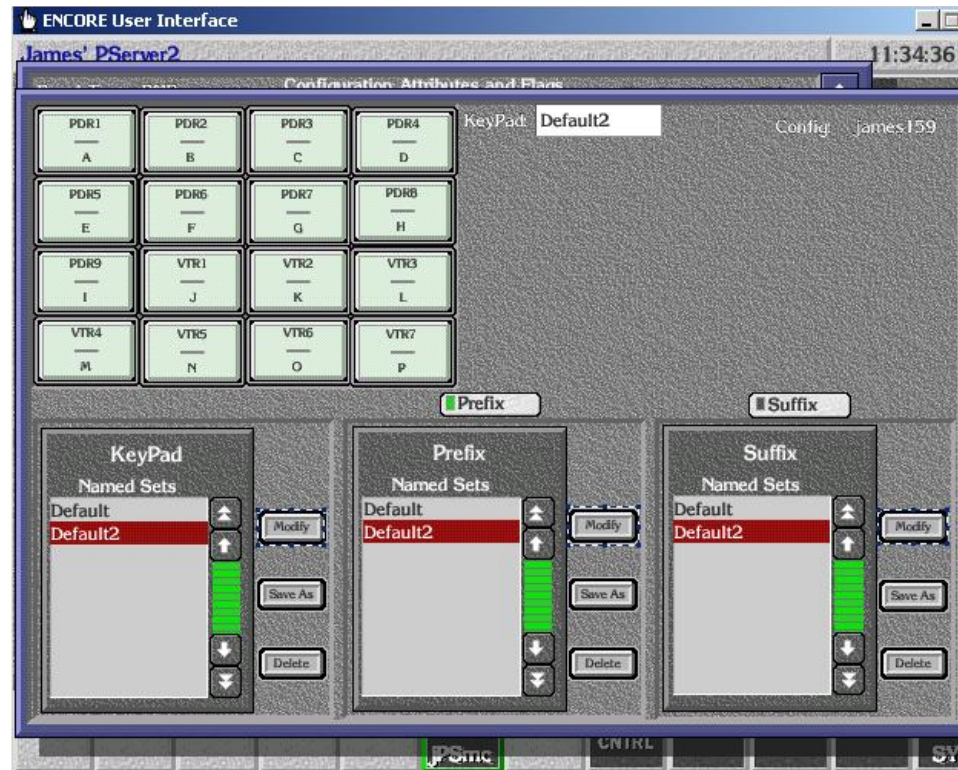
1. Clicking on the Modify menu item in these screens will only save the current Panel configuration or template being selected. If the user changes one or more parameters of a selected template or configuration and attempts to select another template without saving the current one; he/she will be prompted to save or discard the changes he/she did. However, if the user selects a different template or panel, edits the same and hit on modify button, only the currently selected panel or template is saved.

2. This modify operation will save changes to Panel template or configuration such as button assignments, button selection, flags as well as any changes to global configuration items which are **being used by the template or configuration**. For example, say, keypad set 'VTRs' is being used by the currently selected panel configuration. Suppose user goes to the keypad screen and edits VTRs settings. When this modify button is pressed, the changes to keypad set VTRs are also saved along with any other changes to the panel configuration. However, suppose the user also makes changes to a keypad set named 'PDRs' when he/she is in keypad configuration screen, but the currently selected panel is not currently using

the keypad PDRs. Then the changes to PDRs will not be saved by this Modify operation. User must click on the Modify button within the Keypad configuration screen in order to save the changes to the keypad set PDRs.

3. This Modify operation saves the changes on to the copy of database on the sharer as well as the flash. The operation will not be permitted if the sharer is not online or the filing mode is local. The operation is also not permitted if the panel server is configured as Mirror. If the Panel Server is in master mode and if the mirror is online, the changes are automatically saved on to the flash of mirror as well.

Modify buttons in the global configuration screens



The configuration element such as Keypad sets, prefix sets, suffix sets, source/destination/salvo pages and page sets, exclusion sets are referred to as global configurations as a single configuration can be used by zero or more panels. Changing these may affect zero or more panels, which are using the configuration element. The modify buttons in all of these screens can be categorized in to one. The picture above shows the modify buttons appearing in the keypad configuration screen. The important facts about these modify buttons are given below.

1. Clicking on these modify buttons will only save the respective configuration item and does not save any other (related or unrelated) configuration items. For example, in the keypad configuration screen, clicking on the modify button to the right of the keypad list will only save the keypad set

selected (highlighted in Red). This button will not save any changes to associated prefix set or suffix set. Similarly, the modify button for a page set will save only the page set and not any changes to the pages.

2.The modify operation if successful, will make sure that all panels which are using the global configuration item in question will reload the same from the database if they are using the configuration.

3.This Modify operation saves the changes on to the copy of database on the sharer as well as the flash. The operation will not be permitted if the sharer is not online or the filing mode is local. The operation is also not permitted if the panel server is configured as Mirror. If the Panel Server is in master mode and if the mirror is online, the changes are automatically saved on to the flash of mirror as well.

Configurations saved without hitting a modify button

Few configurations are save instantly when they are changed. These do not have a modify button associated and do not require clicking on a modify button. These items are listed below on screen-by-screen basis. All the configurations require filing mode to be Sharer unless specifically mentioned.

Panel Server screen

1.Redundancy parameters including offline status are saved automatically upon closing the screen. The parameters are saved on to the database. However for the system to use any changes to the redundancy mode as well as IP address of the mirroring partner, it is necessary to bring the panel server on line or re-start the panel server.

2.The database name is saved automatically upon closing the screen. This can be changed even when the filing mode is local. However, for the panel server to start using the new DB name, a modify operation from the Panel Server screen (this screen) is necessary.

3.The Home **Area** of Panel server is saved automatically upon closing the screen

RCL Server screen

1.RCL Client names are saved automatically upon closing the screen

2.RCL Client parameters are saved automatically to the database as soon as a user dismisses the screen. However, in order for the system to use the new parameter, a 'Re-Sync Comms' operation may be necessary on the selected client.

Appendix - FAQs

1.Do all of the modify buttons do the same thing?

A: No. See pictures and explanations above.

2.Does the modify button save to the flash?

A: Yes, except for the Modify button on the Panel Server screen.

3.Does the modify button save to the Sharer?

A: Yes. All Modify buttons save to the Sharer.

4.Does the modify button save to both the flash and the Sharer?

A: Yes, except for the Modify button on the Panel Server screen which does not save to flash.

5.Does the modify button update all associated (global data item change) configurations that may share the configuration item data?

A: Only the Modify operations in Panel Configuration screens. Read the description above.

6.How do I know from the OUI screen indications where the data was saved to after I press one of the modify buttons?

A: Data will be saved to a system-controlled file in the SCB flash.

7.Does the Save As button save to the flash?

A: Yes. They save the configuration with new name in to flash, Sharer and the mirror (in case of master-mirror operation). These operations are also not allowed if the filing mode is local.

8.Does the Save As button save to the Sharer?

A: Yes.

9.Does the Save As button save to both the flash and the Sharer?

A: Yes.

10.Does the Save As button update all associated (global data item change) configurations that may share the configuration item data?

A: Yes in case of Save As button on Panel Configuration screens but only for the highlighted new save as item

11.How do I know from the OUI screen indications where the data was saved to after I press one of the Save As buttons?

A: Data will be saved to a system-controlled file in the SCB flash.

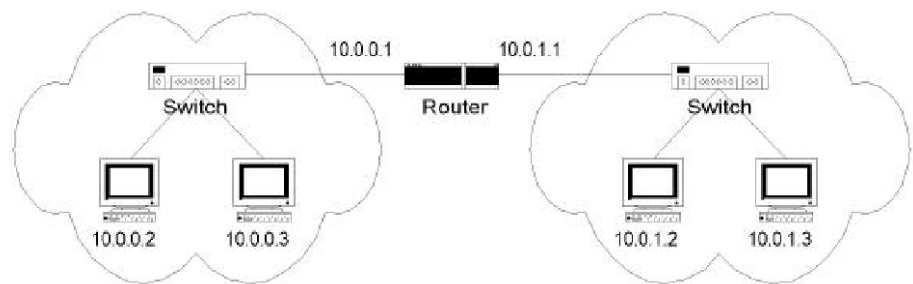
12.What are the differences in pressing a Save As versus a Modify?

A: Save as creates a new configuration by copying the contents from an existing one. Only the name of the configuration will be different.

Network Application Note - Router Broadcast Forwarding

By default, network routers block broadcasts. Most network routers can be configured to forward broadcasts to a specific network address. [Figure 45](#) illustrates a LAN consisting of two switched sub-networks connected by a router.

Figure 45.



Broadcasts in the 10.0.0 subnetwork are blocked, by the router, from the 10.0.1 subnetwork and broadcasts in the 10.0.1 network are blocked from the 10.0.0 network. The gateway address for nodes in subnet 10.0.0 is 10.0.0.1 and for nodes in subnet 10.0.1 the gateway address is 10.0.1.1.

Assume that node 10.0.0.2 has a requirement to receive broadcasts from nodes 10.0.1.2 and 10.0.1.3. The router can be configured to forward broadcasts from any node in the 10.0.1 subnetwork using the “ip helper-address” command.

Assuming a Cisco Router the command will be:

```
ip helper-address 10.0.0.2
```

By default the router will now forward the following UDP ports:

Table 5.

UDP Port	Name
37	Time Protocol
49	TACACS
53	DNS
67	BOOTP Client
68	BOOTP Server
69	TFTP
137	NetBios
138	NetBios Datagram

Let's say that node 10.0.0.2 is a Omnibus File Sharer and it doesn't want to see broadcasts on the default ports but rather on ports 1016 and 1023. If the default ports are unavailable on the File Sharer, 10.0.0.2 will generate an ICMP Port Unreachable error message for each each message sent to one of the default ports.

To avoid this problem and forward only desired ports to 10.0.0.2 the router can be further configured to block any or all of the default ports and forward ports 1016 and 1023.

Again, assuming a Cisco Router, the following command syntax will be used to add ports 1016 and 1023 to the list of ports that will be forwarded:

```
ip forward-protocol udp 1016
ip forward-protocol udp 1023
```

The router will now forward broadcasts on ports 37, 49, 53, 67, 68, 69, 137, 138, 1016, and 1023. We now wish to block forwarding of ports 37, 49, 53, 67, 68, 69, 137, and 138. We can use the ip forward-protocol command to accomplish this task.

The following command sequence will remove the undesired ports from the forwarding list:

```
no ip forward-protocol udp 37
no ip forward-protocol udp 49
no ip forward-protocol udp 53
no ip forward-protocol udp 67
no ip forward-protocol udp 68
no ip forward-protocol udp 69
no ip forward-protocol udp 137
no ip forward-protocol udp 138
```

The router will now forward only broadcasts to ports 1016 and 1023.

This provides broadcast forwarding in only one direction, from nodes in the 10.0.1 subnet to node 10.0.0.2 in the 10.0.0 subnet. So what if we want the nodes in the 10.0.1 network to see port 1018 broadcasts from the File Sharer in the 10.0.0 subnet?

The following command sequence will provide the required forwarding:

Setup forwarding:

```
ip helper-address 10.0.1.2
ip helper-address 10.0.0.3
```

Specify port(s) that will be forwarded:

```
ip forward-protocol udp 1018
```

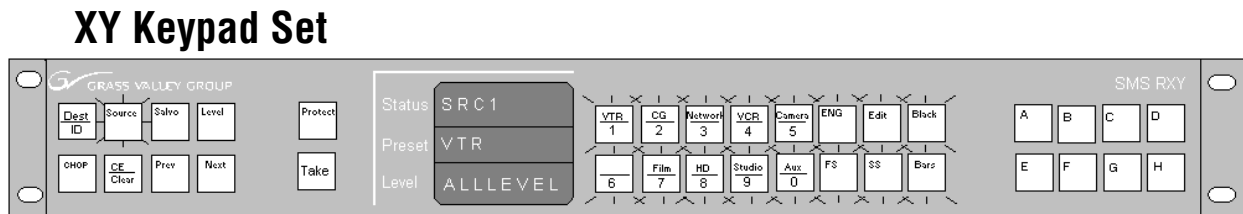
Specify port(s) that will be blocked:

```
no ip forward-protocol udp 37
no ip forward-protocol udp 49
no ip forward-protocol udp 53
no ip forward-protocol udp 67
no ip forward-protocol udp 68
no ip forward-protocol udp 69
no ip forward-protocol udp 137
no ip forward-protocol udp 138
```

The router will now forward port 1018 broadcasts to nodes 10.0.1.2 and 10.0.1.3. All other broadcasts in the 10.0.0 subnet will be blocked from the 10.0.1 subnet.

Note that the command syntax for configuring HP routers is similar or identical to those used in the examples above. HP refers to this feature as “UDP Helper.”

Keypad Set Usage



When designing a routing system it is common (and highly recommended) to have a systematic naming convention for sources, destinations, etc. A well-defined naming convention allows for easier management of facility resources as well as provides logical association for users to understand.

A typical example of this would be to have resources such as a Video Tape Recorder (VTR) having a source/destination naming convention of the first three characters be defined as 'VTR'. In this way a user seeing the prefix 'VTR' on a named source or destination would understand that the resource is a video tape recorder. The larger the number of routing sources and destinations a facility has, the more important a good naming convention becomes.

The larger a facility gets the more of a challenge it becomes to manage all of the signals being routed throughout the facility. When there are hundreds or thousands of sources and destination names it becomes time consuming to sort through these names using a simple control panel scrolling mechanism like the previous and next function on control panels. Therefore a simplified search method was incorporated into routing control panels that helps to manage large numbers of source and destination names. This method uses configurable alphanumeric prefixes and suffixes that take advantage of systematic naming conventions. Using keypad sets quickly reduce the search time required to find a given source or destination name.

Using the 'VTR' example mentioned above, a user may configure a control panel's keypad button to contain the prefix 'VTR'. By pressing the keypad button down once, the prefix 'VTR' will be displayed in the preset window.

With this prefix entered now the previous and next buttons will only scroll through names that begin with 'VTR'. Prefixes can be configured for up to 8 characters.

Another associated feature is the keypad suffix set. Suffixes can be configured for up to 8 alphanumeric characters as well. When the preset window is cleared the first press of a keypad button will display that buttons configured prefix characters, however the second and subsequent keypad button presses will append the pressed button's configured suffix characters to the existing prefix name displayed. In this way a source or destination can be grouped into even smaller areas of control.

For example, if there are VTRs in two different rooms, the first room's VTRs could be prefixed 'VTR1' and the second room's VTRs could be prefixed 'VTR2'. By assigning a prefix of 'VTR' and suffixes of '1' and '2' to different keypad buttons you would then be able to scroll through only VTRs available in room 1 versus room 2 or search for VTRs contained in all rooms. To do this configure the first keypad button to have a prefix of 'VTR' and a suffix of '1' and configure the second keypad button to have a suffix of '2'.

To scroll through only VTRs in room 1, simply press the first keypad button twice in succession (the first press displays 'VTR' and the second press will display 'VTR1') then simply use the previous and next buttons to scroll through available VTRs in room 1.

To scroll through VTRs available in room 2, ensure the preset is cleared and press the first keypad button once then press the second keypad button (the first press displays 'VTR' and the second press will display 'VTR2') then simply use the previous and next buttons to scroll through available VTRs in room 2.

To scroll through VTRs in both rooms clear the preset display and simply press the first keypad button (display 'VTR') and use the previous and next buttons to scroll through all available VTRs.

Keypad buttons are configured using keypad sets. A keypad set is defined as 16 dedicated buttons (2x8 or 4x4) and is comprised of a named prefix set and a named suffix set. Once configured, a keypad set can be dynamically applied to one or more control panels. This provides an easy method of configuration changes. For example if a new naming convention is used or new equipment is added to a facility Encore provides an easy method for adding a new prefix or suffix to an existing keypad set and that change is propagated to all control panels that are using that defined keypad set, prefix set or suffix set, without any additional effort by the user. This prevents having to re-configure all of the facilities control panels one by one. Since Encore control panels perform live dynamic updates without having to reboot the system this configuration change is seamless to other facility users.

How to configure a keypad set

From the configuration PC run the OUI application and select an active Panel Server -> Encore Panels -> then either XY or PMB. Then select a panel to configuration to edit.

From the panel configuration edit screen select the 'Configure xx Flags' button to edit the 'Configuration Attributes and Flags' screen. From the Configuration Attributes and Flags screen select the 'Keypad Set' attribute. This will bring up the Keypad Set configuration screen. (Screen shots should be added)

From the 'Keypad named sets' list select the 'Default' keypad set and then select 'Save As' to create an editable keypad set. Named sets are 8 characters or less. Repeat these steps for the 'Prefix Named Sets' and 'Suffix Named Sets'.

With these new user editable configurations for prefix, suffix and keypad set available select (highlight) the newly created prefix set from the 'Prefix Named Sets' list. Press the 'Prefix' button directly above this list (button illuminates green) to start editing the prefix set. Select anyone of the 16 prefix buttons displayed at the top of the screen in order to display a 'Prefix Configuration' text editor screen. From the text editor screen enter up to 8 characters for each prefix button. Once completed with prefix button configurations press the 'Modify' button on the 'Prefix Named Sets' list area. This will save your changes to the named prefix set. This will also update any control panel using this named prefix set.

Now select the newly created suffix set (highlight) from the 'Suffix Named Sets' list. Press the 'Suffix' button directly above this list (button illuminates green) to start editing the suffix set. Select anyone of the 16 suffix buttons displayed at the top of the screen in order to display a 'Suffix Configuration' text editor screen. From the text editor screen enter up to 8 characters for each suffix button. Once completed with suffix button configurations press the 'Modify' button on the 'Suffix Named Sets' list area. This will save your changes to the named suffix set. This will also update any control panel using this named suffix set.

Now select the newly created keypad set (highlight) from the 'Keypad Named Sets' list and ensure the new prefix set and suffix set are also highlighted, then press 'Modify' on the 'Keypad Named Sets' list window.

This will associate the named prefix set and named suffix set to the named keypad set. This will update any control panel using this named keypad set to now include the modified prefix set and suffix set.

By selecting a keypad set and exiting the Keypad set configuration screen, the control panel being edited will now be assigned the selected keypad set.

Monitoring with Third-party SNMP Managers

Apart from Thomson Grass Valley's NetCentral SNMP Management platform, any other industry-standard SNMP Manager can monitor Encore devices (Encore SCB).

For general installation and configuration instructions, please contact your SNMP Manager Software vendor. When used with Encore, the SNMP agents should be configured to send alarms to the corresponding SNMP Manager. The Encore installation CD comes with the following MIBs:

- a. GVG-ELEMENT-MIB
- b. GVG-REG-MIB
- c. ENCORE-SCB-MIB

Add all the above MIB files to the MIB repository of the SNMP Manager you use.

Registering other SNMP Managers in the agent database

In the GVG-ELEMENT-MIB, a trap target table is defined to store the IP Addresses and community names of the SNMP Managers intended to receive Traps from Encore devices. To add SNMP Manager to SCB SNMP agent, please follow these steps:

Adding new SNMP Managers

- Send a GET request for *gvgTtCfgTableNextIndex* variable defined in GVG-ELEMENT-MIB e.g.: if it returns 2.
- Create a new Row in the Trap target table by sending a SET request for the *gvgTtCfgEntryStatus(1.3.6.1.4.1.4947.2.1.3.3.1.4).index*, where index is the value returned in the step 1 above.

E.g.: in this case generate a SET request for 1.3.6.1.4.1.4947.2.1.3.3.1.4.2 wherein 2 is the next available index, syntax is INTEGER32 and set the value as 5 (*create and wait*), if the SET request is successful proceed to next step.

- SET request could be unsuccessful:
- If the row for the above index already exists.
- If the number of registered Managers count in SNMP Agent database has reached the maximum allowed number. A maximum of 5 managers can be registered at any point of time. All the subsequent attempts to register additional managers will fail unless existing managers are deleted from it's database.
- Send a SET request for *gvgTtCfgIpAddress* (1.3.6.1.4.1.4947.2.1.3.3.1.2).*index*, where index is the value returned in the step 1 above.
- E.g.: in this case generate a SET request for 1.3.6.1.4.1.4947.2.1.3.3.1.2.2 wherein 2 is the next available index, syntax is IPADDRESS and enter the IP Address of the SNMP Manager to be registered, if the SET request is successful proceed to next step.
- SET request could be unsuccessful:
- If the above IP Address is already present in the Trap target table.
- Send a SET request for *gvgTtCfgCommunity* (1.3.6.1.4.1.4947.2.1.3.3.1.3).*index*, where index is the value returned in Step 1 above.

E.g.: in this case generate a SET request for 1.3.6.1.4.1.4947.2.1.3.3.1.3.2 wherein 2 is the next available index, syntax is OCTET STRING and enter the community string that would be used for the communication between SCB and SNMP Managers. If the SET request is successful proceed to the next step; you are all set to receive the Traps.

Deleting SNMP Managers

You may wish to delete the SNMP Managers:

1. If the Machine running the SNMP manager's IP Address is changed.

2. If you no longer wish to monitor the SCB from some of the SNMP managers.
3. If you wish to add more SNMP managers but the SNMP agent does not allow you to add additional SNMP Manager's as the Maximum managers are already registered. You may want to delete some of the SNMP managers which you no longer use.

If you find yourself in any of the above situations please follow the steps given below:

- Walk through the *gvgTtCfgIpAddress* and note the index of the row you would like to delete.
- Delete the above selected Row from the Trap target table by sending a SET request for the *gvgTtCfgEntryStatus* (*1.3.6.1.4.1.4947.2.1.3.3.1.4.index*, where index is the value returned in Step 1 above, syntax is INTEGER32 and set the value as 6(*destroy*). If the SET request is successful then you may add new SNMP Managers as described above.

SET request could be unsuccessful:

If the above row is already deleted from the Trap target table.



071815304