Imagine COMMUNICATIONS™

Initial Setup Guides

Routing Systems and Control

March 15 2010

Edition A

175-100215-00

Publication Information

© 2014 Imagine Communications Corp. Proprietary and Confidential.

Imagine Communications considers this document and its contents to be proprietary and confidential. Except for making a reasonable number of copies for your own internal use, you may not reproduce this publication, or any part thereof, in any form, by any method, for any purpose, or in any language other than English without the written consent of Imagine Communications. All others uses are illegal.

This publication is designed to assist in the use of the product as it exists on the date of publication of this manual, and may not reflect the product at the current time or an unknown time in the future. This publication does not in any way warrant description accuracy or guarantee the use for the product to which it refers.

Imagine Communications reserves the right, without notice to make such changes in equipment, design, specifications, components, or documentation as progress may warrant to improve the performance of the product.

Trademarks

Platinum™ are trademarks of Imagine Communications or its subsidiaries. Microsoft® and Windows® are registered trademarks of Microsoft Corporation. All other trademarks and trade names are the property of their respective companies.

Contact Information

Imagine Communications has office locations around the world. For locations and contact information see: **http://www.imaginecommunications.com/contact us/**

Support Contact Information

For support contact information see:

- Support Contacts: http://www.imaginecommunications.com/services/technical support/
- eCustomer Portal: http://support.imaginecommunications.com

Initial Setup Guides for Routing Systems and Controls

This Initial Setup Guide will lead you through the basic steps you need to take to get your product up and running. It will not provide you with detailed information on how each step is performed. It will refer you to places (either by page number or by manual name) where you can find more specific information if you need it.

- Page numbers not in parentheses refer to information in the initial setup guide.
- Page numbers in parentheses refer to information in the pertinent installation, configuration, and operation manuals

This document includes the the following initial setup guides:

Routing Systems

Routing Controls

Copyright © 2010, Harris Corporation

Copyright © 2010, Harris Corporation

1 Panacea Routers Initial Setup Guide

***NOTE**: The Panacea clean switch/quiet switch router has its own separate initial setup guide. If you have a clean/quiet switch router, please download a PDF version of the Clean/Quiet Switch Initial Setup Guide from our Harris Broadcast support site.*

This Initial Setup Guide will lead you through the basic steps you need to take to get your Panacea product up and running. It will not provide you with detailed information on how each step is performed. It will refer you to places (either by page number or by manual name) where you can find more specific information if you need it.

- Page numbers not in parentheses refer to information in this initial setup guide.
- Page numbers in parentheses refer to information in the *Panacea Series Frame and Modules Installation, Configuration, and Operation Manual* (P-FRMAN).

This Initial Setup Guide covers the following topics:

Tools You'll Need

1. One standard 19-in. (0.4-m) rack
2. One medium Phillips screwdriver
3. Four 10/32 Phillips-head rack mount screws
4. One of the following:
   - Standard 10 Mbps 10Base-T Ethernet cable segment no longer than 382.08 ft (100 m)

   OR
   - RS-232 or TIA/EIA-422-B cable segment; no longer than 50 ft (15 m) for RS-232, and 2,000 ft (610 m) for TIA/EIA-422-B

Copyright © 2010, Harris Corporation

5 ***Panacea Series Frame and Modules Installation, Configuration, and Operation Manual***

6 ***Serial Protocol Reference Operation and Reference Manual*** — This manual explains protocol types, protocol commands, and error messages

NOTE*: If you don't have a printed copy of the listed manuals, you can download the PDF versions from our Harris Broadcast support site.*

7 For operating your Panacea product in PC programming mode:
- PC
- *RouterMapper™ Configuration Utility Reference Guide*
- *CCS Navigator™ User Manual*

8 For operating your Panacea product via a control panel:
- Control panel
- *Programmable Control Panel Series Configuration and Operation Manual*
- *RouterMapper™ Configuration Utility Reference Guide*
- *CCS Navigator™ User Manual*

Before You Begin

The ***Panacea Series Frame and Modules Installation, Configuration, and Operation Manual*** has detailed instructions for pre-installation procedures you should follow as part of the installation process. Refer to these sections in the ***Panacea Series Frame and Modules Installation, Configuration, and Operation Manual*** as you complete the pre-installation procedures:

- ***Unpacking a Product*** on page xiii
- ***Siting Requirements*** on page 51
- ***Ensuring Proper Temperature and Ventilation*** on page 51
- ***Meeting Electrical Requirements*** on page 52
- ***Mounting Requirements*** on page 52
- ***Frame Configuration Details*** on page 60

Copyright © 2010, Harris Corporation

Installation Procedures

Disassembling the Frame

***NOTE**: If you want your Panacea setup to match the default values set at the manufacturing facility, you can skip this section.*

1. Remove the screws on the front of the Panacea router front panel.

   The screws in the front panel are captive. Do not separate them from the front panel.
2. Gently pull the front panel away from the frame.
3. Tilt the front panel down.

Configuring the Frame

Setting Jumpers and DIP Switches

***NOTE:** The default alarm jumper setting is "normally open." If you want this default value, skip step 1.*

1. If necessary, configure the Alarm jumper on the MI module for "normally open" or "normally closed" (page 60 in the P-FRMAN). This alarm jumper is associated with the alarm/comm port located on the back panel (page 66 in the P-FRMAN).
   - "Normally open" means that a connection is open when an alarm condition does not exist and is closed when an alarm condition exists.
   - "Normally closed" means that a connection is closed when an alarm condition does not exist and is open when an alarm condition exists.

***NOTE**: The DIP switch default values are OFF. If you want these default values, skip steps 2 through 4.*

2. Tilt the front panel back up to cover the exposed front of the router.
3. Decide on control functionality (page 55 in the P-FRMAN).
   - DIP switch mode – use this mode for the following setups:
     - Standard module (RES-L) without a control panel
     - Standard module (RES-L) with a control panel and will operate in the default values set at the manufacturing facility
     - Enhanced module (RES-H) without a control panel and will operate in the default values set at the manufacturing facility
     - Enhanced module (RES-H) with a control panel and will operate in the default values set at the manufacturing facility

***NOTE**: Another name for PC programming mode is Program mode.*

Copyright © 2010, Harris Corporation

- PC programming mode (PC programming mode requires router configuration to be done via a computer) – use this mode for the following setups:
  - Standard module (RES-L) with a control panel
  - Enhanced module (RES-H) without a control panel
  - Enhanced module (RES-H) with a control panel

4. Set the DIP switches on the logic controller module as shown in **Figure 1-1**. Tilt the front panel back up to cover the exposed front of the router.
5. Reattach the front panel to the Panacea router.

- If you are going to operate the router in DIP switch mode, skip to ***Mounting the Frame*** on page 12 in this Initial Setup Guide. While you can perform all of the steps described in the RouterMapper sections below, you will not be able to download database information to your devices.
- If you are going to operate the router in PC programming mode, go to ***Linking to the Configuration Utility Software Database*** in this Initial Setup Guide.

Copyright © 2010, Harris Corporation

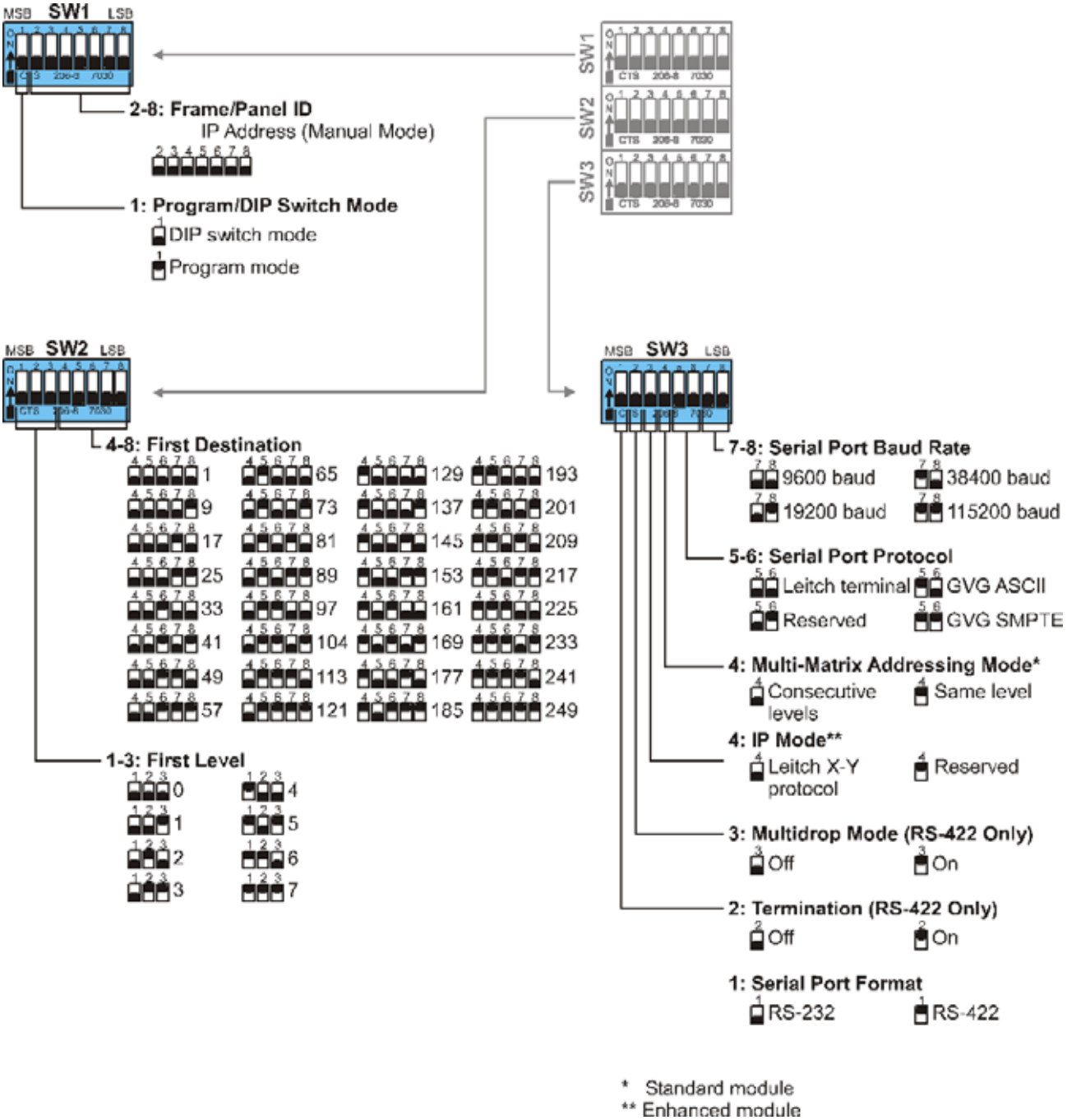


Figure 1-1 DIP Switches

Linking to the Configuration Utility Software Database

1. Make sure that either Navigator or RouterMapper configuration utility software is installed on your PC. You will use it for configuration verification and changes.
2. Connect the PC to the router serial port using RS-232 null modem cable or to the TCP/IP (Ethernet) port using RJ-45 cable.
3. Connect AC power to the power supply(ies) for the Panacea frame, and then power up the frame.

Copyright © 2010, Harris Corporation

4 Start up the configuration utility software on the PC. The main window opens.
   - If using Navigator, skip to step 7
   - If using RouterMapper, continue at step 5.

***NOTE**: A serial connection can be used with either a standard or an enhanced resource card. An Ethernet connection can be used with an enhanced resource card only.*

5 Select the communication mode from the RouterMapper **Comm Settings** pull-down menu. Make the following selections:

   For a serial connection:
   - Default connection: Serial port
   - Appropriate comm port used
   - Appropriate baud rate (this value should match the one set for the SW3 DIP switch poles 7-8)

   For an Ethernet connection:
   - Default connection: TCP/IP

     The default IP address for a Panacea with an enhanced resource module is 192.168.100.250. When configuring multiple Panacea unts with enhanced resourced modules, please assign a unique IP address to each Panacea, and avoid connecting unchanged Panacea units to the network at the same time.
   - Enter appropriate IP address
   - Click **Add**

6 Click **OK** to accept the changes and return to the main menu window.

7 Click on **Poll** to add the router to the database. (This may take a few minutes.)

Setting Up the Frame

***NOTE**: If you need to restore the default configurations, refer to page 14 in this Initial Setup Guide for instructions on how to restore default configuration settings.*

1 At the main window, highlight the Panacea router entry, and then click **Edit**.

2 Select the Router Frame tab. Panacea module information such as matrix size, type, and module options will be displayed (see **Figure 1-2**). Information for an enhanced module will differ slightly.

Copyright © 2010, Harris Corporation

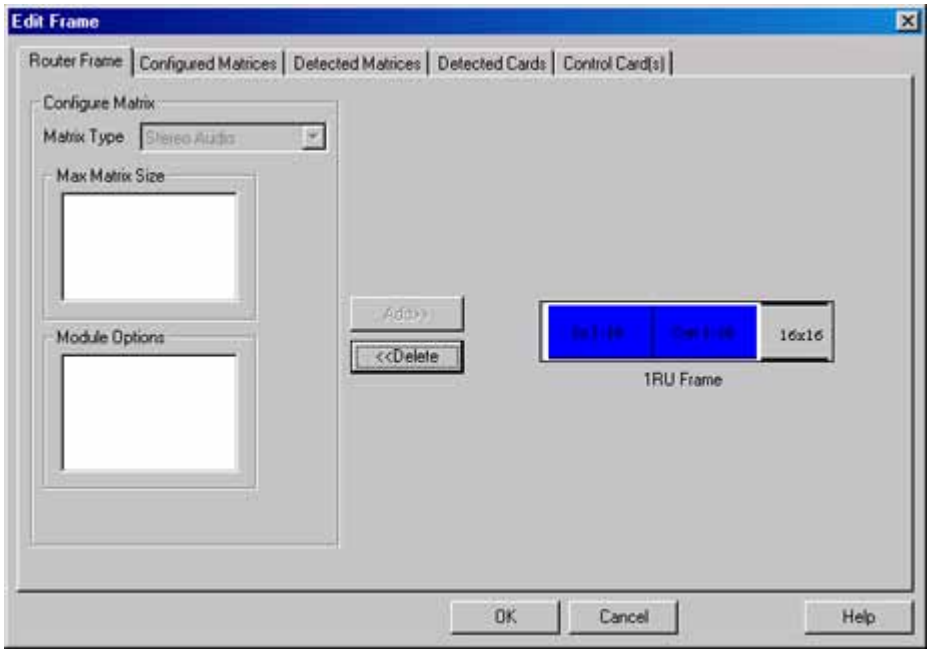


Figure 1-2 Router Frame Tab for Standard Module

3. Select the Detected Cards tab. Panacea module information such as card type, back panel type, and firmware version will be displayed (see **Figure 1-3** on page 10 of this Initial Setup Guide).
4. Select the Detected Matrices tab. Matrix information should resemble the information shown in **Figure 1-4**.
5. Click **OK** to accept the changes and return to the main window.
6. If you made changes on any of the router tabs, a message ("Needs Download") will appear next to the router name listed on the main window. Highlight the router and click **Download** to download the revised settings.

Copyright © 2010, Harris Corporation

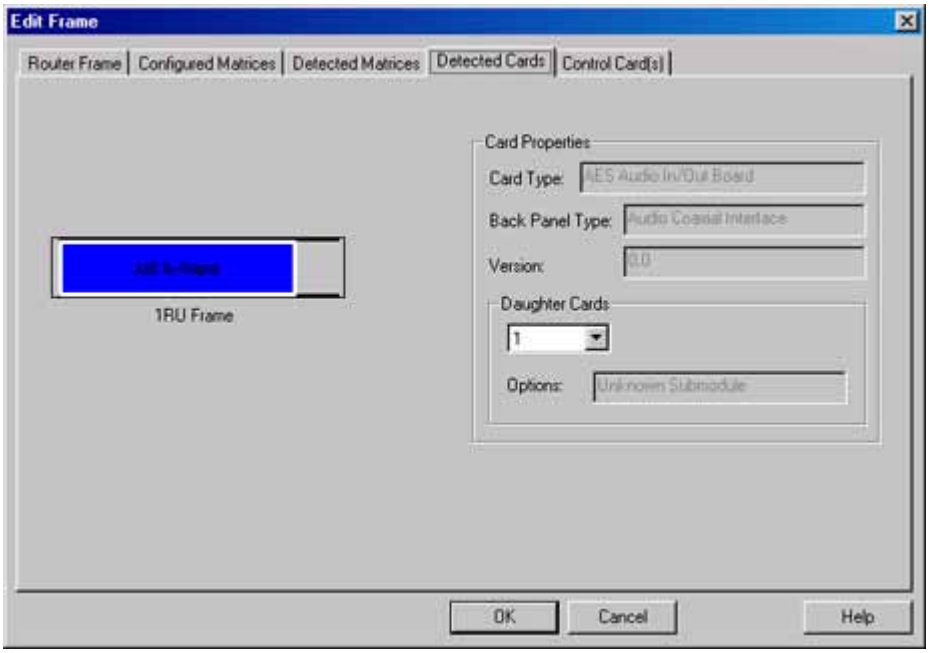


Figure 1-3 Detected Cards Tab

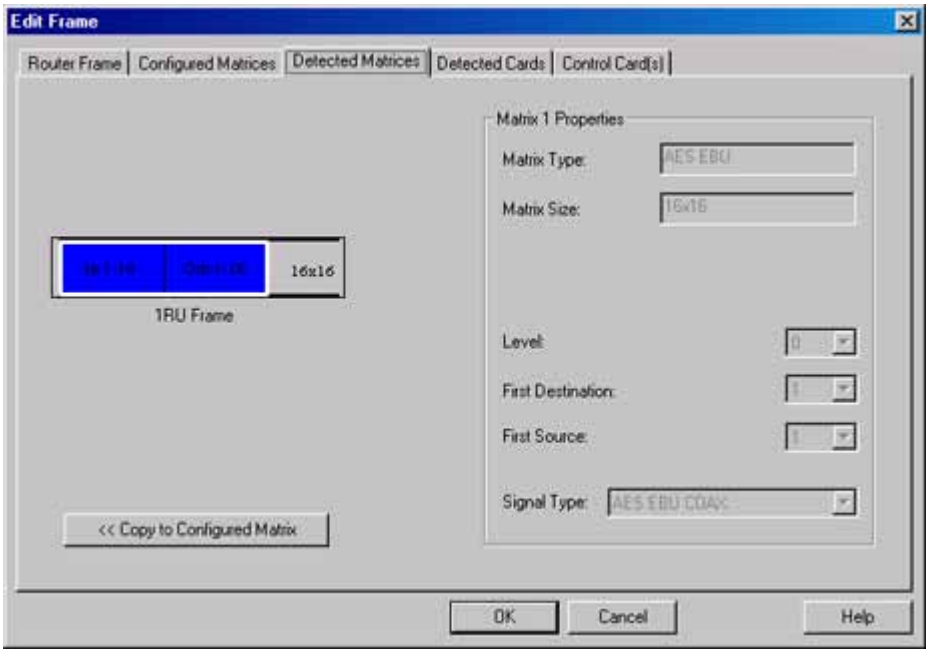


Figure 1-4 Detected Matrices Tab

Setting Up the Panel

***NOTE**: If you need to restore the default configurations, refer to page 14 in this Initial Setup Guide for instructions on how to restore default configuration settings.*

1 At the main window, highlight the panel entry, and then click **Edit**.

Copyright © 2010, Harris Corporation

2 Select the Sources tab (see **Figure 1-5**). The Source tab push button key functions match the information set up for the router via the Logical Sources tab. If you want to change these functions:

a. Click on the button whose function you want to (re)assign. The Edit Button Function window will appear.

b. Click on the Button Function drop-down list box, and then select the function you want to assign to this button.

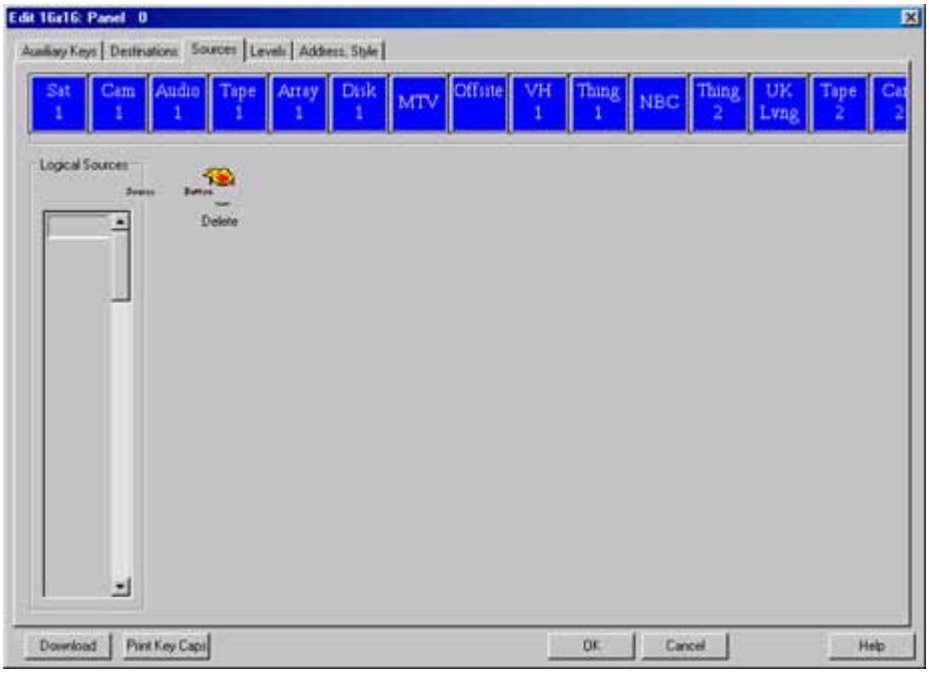


Figure 1-5 Sources Tab

3 Select the Address, Style tab (see **Figure 1-6**). Panel name, ID, and style information should match the information found when you polled the system.

Copyright © 2010, Harris Corporation

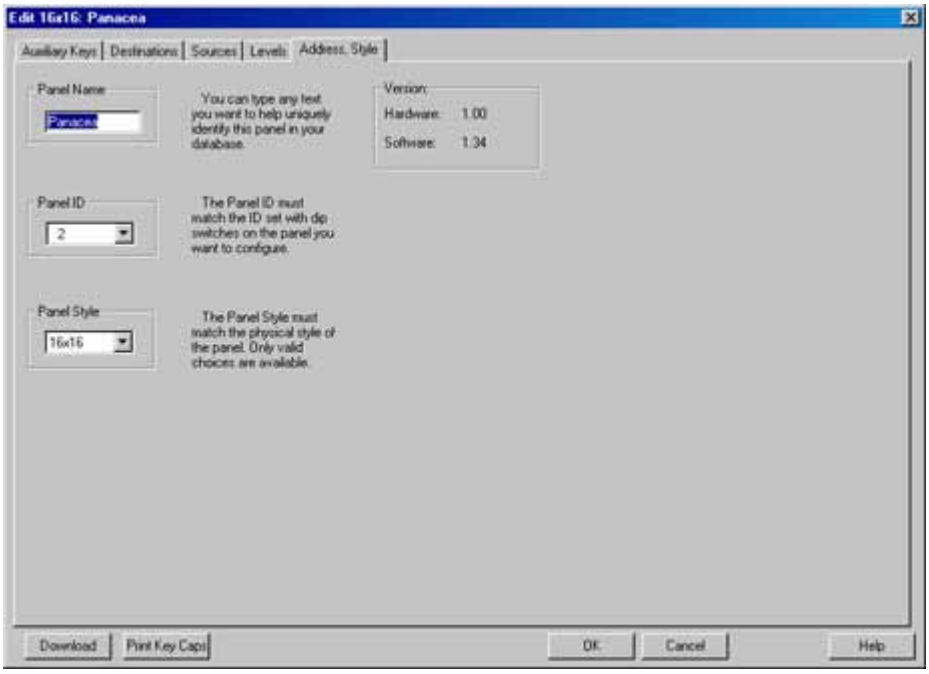


Figure 1-6 Address, Style Tab

4 If necessary, print key cap legends as shown by clicking **Print Key Caps**. (A specialized key caps legend software template [in Microsoft® Visio®[1] format] is available on the RouterMapper software CD.)

5 Click **OK**. You will return to the RouterMapper main menu window.

If you make changes on any of the panel tabs, a message ("Needs Download") will appear next to the panel name listed on the main window.

6 Click **Download** to download the settings.

Mounting the Frame

***NOTE**: Procedures for front mount are listed. Special procedures for back mount are found on page 54 in the P-FRMAN.*

1 Mount the frame in a rack that provides power and cooling facilities. You can mount the frame in either the front or the back.

2 Align the frame so that all 4 screw holes in the mounting ears match up with those in the rack. Adjustable ears on each side of the frame allow adjustable depth placement of the frame within the rack.

3 Secure the frame to the rack with the rack screws and washers.

Connecting the Frame

1 Connect all sources to the appropriate ***input*** connection on the back panel I/O module(s). (A ***source*** is a piece of equipment that produces video, such as cameras, tape recorders, graphics and character generators.)

[1] "Visio" is a registered trademark of Microsoft Corporation.

Copyright © 2010, Harris Corporation

2 Connect all destinations to the appropriate ***output*** connection on the back panel I/O module(s). (A ***destination*** is the point to which a source signal is routed.)

3 Connect the control device(s) to the appropriate port (X-Y, serial, Ethernet, etc.) on the frame's rear panel. Control devices are

- PC
- Local control panel
- Remote control panel (you may use any control panels except the ABAp panel series, 12×2HADESC2, and 32×8p); see ***Installing the Remote Control Panel*** for more information

4 If the router is to be used in a multiple frame system, connect the additional frames using the X-Y port.

5 If the router is at the end of the X-Y bus, terminate the other X-Y connector with a coaxial 75Ω termination.

6 Connect the SYNC input connector to a valid reference signal if vertical interval switching is desired.

7 Connect the 3-pin alarm port to the appropriate alarm device(s), as necessary.

8 Connect the desktop power supply to the power connector on the back of the frame.

9 Plug the desktop power supply to the power source.

10 Connect the READY line if needed.

11 Plug in the control device if necessary.

Installing the Remote Control Panel

***NOTE**: Local control panels are usually specified as part of an initial order; however, they can be added later as a field service change. (A Field Service representative must add a local control panel as a field service change. Alternatively, you may return your Panacea product to the Customer Service department for upgrade. Contact your Customer Service representative for more information.*

To connect a remote control panel unit to a Panacea routing switcher, you will need a regular cable with BNC connectors at both ends.

1 Complete all pre-installation procedures as described in ***Before You Begin*** on page 4.

2 Make any DIP switch configuration changes you desire as shown in **Figure 1-1** on page 7.

If there are multiple remote control panels to be configured, use DIP switch SW 1 Poles 2-8 to assign a unique device to each panel.

3 Connect one BNC connector to the X-Y port on the routing switcher back module.

4 Connect the other BNC connector to the BNC port on the P12X1-RCP.

5 Terminate any unused X-Y ports.

6 Mount the control panel in the proper rack. The procedure is the same as the one described in ***Mounting the Frame*** on page 12.

7 Connect the power input receptacles on both frame and control panel to their power sources.

Copyright © 2010, Harris Corporation

Operation

- Refer to your *CCS™ Navigator™ User Guide* to create custom browser pages that represent your network and its various environments around the world.
- Refer to the following appendices in the *Panacea Series Frame and Modules Installation, Configuration, and Operation Manual* to perform the following tasks:
  - If you are using the frame-standard/enhanced module in DIP switch mode or the frame-standard module in PC programming mode, refer to Appendix B in the P-FRMAN for information on how to conduct a Hyperterminal session to perform serial port operation commands. This operation requires a PC to be attached to your Panacea frame.
    - If you are using a standard module, refer to Appendix C in the P-FRMAN for commands and descriptions of how to use these commands.
    - If you are using an enhanced module, refer to Appendix D in the P-FRMAN for commands and descriptions of how to use these commands.
- If you are using the frame-enhanced module in PC programming mode, refer to your *RouterMapper Configuration Utility Reference Guide* for information on how to create a database that describes your routing system. This operation requires a PC to be attached to your Panacea frame.
- If you are using a control panel, refer to your *Programmable Control Panel Series Configuration and Operation Manual* for information on how to operate your control panel in DIP switch or PC programming mode. This operation requires a control panel to be attached to your Panacea frame.

Restoring Default Configurations

If you need to restore the default configurations, follow the steps below. After these default configurations are restored, you can set up your Panacea again.

1. If necessary, configure the Alarm jumper on the MI module for "normally open."
2. Change the DIP switches to match these default configurations settings:
   - Program Mode = OFF (SW1, pole 1)
   - Frame ID = 0000000 (SW1, poles 2-8)
   - Serial Port Baud Rate = 9600 baud (SW3, poles 7-8)
3. Go back to ***Configuring the Frame*** on page 5 in this Initial Setup Guide, and follow the steps outlined.

Copyright © 2010, Harris Corporation

Troubleshooting Communications Issues

If experiencing communications issues (e.g., no control panel or serial port control) on a Panacea frame, use this troubleshooting guide to verify proper setup and configuration before contacting the Customer Service department. Troubleshooting steps for a standard or an enhanced module are virtually identical; however, any differences are indicated.

If you are not sure if a standard or an enhanced resource module is installed, check the part number of the Panacea frame. (The part number can be found on a sticker at the rear of the frame.) If the part number ends in an **E**, an enhanced resource module is installed.

If communication problems still persist after you have checked the potential trouble spots, contact Customer Service. When discussing your issue with a customer service representative, mention that you have used this checklist.

Checking Serial Settings

Checking the DIP Switches

The DIP switch settings determine the serial communications type (RS-232 or R-S422), baud rate, and protocol type. For troubleshooting purposes, a PC with an RS-232 port and either Navigator or RouterMapper is required.

CAUTION: Older Panacea frames do not have hinges on the front panel. so ensure the panel does not drop.

1 Remove the front panel from the Panacea frame and locate DIP switches SW1, SW2, and SW3 as shown in **Figure 1-7**.

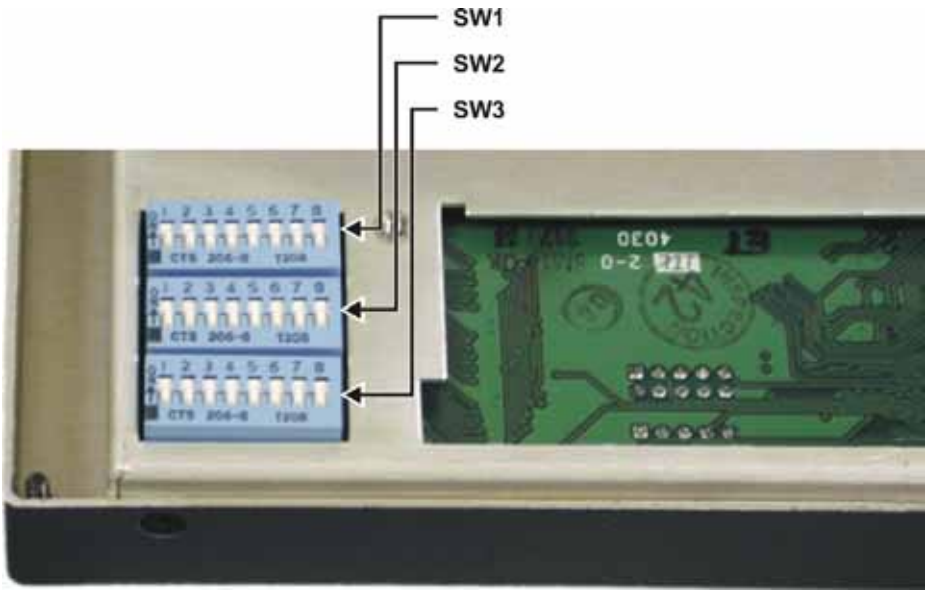


Figure 1-7 Panacea DIP Switch Locations

Copyright © 2010, Harris Corporation

2 Make a note of the current DIP switch positions, and then place all the switches in the down position as shown in the picture above. By placing all the switches in the down position we can check whether there is a hardware or configuration issue. With all switches down the serial port format is RS-232 and the baud rate is 9600.

3 In RouterMapper, make sure the Comm Settings are configured for the correct COMM port and for a baud rate of 9600. (See the *RouterMapper Configuration Utility Reference Guide* for information on how to do this.)

4 Select **Poll** to see if Navigator or RouterMapper can communicate with the Panacea frame.

- If the software application does not discover the Panacea frame, the modem cable may be loose or disconnected. See ***Checking the Modem Cable*** on page 16.
- If the software application does discover the Panacea frame, the original DIP switch settings must be examined to find why it does not communicate. Pay particular attention to the following DIP switches:
  - **SW1, Pole 1: Program Mode switch**

    If the router stops responding when this switch is turned on to Program mode, it probably has an invalid configuration provided. See ***Checking Programmed Configuration*** on page 18.
  - **SW, Pole 2: Switching Level and Destination Offset**

    These DIP switches assign the switching level and destination offset. They must correspond with the control panel configuration and programming.
  - **SW3, Pole 1: RS-232/RS-422 Switch**

    Normally RS-422 mode is only used with Automation systems. If the DIP switch is set for RS-422, make sure that the controlling PC also communicates via an RS-422 port.
  - **SW3, Poles 5 and 6: Protocol Format**

    These two switches assign the protocol format. Leave these switches off for Leitch protocol. If these switches are set to a GVG protocol format, the software application will not be able to communicate.
  - **SW3, Poles 7 and 8: Baud Rate**

    These two switches assign the baud rate. If communications appear to be intermittent, try changing the baud rate to a lower setting.

Checking the Flash Module of a Panacea with an Enhanced Resource Module

If the frame does not boot up propoerly, unplup the power, and then open the front panel to inspect the flash module. Make sure the flash module is sitting correctly in the slot and is locked by two latches. If necessary, reseat the flash module and secure the flash in the socket. Repower up the unit to verify communications.

Checking the Modem Cable

When the serial format is RS-232, a null modem cable (with female connectors on both ends) is used. Only three wires must be connected.

- Pins 2 and 3 crossed
- Pin 5 to Pin 5

Buzz out the null modem cable with a multi-meter to ensure these connections are made.

Copyright © 2010, Harris Corporation

Checking the Resource Module Ribbon Cable

A gray ribbon cable connects the P-MI module to the front panel resource module on every Panacea frame. This ribbon cable provides power and the communications line to the resource module. Make sure that the ribbon cable is attached properly to both the P-MI board and the front panel resource module. Pay careful attention to the connection on the P-MI (see **Figure 1-8**). Even if the cable looks like it is connected properly, apply upward pressure to the connection to ensure good contact; then, retry the communication.

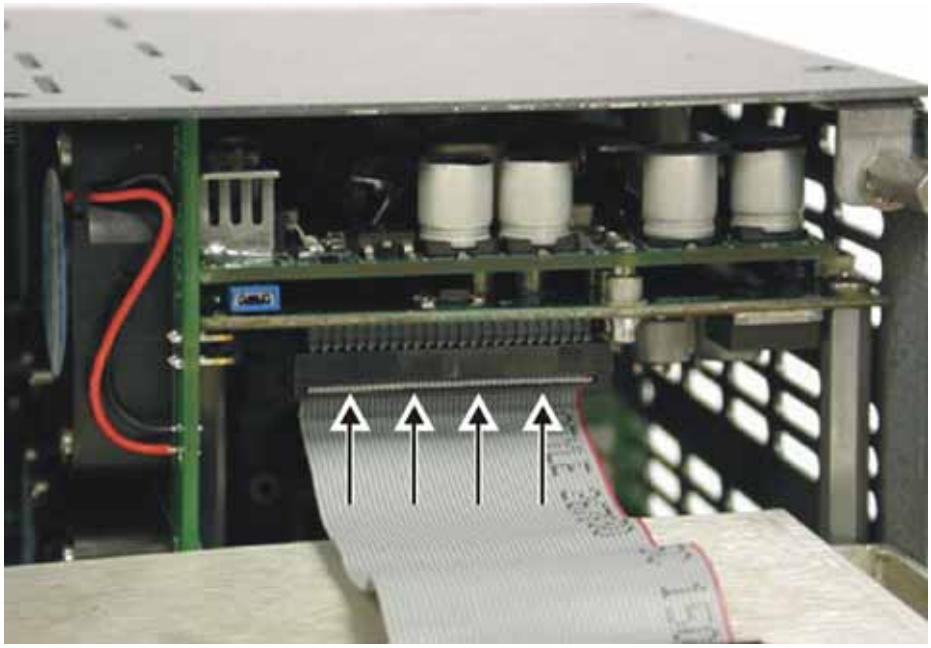


Figure 1-8 Connecting the Ribbon Cable to the P-MI Module

If you suspect that the ribbon cable is faulty, you can order new ones. Use the following part numbers:

P-2RU-CAB1	Ribbon cable for a Panacea 2RU frame
P-1RU-CAB1	Ribbon cable for a Panacea 1RU frame

Checking P-MI Module Placement

Occasionally the P-MI module may become slightly unseated from the back plane and cause communication issues. Ensure that the P-MI is pushed tightly into the back plane as shown in **Figure 1-9** on page 18. Even if the P-MI module appears to be snug, apply forward pressure to the board; then, recheck communications.

Copyright © 2010, Harris Corporation

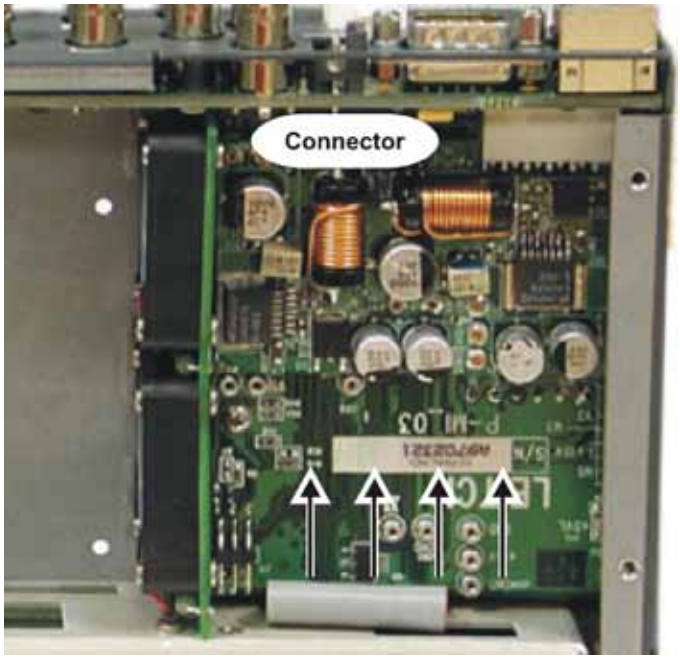


Figure 1-9 Checking P-MI Module Placement

Checking X-Y and Genlock Connectors

If there are communications issues it may be possible that the X-Y and Genlock cables are connected vertically to the rear of the Panacea frame instead of diagonally, as shown in **Figure 1-10**. (This may also produce them of no vertical interval switching if an X-Y cable is connected to the genlock BNC. If using a Panacea clean/quiet switch, P16SCQ, then it may also produce green flashes in the video.)

Figure 1-10 X-Y/Genlock Connector Orientation

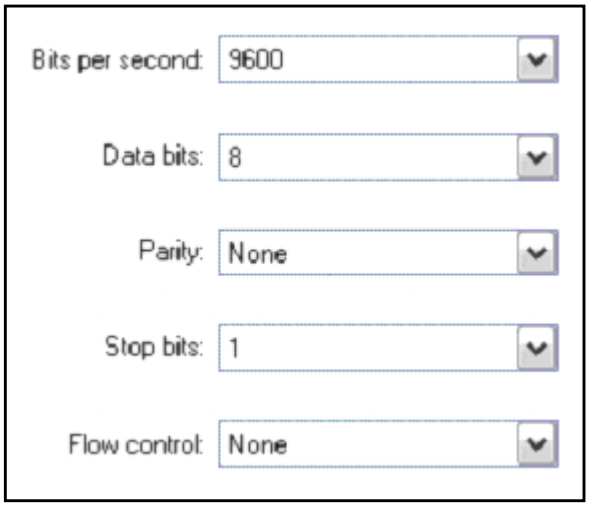
Checking Programmed Configuration

If the serial port can be communicated with but the control panel cannot control it, then the Panacea may not be configured properly. This will normally only occur when the Panacea DIP switch SW1-1 is set to the On position for Program mode.

Copyright © 2010, Harris Corporation

***NOTE**: The Bits per second field is the baud rate and must match the baud rate set by DIP switches SW3-7 and 3-8 on the resource module. The other parameters (Data bits, Parity, Stop bits, and Flow Control) must appear as shown.*

1 Open a communications session with a program such as HyperTerminal (or Telnet for Ethernet connections) and connect to the Panacea frame. Ensure the correct COMM port and baud rate are set in HyperTerminal. See ***Appendix B, Terminal Operation*** in the ***Panacea Series Frame and Modules Installation, Configuration, and Operation Manual*** for detailed information about how to set up a communication session via HyperTerminal or Telnet.



2 At the **>** prompt, type **show offsets**. Something similar to the information shown below should appear.

```
> show offsets

 Frame Offsets:
   First Level        0
   First Source       1
   First Destination  1

>
```

3 If the level, source, or destination does not match that what is expected, use the following commands to set the correct values at the **>** prompt:

set firstlevel=# — In this command, "**#**" is the desired switching level; it is normally set to 0 for video, 1 for audio.

set firstsource=# — In this command, "**#**" is the desired starting source; it is normally set for 1.

set firstdestination=# — In this command, "**#**" is the desired starting destination; it is normally set for 1.

4 (Enhanced modules only) After the correct settings have been entered, type **save mp** at the **>** prompt to save these changes permanently.

Copyright © 2010, Harris Corporation

5 Determine if Combiner Mode is turned on or off. Combiner mode should only be turned if the Panacea is part of a larger combiner system.

At the **>** prompt, type **show combiner**. Something similar to the information shown below will appear.

```
> show combiner
   Frame is in Program Mode. Combiner settings are
   Active.
   Current Combiner Settings:
      Mode = Primary Frame
      Blocksize = 16
      Number of Blocks = 2
>
```

If the combiner settings are **Active**, type **set combinermode=n** at the **>** prompt to disable Combiner Mode.

Recheck to see if the panel can now control the frame. Note that the panel must also be properly programmed to control the levels, sources, and destinations as defined above in step 3.

Checking Ethernet Settings (Enhanced Modules Only)

When troubleshooting Ethernet problems, first make sure that communication can be established with the serial port. If not, go back to ***Checking Serial Settings*** starting on page 15.

1 At the serial port, type **show ipdisplay** at the > prompt. The following will appear:

```
>show ipdisplay
   Active:
      Ip Address: 192.168.100.250
      Gateway Address: 192.168.100.1
      Netmask Address: 255.255.255.0
      Mac address 00-90-F9-00-3B-35
   Stored:
       Ip Address: 192.168.100.250
       Gateway Address: 192.168.100.1
       Netmask Address: 255.255.255.0
       Mac address 00-90-F9-00-3B-35
```

2 Make sure the IP address, gateway address, and subnet mask settings correct. If not, use the following commands to configure these settings.

set ip1=xxx.xxx.xxx.xxx

set gateway1=xxx.xxx.xxx.xxx

set netmask1=xxx.xxx.xxx.xxx

After the settings have been made, type **save sysconfig** at the **>** prompt to permanently store these settings.

Copyright © 2010, Harris Corporation

3 Verify the maximum number of allowed Ethernet connections.

At the > prompt type, **show vxyconnections**, and the information similar to the following will appear:

```
> show vxyconnections
   VIRTUALXY SYSTEM INFORMATION
Maximum Number of Connections = 4
Connections:
```

This information displays the maximum number of Ethernet clients that may control the frame. "Clients" are products, such as an Ethernet control panel, RouterWorks software, or Pilot/Navigator software. The maximum number of connections should be at least 1 higher then the expected number of clients. For example, if you anticipate up to 4 clients on your system set the maximum number of connections to 5. The upper limit is 12.

To change the maximum number of connections, type **set tmaxconnections=#,** where # is anywhere between 2 and 12. To permanently save this setting, type **save sysconfig** at the **>** prompt.

4 Connect your PC to the Panacea frame. If connecting directly from the PC to the Panacea, a crossover Ethernet cable is required, or use two straight cables with a hub or switch.

5 From a Windows Command prompt, try to ping the IP address of the Panacea frame.

- If you can ping it, go to step 6.
- If you cannot ping the Panacea frame, the cables and/or the PC setup must be verified.
  - Ensure that a good wire connection is being made by checking that the green LED on the Ethernet port is on.
  - Also check the green connection LED on the switch or hub.

Ensure that the PC has a valid IP address and is on the same subnet as the Panacea frame. If you are not sure how to do this, check with your IT department.

6 If you cannot communicate to the Panacea frame with an Ethernet control panel, make sure the panel is pointing to the correct IP address. From the serial port of the control panel, type **set server**=<IP address of Panacea>.

7 If using RouterWorks, make sure that the correct IP address for the Panacea frame is configured in the Comm Settings menu in RouterMapper first, as shown below, before launching RouterWorks.

Copyright © 2010, Harris Corporation

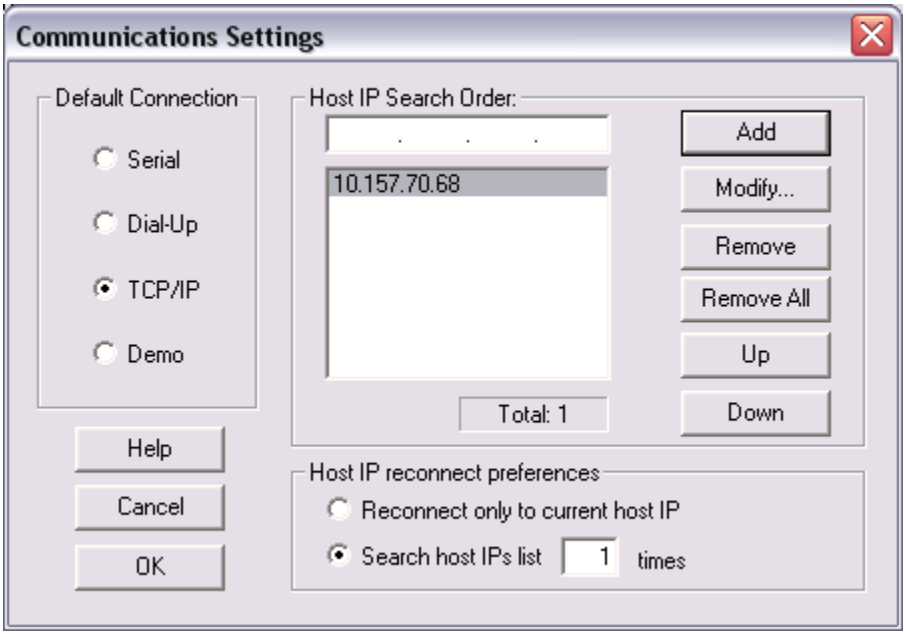


Figure 1-11 RouterMapper Comm Settings Menu

Copyright © 2010, Harris Corporation

2 Panacea Clean/Quiet Switch Routers Initial Setup Guide

***NOTE**: You need Navigator v.4.5 or higher, or RouterMapper v.6.08 or higher, to successfully complete the setup. You can download a copy of the application software from the Harris Broadcast support web portal.*

This initial setup guide leads you through the basic steps you need to take to get your Panacea clean/quiet switch routing switcher up and running. It does not provide you with detailed information on how each step is performed. It does refer you to places (either by page number or by manual name) where you can find more specific information if you need it.

- Page numbers not in parentheses refer to information in this initial setup guide.
- Page numbers in parentheses refer to information in the *Panacea Frame and Modules Installation, Configuration, and Operation Manual*.

The Panacea clean/quiet switch routing switcher is shipped with a standard router and control panel configuration. The instructions in this initial setup guide provide verification of this configuration, as well as configuration details for the standard clean/quiet configuration. If an alternate configuration is required, please refer to **Chapter 3, *Configuration,*** in the ***Panacea Frame and Modules Installation, Configuration, and Operation Manual***.

This initial setup guide covers the following topics:

Copyright © 2010, Harris Corporation

Important Information about Panacea Clean/Quiet Switch Devices

CAUTION: You *must* autotime all sources after making any adjustment to parametric transition settings and clicking "SET." (See *Clean Switch Autotiming* on page 37.) Settings are notmaintained unless autotiming is run after parametric transition settings are adjusted for video or audio and set.

The Panacea clean/quiet switch *requires* all connected sources to be timed within 1 line of each other upstream of the device and all of the sources must be genlocked in order to perform "Clean" video and "Quiet" audio switching.

If your Panacea clean/quiet switch device is switched to an empty source (or to a source that is out of time with respect to the other sources), and then switched back to an in-time source, you can expect a "noisy" switch for both video and audio on the return switch. This is because the criteria are not met for a "Clean and Quiet" switch to happen. (See ***Clean Switch Autotiming*** on page 37.) The subsequent switch probably also exhibits noise. Once the device is again switching between timed sources, Clean and Quiet operation is resumed. *Make every effort not to switch to sources with no signal presence*.

You should perform autotiming under the following circumstances:

- Whenever additional sources are added (you must enable the source in the autotiming user interface, and then run autotiming)
- Whenever upstream equipment is power cycled or rebooted, or changes are made to signal formats

Default Settings Summary Listing

Panacea Clean/Quiet Switch Routing Switcher

Table 2-1 on page 44 and **Table 2-2** on page 46 provide complete lists of the settings for the P16SCQ and P16HSCQ.

- 16 input signals
- 2 clean/quiet "program" outputs (2 copies of each)
- 6 auxiliary outputs (these outputs are not clean/quiet or reclocked)

***NOTE**: If you want to change these default settings after you have set up your routing switcher, see **Restoring Default Configurations** on page 43 and your RouterMapper Configuration Utility Reference Guide for detailed instructions.*

- Matrix type = either SD only or wideband SD/HD
- Matrix size = 16×8

Copyright © 2010, Harris Corporation

- Matrix partitioning = Not enabled
- Signal type = SDI
- Matrix name = Red
- Level = 0[1]
- Frame ID = 0[1]
- First Destination = 1[1]
- First Source = 1[1]
- Program/DIP switch mode = Program mode[1]

PR(L)CP-32X8CQp Control Panel

Source Select Buttons

- 16 assignable source buttons on top row of Source Select buttons
- Assignable source button default assignments are Source 1 through Source 16
- 7 preassigned transition buttons on bottom row of Source Select buttons
- 9 user-definable source buttons on bottom row of Source Select buttons

Destination Select Buttons

- 8 assignable destination buttons
- Destination button default assignments are PGM1a/1b, AUX1, AUX2, AUX3, PGM2a/2b, AUX4, AUX5, AUX6 to duplicate output naming on back panel

Auxiliary Buttons

- 2 assignable auxiliary buttons
- Auxiliary button default assignments are **Enable** and **Lock**

Tools You'll Need

1. One standard 19-in. (0.4-m) rack
2. One medium Phillips screwdriver
3. Four 10/32 Phillips-head rack mount screws
4. One of the following:
   - Standard 10 Mbps 10Base-T Ethernet crossover cable segment no longer than 382.08 ft (100 m)
   - RS-232 or TIA/EIA-422-B null modem cable segment; no longer than 50 ft (15 m) for RS-232, and 2,000 ft (610 m) for TIA/EIA-422-B

If you do not have a printed copy of the manuals listed, you can download the PDF version from our website.

5. For operating your Panacea product in PC programming mode:
   - PC
   - One of the following software applications:

[1] Set via DIP switches; see **Table 2-1** on page 28

Copyright © 2010, Harris Corporation

- Navigator software application, v. 4.5 or higher and ***CCS Navigator Advanced Graphical Navigation Application User Manual***
- RouterMapper software application, v. 6.08 or higher and *RouterMapper™ Configuration Utility Reference Guide*

6 For operating your Panacea product via a control panel:

- PR(L)CP-32X8CQp control panel
- *PLCP32X8CQp/RCP-32X8CQP Control Panel* Installation, Configuration, and Operation Manual

Pre-Installation Checklist

The ***Panacea Series Frame and Modules Installation, Configuration, and Operation Manual*** has detailed instructions for pre-installation procedures you should follow as part of the installation process. Refer to these sections in the ***Panacea Series Frame and Modules Installation, Configuration, and Operation Manual*** as you complete the pre-installation procedures:

- ***Unpacking a Product*** on page xiii
- ***Ensuring Adequate Rack Space*** on page 51
- ***Ensuring Proper Temperature and Ventilation*** on page 51
- ***Meeting Electrical Requirements*** on page 52

Installation Procedures

Removing the Front Panel

NOTE: *If you want your Panacea Clean/Quiet switch setup to match the default values set at the manufacturing facility, you can skip this section.*

1 Remove the screws on the front of the Panacea router front panel.

The screws in the front panel are captive. Do not separate them from the front panel.

2 Gently pull the front panel away from the frame.

3 Tilt the front panel down.

Setting Jumpers and DIP Switches

NOTE: *The default alarm jumper setting is "normally open." If you want this default value, skip step 1.*

1 If necessary, configure the Alarm jumper on the MI module for "normally open" or "normally closed." This alarm jumper is associated with the alarm/comm port located on the back panel.

Copyright © 2010, Harris Corporation

- "Normally open" means that a connection is open when an alarm condition does not exist and is closed when an alarm condition exists.
- "Normally closed" means that a connection is closed when an alarm condition does not exist and is open when an alarm condition exists.

NOTE: *For the Panacea Clean/Quiet switch, the default value for SW1 DIP switch pole 1 is ON. All other DIP switch default values are OFF. If you want these default values, skip steps 2 through 4.*

2 Verify these DIP switch values on the logic controller module (see **Figure 2-1** on page 28 in this initial setup guide):

- Make sure the SW1 DIP switch pole 1 (Program/DIP Switch mode) is set to Program mode (ON).
- Check the SW3 DIP switch poles 7-8 (serial port baud rate). In most cases, you do not need to change the default setting of 9600 baud (OFF); however, if you have other peripheral devices or automation software that calls for a different baud rate, set these switches appropriately.
- Make sure all other DIP switches are set to OFF.

Re-Attaching the Front Panel

3 Tilt the front panel back up to cover the exposed front of the router.

4 Reattach the front panel to the Panacea router.

Copyright © 2010, Harris Corporation

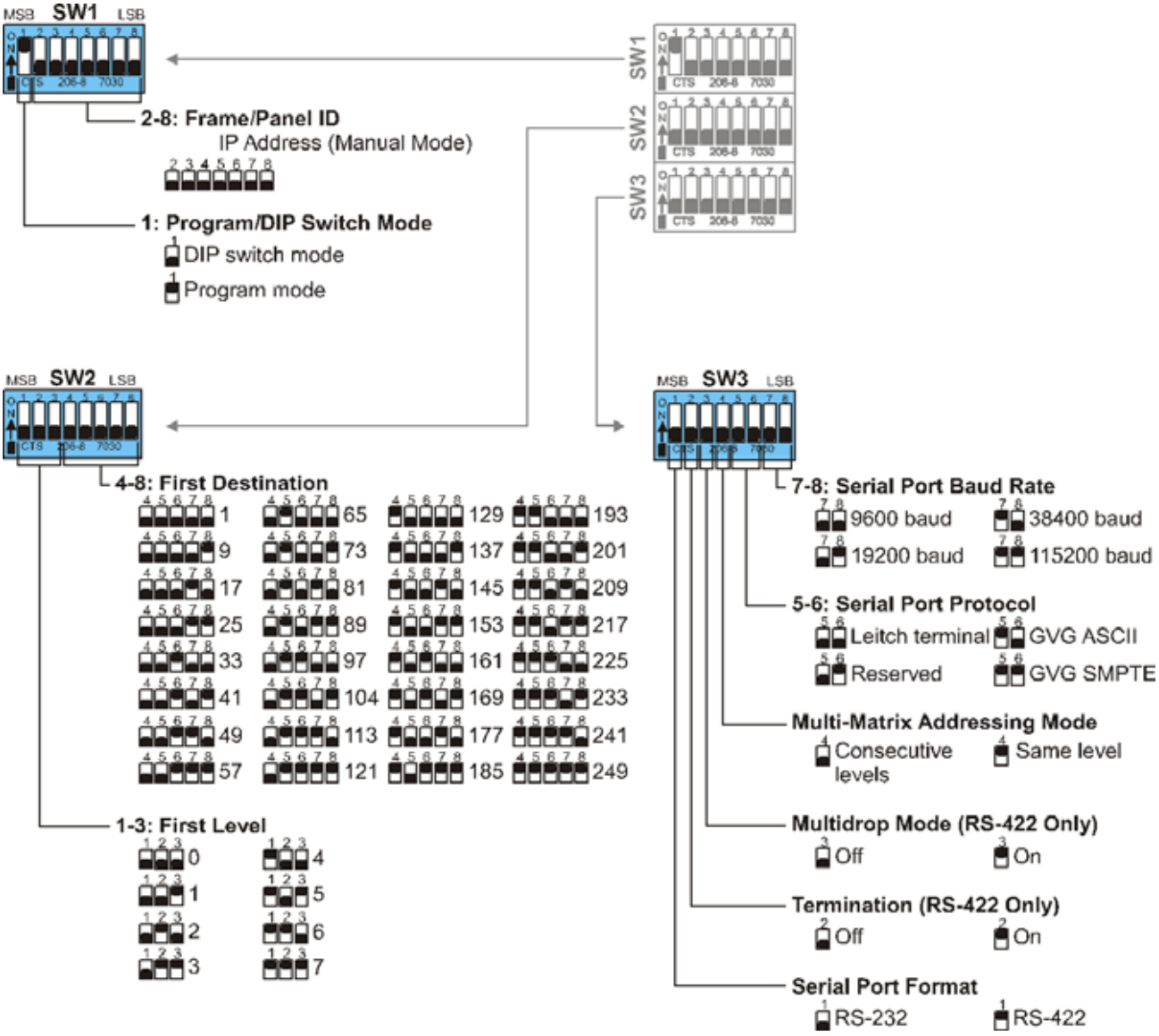


Figure 2-1 DIP Switches

Setting Up Relay Bypass

The back panel I/O module has 16 input equalizers and output drivers. Each input and output cell is connected to a coaxial cable through on-board BNC connectors.

***NOTE**: Panacea clean/quiet switch routers with relay bypass capability have part numbers that end in "-RB." Input BNCs on the back panels for the P16SCQ-RB/P16HSCQ-RB are labeled differently from those for the P16SCQ/P16HSCQ. See* **Figure 2-2** *and* **Figure 2-3**.

Copyright © 2010, Harris Corporation

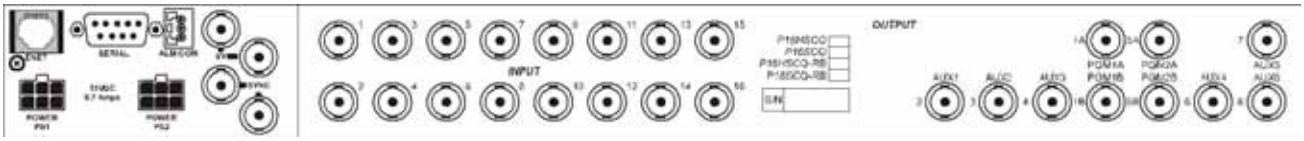


Figure 2-2 P16SCQ/P16HSCQ Back Panel I/O Module Connectors

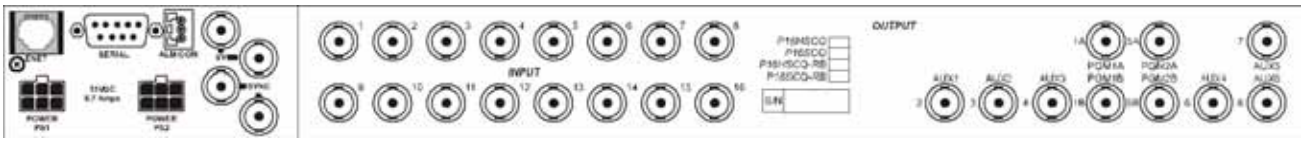


Figure 2-3 P16SCQ-RB/P16HSCQ-RB Back Panel I/O Module Connectors

A relay bypass is provided to bypass the router in the event of power failure. Inputs 1 and 9 are bypassed to program outputs 1 and 2. This allows the router to be partitioned into dual 8×1s, with the first input on each partition having a relay bypass in-line. This interface module is mounted to the back of the Panacea frame to allow interfacing to other broadcast equipment.

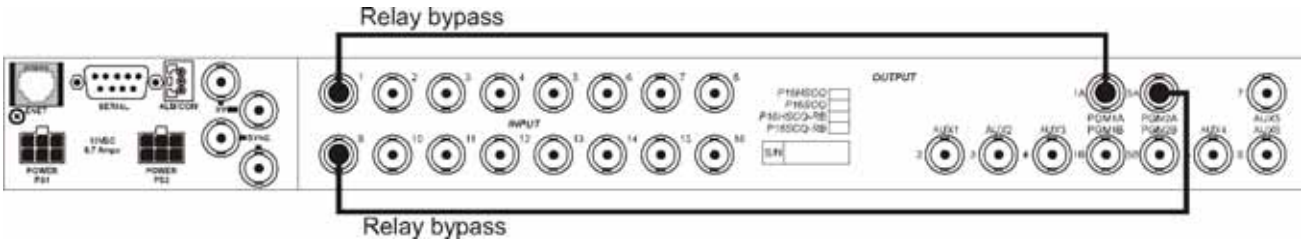


Figure 2-4 Back Panel I/O Module Connectors

When the router is in ROUTER BYPASS mode, it ignores the actual crosspoint signal path on program outputs 1 and 2, and forces the input 1 and input 9 to program output 1 and 2, respectively.

Router bypass mode can be enabled/disabled by terminal command:

```
SET ROUTERBYPASS #,#=# . . . Set/Clear Router Bypass
<Matrix,Out[0|4]=[1|0]>
```

For example, to disable output 1 bypass mode, send command `SET ROUTERBYPASS 1,0=0`; to enable output 1 bypass mode, send command `SET ROUTERBYPASS 1,0=1`

Bypass mode can also be enabled/disabled with configuration utility software.

Copyright © 2010, Harris Corporation

Configuring the Frame

Linking to the Configuration Utility Software Database

1. Make sure that Navigator or RouterMapper configuration utility software is installed on your PC. The software is used for configuration verification and changes.
2. Connect the PC to the router serial port using RS-232 null modem cable or (for enhanced resource module only) to the TCP/IP (Ethernet) port using RJ-45 crossover cable.
3. Connect AC power to the power supply(ies) for the Panacea frame, and then power up the frame. Source buttons 1-16 should flash; and the PGM1, Cut, and Enable buttons should light up.
4. Connect all appropriate sources to the Panacea back panel.
5. Connect the SYNC input connector to a valid reference signal. Terminate the second SYNC connector if unused.

   The Panacea clean/quiet switch can use either black burst or tri-level sync as the sync reference; however, in order to have the switch occur on the Odd field (for the interlaced format), a black burst reference must be used.
6. Start up the configuraiton utility software on the PC. The main window opens.
   - If using Navigator, skip to step e on page 31.
   - If using RouterMapper, continue at step 7.
7. Select the communication mode from the **Comm Settings** pull-down menu.

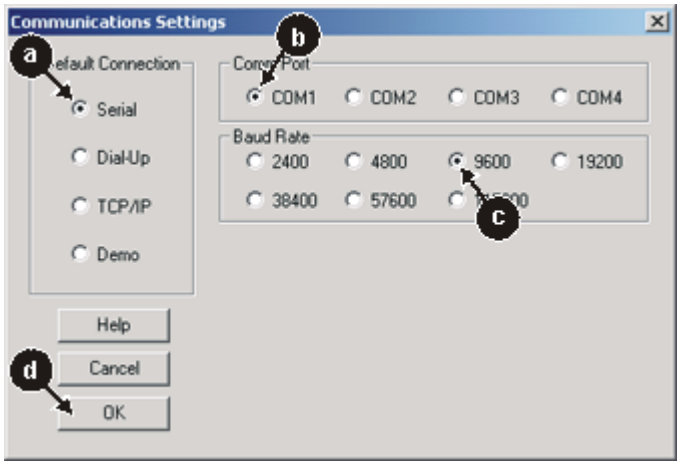
For a serial connection:

a Select default connection Serial

b Select the appropriate comm port to use

c Select the appropriate baud rate (this value should match the one set for the SW3 DIP switch poles 7-8; default value is 9600 baud)

Copyright © 2010, Harris Corporation



d Click **OK** to accept the changes.
The main menu window opens.

e Go to step 8 (page 33).

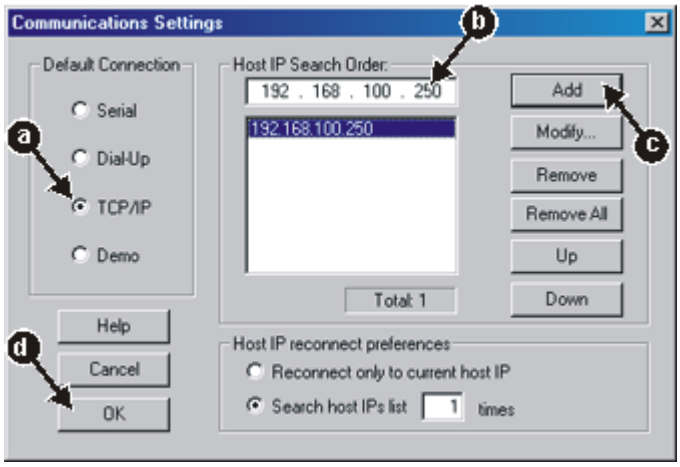
***NOTE**: The Ethernet connection only operates when an enhanced resource module is installed.*

For an Ethernet connection:

a Select default connection TCP/IP.

b Enter the appropriate IP address.

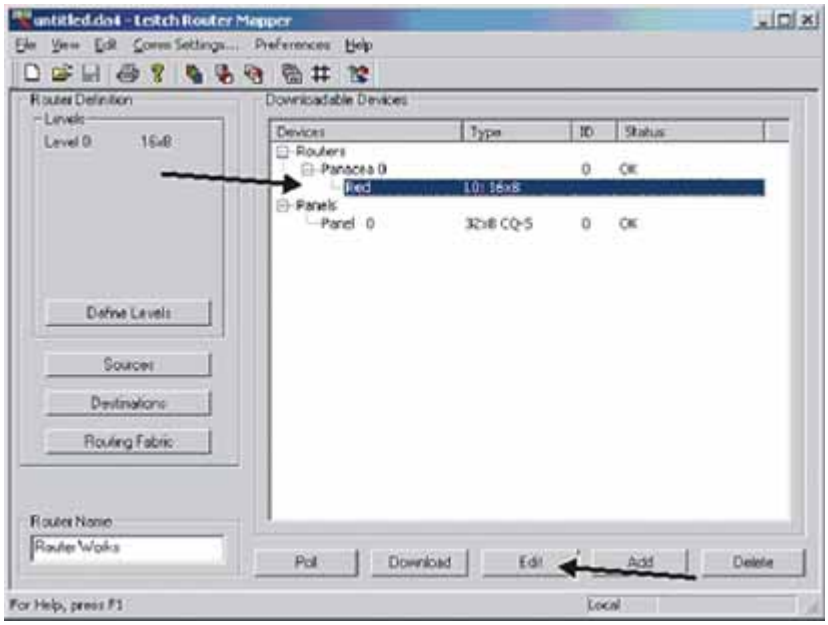
c Click **Add**.



d Click **OK** to accept the changes
The main window opens.

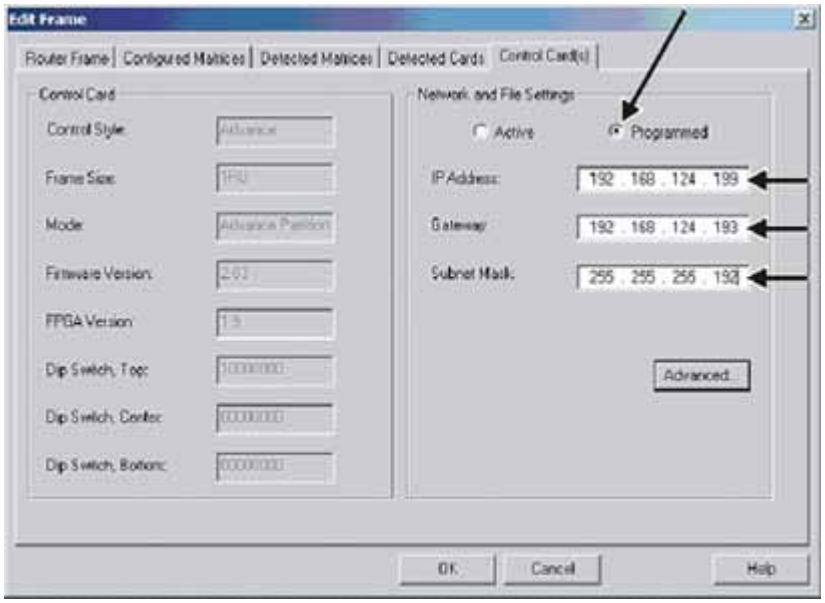
e Highlight the Panacea router on the main window, and then click **Edit**. (If using Navigator, double-click on the Panacea router entry.)

Copyright © 2010, Harris Corporation



f Select the Control Card(s) tab.

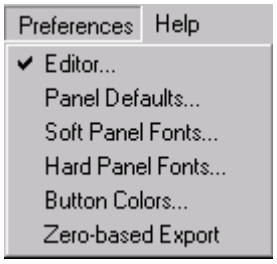
g Under Network and File Settings, select the **Programmed** radio button, and then enter the appropriate IP address, Gateway address, and subnet mask address as applicable.



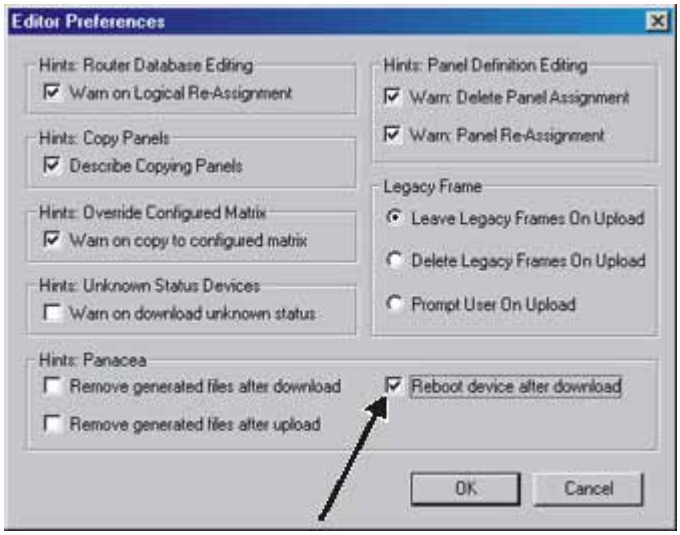
h Click **OK** to accept the changes.
The main window. opens

i From the **Preferences** pull-down menu, click **Editor**.
The Editor Preferences window opens.

Copyright © 2010, Harris Corporation



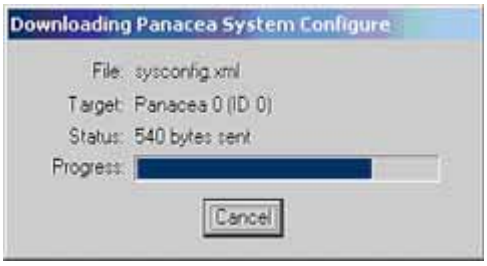
j Make sure the **Reboot Device After Download** check box is checked; if not, click inside the box to select it.



k Click **OK** to accept the changes and return to the main window.

***NOTE**: If your results differ from the information displayed in the illustrations, refer to page 43 in this initial setup guide for instructions on how to restore default configuration settings.*

8 Highlight the device you just updated, and then click **Download**.
The display window shows you the progress of the download.



9 Open **Comm Settings** pull-down menu again, and then modify the IP address to match the new programmed IP address.

10 Click **OK** to accept the update.

11 Click on **Poll** to add the Panacea Clean/Quiet Switch to the database. (This may take a few minutes.)

Copyright © 2010, Harris Corporation

Setting Up a Frame

***NOTE**: If your results differ from the information displayed in the illustrations, refer to page 43 in this initial setup guide for instructions on how to restore default configuration settings.*

1. At the main window, double-click on the Panacea Clean/Quiet switch router entry.
2. Select the Router Frame tab. The Router Frame tab's matrix information should appear as shown in **Figure 2-5**.

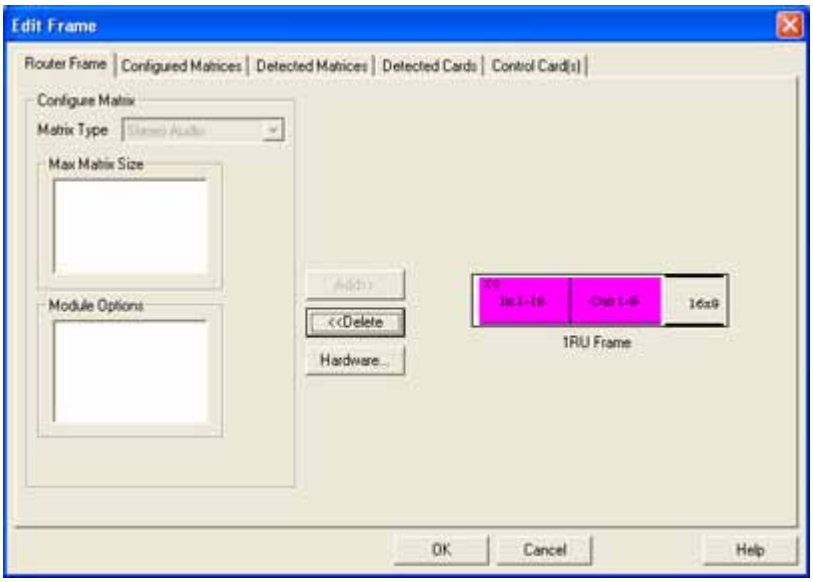


Figure 2-5 Router Frame Tab

3. Select the Configured Matrices tab. Matrix information should appear as shown in **Figure 2-6**.

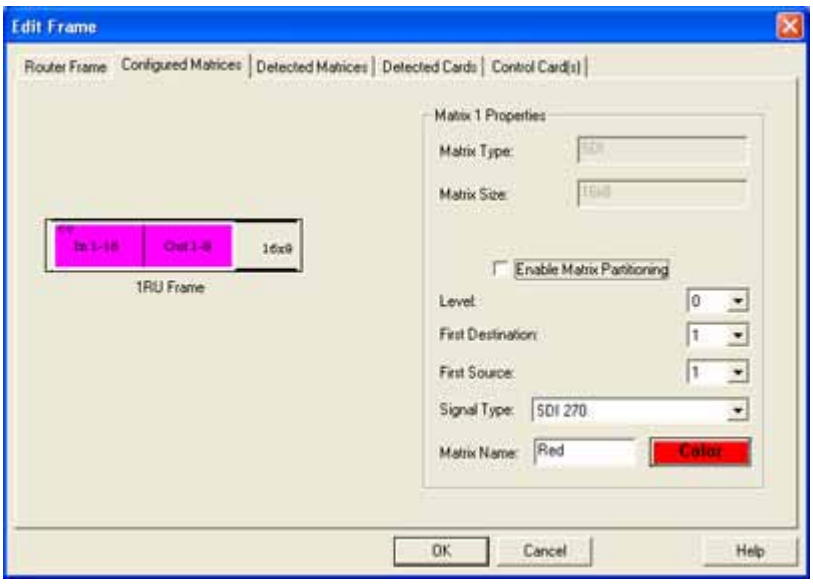


Figure 2-6 Configured Matrices Tab

Copyright © 2010, Harris Corporation

4 Click **OK** to accept the change and return to the main window.

If you made changes on any of the router tabs:

If an enhanced resource module is installed, a message ("Needs Download") appears next to the router name listed on the main window. Highlight the appropriate device, and then click **Download** to download the revised settings.

If a standard resource module is installed, an information message appears. Read the message, and then click **Yes** to continue.

Setting Up a Panel

***NOTE**: If your results differ from the information displayed in the illustrations, refer to page 43 in this initial setup guide for instructions on how to restore default configuration settings.*

1 At the main window, highlight the 32X8CQ-S panel entry, and then click **Edit**.

2 Select the Sources tab. Verify that the Source tab displays push button key information as shown in **Figure 2-7**.

***NOTE:** By default, the Source button function is set to Source Alarm. As a result, the Source button blinks when a source is missing or not in time. To disable the Source Alarm button function, click on the Source button, and then select Source from the Button Function.drop-down list.*

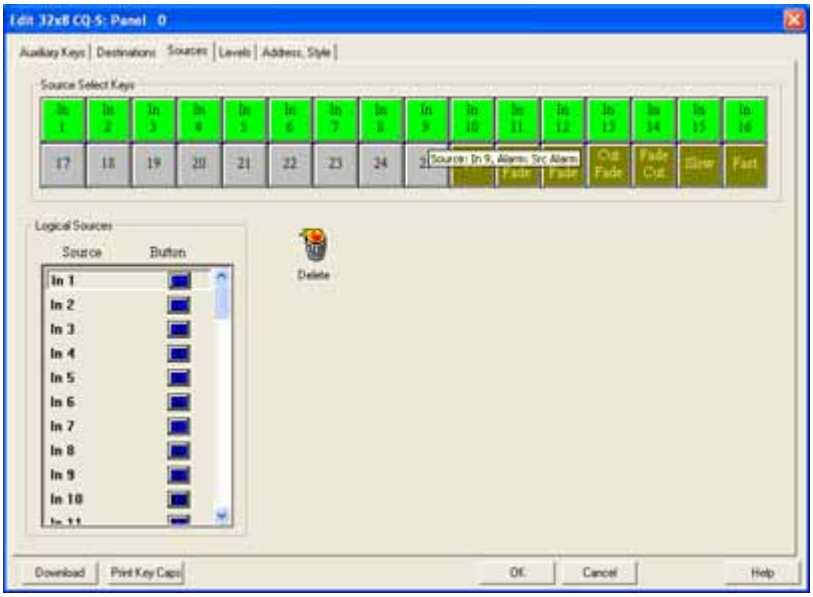


Figure 2-7 Sources Tab

3 Click on the push button labelled "Slow."

The Edit Button Function window opens.

a Click **Configure**.

The Parametric Controlling Setup window opens.

b Highlight the parametric setting listed, and then click **Edit**.

Copyright © 2010, Harris Corporation

c Change the value in the Value drop-down list box to whatever slow speed you prefer. The default speed is 30 frames.

d Click **OK** until you reach the Sources tab again.

4 Click on the push button labelled "Fast."

a Click **Configure**.

The Parametric Controlling Setup window opens.

b Highlight the parametric setting listed, then click **Edit**.

c Change the value in the Value drop-down list box to whatever fast speed you prefer. The default speed is 10 frames.

d Click **OK** until you reach the Sources tab again.

5 Select the Address, Style tab. Panel information should appear as shown in **Figure 2-8**.

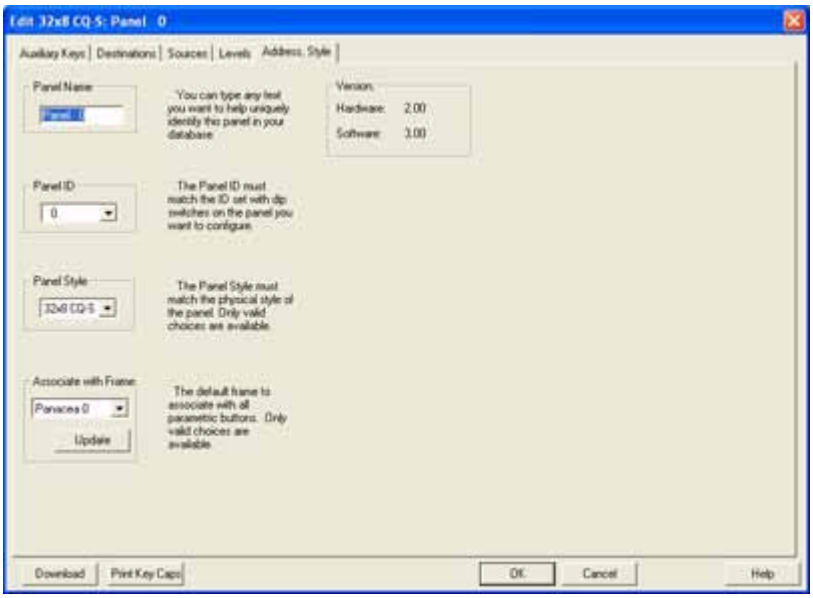


Figure 2-8 Address, Style Tab

6 If necessary, print key cap legends as shown by clicking **Print Key Caps**. (A specialized key caps legend software template [in Microsoft® Visio®[1] format] is available on the RouterMapper software CD.)

7 Click **OK**.

The main window opens.

If you made changes on any of the panel tabs, a message ("Needs Download") appears next to the panel name listed on the main window. Highlight the appropriate device, and then click **Download** to download the revised settings.

[1] "Visio" is a registered trademark of Microsoft Corporation.

Copyright © 2010, Harris Corporation

Clean Switch Autotiming

To autotime[1] all connected inputs:

1. Right-click on the Panacea Clean/Quiet switch router entry.
2. Select **Parametric Settings...**.
3. Select the Clean Switch tab.
4. Verify that the sources to be timed appear as ENABLE in the Availability column. (The autotiming status of each source is shown in the Availability column.)

NOTE: *To enable or disable inputs that do not have source connections:*
Select the source line.
Click ***Enable*** *to include the source in the Autotime sequence.*
OR
Click ***Disable*** *to remove the source from the Autotime sequence.*

5. Click **Auto Timing**. After the Autotime is complete, click **Refresh**.

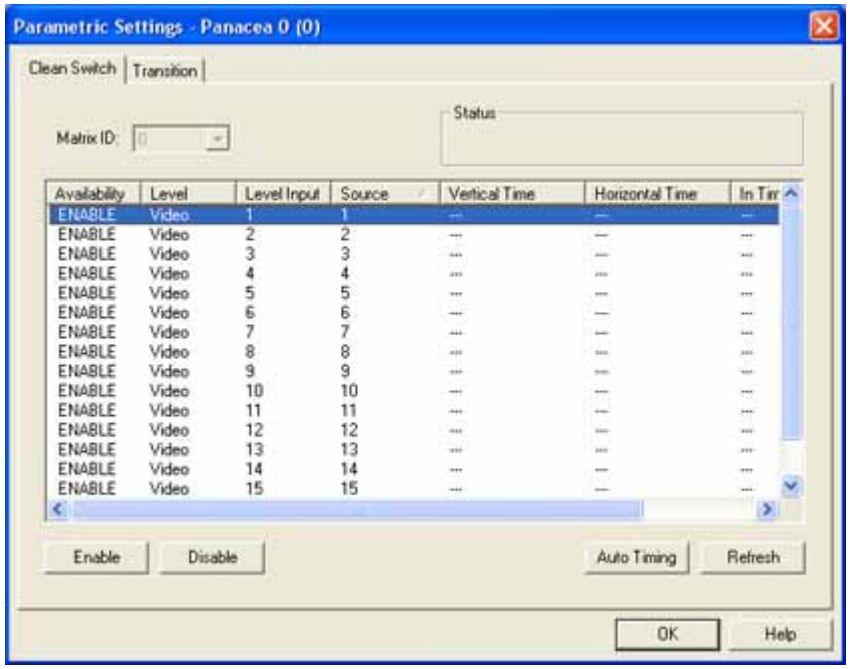


Figure 2-9 Clean Switch Tab

The In Time column shows you if sources are within the required timing window. The Vertical Time and Horizontal Time columns indicate the actual timing.

NOTE: *"Refresh" is required for any updated information to be displayed accurately. Timing information is only updated during the Autotime sequence.*

[1] You should also perform autotiming under the following circumstances: Whenever additional sources are added (you must enable the source in the autotiming user interface, and then run autotiming); and whenever upstream equipment is power cycled or rebooted, or changes are made to a signal format.

Copyright © 2010, Harris Corporation

- If a "No" appears in the In Time column or the Vertical Time and Horizontal Time columns contain dashes (–), autotiming can take place:
  - Click **Auto Timing**.
  - Wait for the autotime to take place (approximately 30 seconds). Sources out of time blink on the front panel.
  - Click **Refresh**.
- If the In Time column still displays a "No" or if dashes still appear in the Vertical Time and Horizontal Time columns, check sources and source timing.

6 Select the Transition tab, and then click **Refresh**.

The factory default transition setting ("Cut") appears.

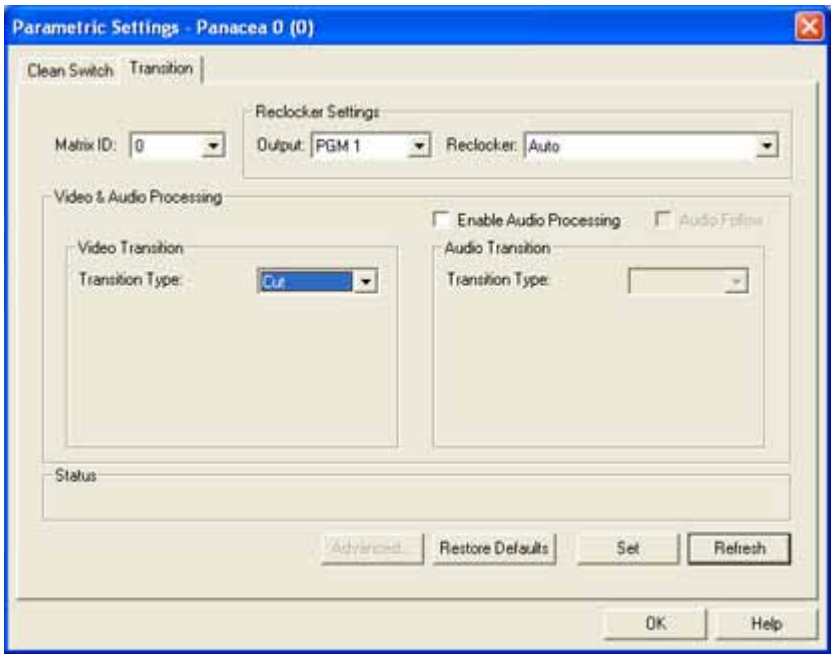


Figure 2-10 Transition Tab

a If you want a different transition type, click on the Transition Type drop-down list box, and then make your selection.

b If you want to set a different transition duration, click on the Transition Duration bar and slide it to the desired rate (both seconds and frames are indicated). The transition duration change applies to all transitions except **Cut**, which does not have a duration.

Copyright © 2010, Harris Corporation

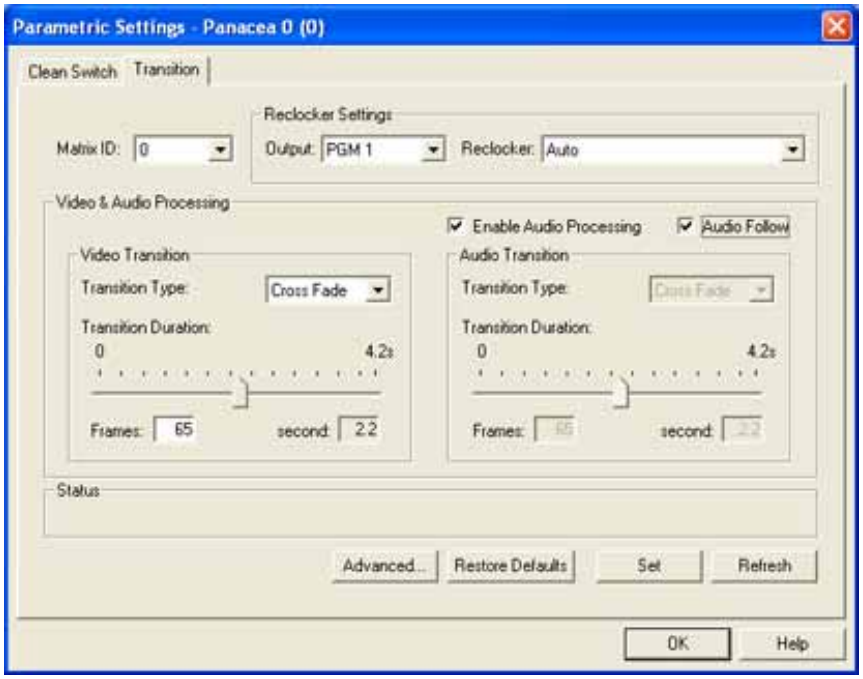


Figure 2-11 Transition Duration Bar

By default, audio effects is set to Pass-Through so it always cuts, regardless of the video transition.

To allow other transitions:

a Click **Advanced**.

The Audio Processing Settings tab opens.

b If necessary, click the Effects tab.

Copyright © 2010, Harris Corporation

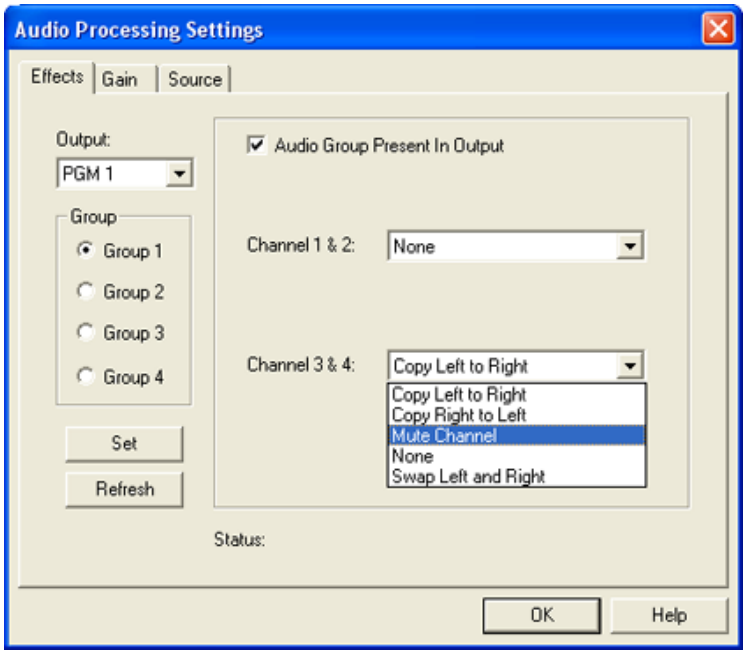


Figure 2-12 Effects Tab

c Click **Refresh** to reset the tab entries to their defaults.

d In the Output drop-down list box, select PGM 1.

e Select the radio button next to a group associated with PGM 1. (Each group contains four audio channels.)

f Select the Audio Group Present in Output check box for each group.

g From the Channel 1 & 2 and the Channel 3 & 4 drop-down list boxes, verify "None," or select the desired effect.

h Repeat steps e, f, and g for each group associated with PGM 1.

i Click **Set** to accept changes.

If you are not using PGM 2, skip to step 9.

j If necessary, in the Output drop-down list box, select PGM 2.

k Select the radio button next to a group associated with PGM 2.

l Select the Audio Group Present in Output check box for each group.

m From the Channel 1 & 2 and the Channel 3 & 4 drop-down list boxes, verify "None," or select the desired effect.

n Repeat steps k, l, and m for each group associated with PGM 2.

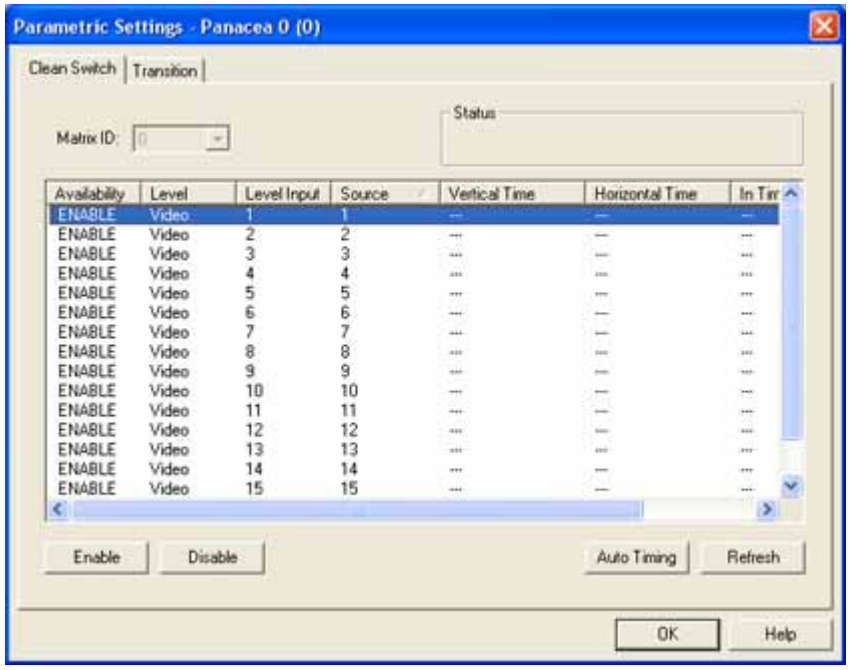
7 Click **Set** to accept changes, and then click **Auto Timing**[1].

[1] You should also perform autotiming under the following circumstances: Whenever additional sources are added (you must enable the source in the autotiming user interface, and then run autotiming); and whenever upstream equipment is power cycled or rebooted, or changes are made to a signal format.

Copyright © 2010, Harris Corporation

You must autotime all enabled sources after making any adjustment to parametric or transition settings and clicking Set. After the Set function is complete, select the Clean Switch tab and run Autotiming on all enabled sources. Refer to *Clean Switch Autotiming* for more information on autotiming and parametric settings.

Settings are not maintained unless autotiming is run on all enabled sources after parametric or transition settings are adjusted for video or audio.



Important! Autotime all enabled sources *after* making any adjustment to parametric or transition settings and clicking Set.

Figure 2-13 Autotime All Enabled Sources

8 After the Autotime is complete, click **Refresh**.

9 Click **OK** to return to the RouterMapper main menu window.

If you made changes to the transition duration, a message ("Needs Download") appears next to the router or panel name listed on the main window.

Highlight the appropriate devices, and then click **Download** to download the revised settings.

Copyright © 2010, Harris Corporation

Mounting the Frame

1. Mount the frame in a rack that provides power and cooling facilities. You can mount the frame in either the front or the back. (Procedures for front mount are listed below. Special procedures for back mount are found on page 54 of the ***Panacea Frame and Module Configuration, Installation, and Operation Manual***.)
2. Align the frame so that all 4 screw holes in the mounting ears match up with those in the rack. Adjustable ears on each side of the frame allow adjustable depth placement of the frame within the rack.
3. Secure the frame to the rack with the rack screws and washers.

Connecting the Frame

1. If the router is to be used in a multiple frame system, connect the additional frames using the X-Y port.
2. If the router is at the end of the X-Y bus, terminate the other X-Y connector with a coaxial 75Ω termination.
3. Connect the 3-pin alarm port to the appropriate alarm device(s), as necessary.

Operating the Frame

To perform a routing matrix switch:

1. Connect the monitoring devices to the output under test.

NOTE: *Transitions are available only on PGM 1 and PGM 2 outputs.*

2. From the control panel:
   - Select destination (that is, PGM 1)
   - Select transition (that is, V fade)
   - Select transition duration (that is, Slow)
   - Select source (that is, Source 2)
3. The source connected to Source 2 should show a transition on the monitoring device with a slow "V" fade from its previous source. The audio for this source should also show a transition with a slow "V" fade to the audio of Source 2.
4. Continue with destination, transition, and source selection as desired.

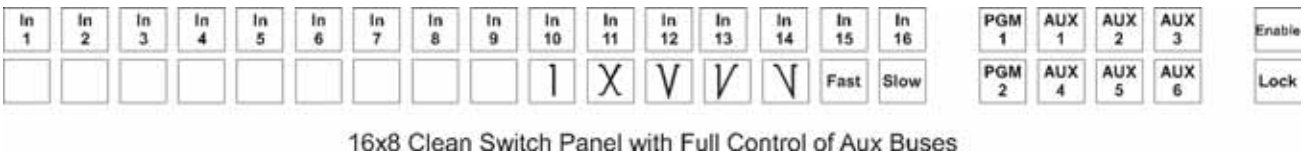


Figure 2-14 Router Operation

- Refer to the *Panacea Frame Reference and System Configuration Installation and Configuration Manual*.for these items:

Copyright © 2010, Harris Corporation

  - If your Panacea clean/quiet switch router uses a standard module, refer to Appendix C for commands and descriptions of how to use these commands.
  - If your Panacea clean/quiet switch router uses an enhanced module, refer to Appendix D for commands and descriptions of how to use these commands.
- Refer to the perrtinent configuration utility reference guide for information on how to create a database that describes your entire routing system.
- Refer to the *PLCP32X8CQp/RCP-32X8CQP Control Panel Installation, Configuration, and Operation Manual* for information on how to operate your control panel.

Restoring Default Configurations

If returned results differ from the information displayed in the illustrations, you must reinstall the default configurations. After these default configurations are restored, you can set up your Panacea Clean/Quiet switch router as described, starting on page 26 in this initial setup guide.

Resetting Default Configurations

If you need to restore the default configurations, follow the steps below. After these default configurations are restored, you can set up your Panacea again.

1. If necessary, configure the Alarm jumper on the MI module for "normally open."
2. Change the DIP switches to match these default configurations settings:
   - Program Mode = OFF (SW1, pole 1)
   - Frame ID = 0000000 (SW1, poles 2-8)
   - Serial Port Baud Rate = 9600 baud (SW3, poles 7-8)
3. Go back to ***Configuring the Frame*** on page 30 in this Initial Setup Guide, and follow the steps outlined.

Default Settings

Table 2-1 and **Table 2-2** (page 46) provide complete lists of default settings for Panacea P16SCQ and P16HSCQ routing switchers. The lists are separated into configurations for standard and enhanced modules.

Copyright © 2010, Harris Corporation

Table 2-1 P16SCQ Default Settings

Setting	Standard Resource Module	Enhanced Resource Module
DIP switches (see Figure 2-1 on page 28)		
SW1	■ Pole 1 ON (Program Mode; PLCP-32X8CQP panel present) ■ Pole 1 OFF (Program Mode; other panel present) ■ Poles 2-8 OFF (ID=0)	■ Pole 1 ON (Program Mode; PLCP-32X8CQP panel present) ■ Pole 1 OFF (Program Mode; other panel present) ■ Poles 2-8 OFF (ID=0)
SW2	■ Poles 1-3 OFF (First Destination=0) ■ Poles 4-8 OFF (First Level=0)	■ Poles 1-3 OFF (First Destination=0) ■ Poles 4-8 OFF (First Level=0)
SW3	Poles 1-8 OFF (Baud rate=9600)	Poles 1-8 OFF (Baud rate=9600)
Non-Parametric settings (see Figure 2-6 on page 34)		
Level	0	0
First Source	1	1
First Destination	1	1
Logical router size	16×8	16×8
PGM 1 reclock mode	Auto	Auto
PGM 2 reclock mode	Auto	Auto
Source 1-16 EQ bypass	OFF	OFF
Source 1-16 alarms	Enabled	Enabled
Timing mode	Auto	Auto
Maximum telnet connections	—	4
Maximum VXY connections	—	12
IP address	—	192.168.100.250
Gateway address	—	192.168.100.250
Subnet mask	—	255.255.255.0
Parametric settings: Autotiming (see Figure 2-9 on page 37)		
Source 1-16 Autotime Availability	Enable	Enable
Parametric settings: Transitions (see Figure 2-10 on page 38 and Figure 2-11 on page 39)		
Video transition	Cut	Cut
Audio transition	Soft cut	Soft cut
Audio follow	Selected	Selected
Audio processing	Enabled/selected	Enabled/selected
Parametric Settings: Effects (see Figure 2-12 on page 40)*		
Audio effects PGM 1*	Groups 1-4 Channels 1-4=None	Groups 1-4 Channels 1-4=None

Copyright © 2010, Harris Corporation

Table 2-1 P16SCQ Default Settings *(Continued)*

Setting	Standard Resource Module	Enhanced Resource Module
Audio effects PGM 2*	Groups 1-4 Channels 1-4=None	Groups 1-4 Channels 1-4=None
Audio gain PGM 1*	Groups 1-4 Channels 1-4=Unity (0.00)	Groups 1-4 Channels 1-4=Unity (0.00)
Audio gain PGM 2*	Groups 1-4 Channels 1-4=Unity (0.00)	Groups 1-4 Channels 1-4=Unity (0.00)
Audio sources PGM 1*	Groups 1-4 Channels 1-4=Group 1-4-Channel 1-4	Groups 1-4 Channels 1-4=Group 1-4-Channel 1-4
Audio sources PGM 2*	Groups 1-4 Channels 1-4=Group 1-4-Channel 1-4	Groups 1-4 Channels 1-4=Group 1-4-Channel 1-4

* To enable these effects, make sure that the Audio Group Present in Output check box is selected.

Copyright © 2010, Harris Corporation

Table 2-2 P16HSCQ Default Settings

Setting	Standard Resource Card	Enhanced Resource Card
DIP Switches (see **Figure 2-1** on page 28**)**		
SW1	■ Pole 1 ON (Program Mode; PLCP-32X8CQP panel present) ■ Pole 1 OFF (Program Mode; other panel present) ■ Poles 2-8 OFF (ID=0)	■ Pole 1 ON (Program Mode; PLCP-32X8CQP panel present) ■ Pole 1 OFF (Program Mode; other panel present) ■ Poles 2-8 OFF (ID=0)
SW2	Poles 1-3 OFF (First Destination=0) Poles 4-8 OFF (First Level=0)	Poles 1-3 OFF (First Destination=0) Poles 4-8 OFF (First Level=0)
SW3	Poles 1-8 OFF (Baud rate=9600)	Poles 1-8 OFF (Baud rate=9600)
Non-Parametric Settings (see **Figure 2-6** on page 34)		
Level	0	0
First Source	1	1
First Destination	1	1
Logical router size	16×8	16×8
PGM 1 reclock mode	Auto	Auto
PGM 2 reclock mode	Auto	Auto
AUX 1-AUX 6 slew rates	HD	HD
Source 1-16 EQ bypass	OFF	OFF
Source 1-16 alarms	Enabled	Enabled
Timing mode	Auto	Auto
Maximum telnet connections	—	4
Maximum VXY connections	—	12
IP address	—	192.168.100.250
Gateway address	—	192.168.100.250
Subnet mask	—	255.255.255.0
Parametric Settings: Autotiming (see **Figure 2-9** on page 37)		
Source 1-16 autotime availability	Enabled	Enabled
Parametric Settings: Transitions (see **Figure 2-10** on page 38 and **Figure 2-11** on page 39)		
Video transition	Cut	Cut
Audio transition	Soft Cut	Soft Cut
Audio follow	Selected	Selected
Audio processing	Enabled/selected	Enabled/selected

Copyright © 2010, Harris Corporation

Table 2-2 P16HSCQ Default Settings *(Continued)*

Setting	Standard Resource Card	Enhanced Resource Card
Parametric settings: Effects (see **Figure 2-12** on page 40)*		
Audio effects PGM 1*	Groups 1-4 Channels 1-4=None	Groups 1-4 Channels 1-4=None
Audio effects PGM 2*	Groups 1-4 Channels 1-4=None	Groups 1-4 Channels 1-4=None
Audio gain PGM 1*	Groups 1-4 Channels 1-4=Unity (0.00)	Groups 1-4 Channels 1-4=Unity (0.00)
Audio gain PGM 2*	Groups 1-4 Channels 1-4=Unity (0.00)	Groups 1-4 Channels 1-4=Unity (0.00)
Audio sources PGM 1*	Groups 1-4 Channels 1-4=Group 1-4-Channel 1-4	Groups 1-4 Channels 1-4=Group 1-4-Channel 1-4
Audio sources PGM 2*	Groups 1-4 Channels 1-4=Group 1-4-Channel 1-4	Groups 1-4 Channels 1-4=Group 1-4-Channel 1-4

* To enable these effects, make sure that the Audio Group Present in Output check box is selected.

Copyright © 2010, Harris Corporation

Copyright © 2010, Harris Corporation

3 Platinum Routers Initial Setup Guide

This initial setup guide will lead you through the basic steps you need to take to get your Platinum product up and running. It will not provide you with detailed information on how each step is performed. It will refer you to places (either by page number or by manual name) where you can find more specific information if you need it.

This initial setup guide covers the following topics:

Tools You'll Need

- One standard 9RU, 15RU, or 28RU frame rack
- One medium Phillips screwdriver
- Platinum lift kit
- 10/32 Phillips-head rack mount screws
- At least one standard Ethernet cable segment no longer than 382 ft (100 m)

  OR

  At least one standard RS-232 or TIA/EIA-422-B cable; no longer than 50 ft (15 m) for RS-232, and 2,000 ft (610 m) for TIA/EIA-422-B
- *Platinum Frame and Modules Installation, Configuration, and Operation Manual* (for configuration via card-edge)
- PC equipped with Microsoft® Windows® operating system[1]
- Either Navigator version 4.5 or higher, or RouterMapper configuration utility software v.5.11 or higher
- Pertinent software application user manual (for configuration via configuration utility software)

Copyright © 2010, Harris Corporation

Pre-Installation

Review these general rules of thumb before you begin performing any installations or field upgrades of your Platinum routing system:

- A Platinum router is heavy. Do not attempt to lift a populated frame yourself.
- The Platinum module and connector layout was designed to make sense from the BACK - numbering is from left to right, etc.
- Use a static strap or heel strap when handling modules.
- Do not stack modules directly on top of one another; solder joints and components on the edges of modules can be damaged this way. Use a slotted card carrier to stack a quantity of modules.
- Modules need to be properly and completely seated for correct operations.
- Edge connectors on the modules have tight tolerances. Avoid bending or forcing modules when installing them.
- Take care not to let upper modules drop onto lower modules when inserting or removing them from the frame. Use the module guides to prevent this.
- The Output Monitoring module slots face alternate directions (up/down/up/down); refer to the *Platinum Frame and Modules Installaiton, Configuration, and Operation Manual* for details
- Verify termination on all video, sync, or X-Y lines.
- Verify that the frame is well grounded. KEEP THE FRAME GROUND IN PLACE when servicing the frame.
- Platinum's power supply architecture is configurable, allowing from one to four power supplies per zone on the router. Depending on configuration and module population of each zone, two power supplies may be required for normal operation of the zone.
- Platinum's internal power supply may be reconfigured or reallocated to other zones.

Installation Procedures

Each Platinum is shipped fully populated (based on customer's configuration) and pre-configured from our manufacturing facility.

The Platinum can be installed anywhere within a routing system and can be controlled in a variety of ways. Because the flexibility of the Platinum allows for many possible configurations, the installation procedures will depend on the desired configuration and system design. General installation procedures are outlined below.

1. Install the Platinum in a restricted access area, so that only qualified personnel have access to it.
2. Lift the Platinum frame into place and install rack screws. An optional Platinum support tray may be purchased to make installation easier.

[1] Windows is a registered trademark of Microsoft Corporation in the United States and/or other countries.

Copyright © 2010, Harris Corporation

3 Attach temporary (or permanent, if available) serial cable and Ethernet cable to the Platinum frame; attach the other end of the cable to a PC running a terminal application and RouterMapper configuration utility software.

4 Power up the frame and check condition of the system via a serial port.

5 Using card-edge controls, assign a valid network IP address, gateway, and netmask to the frame. (See **Table 3-1** on page 53 for a list of card-edge controllable parameters.)

6 Make sure you can ping the frame via TCP/IP.

7 Attach one video input and output and test for signal continuity. Signal presence LEDs on the input card should light.

8 Connect all remaining sources to the appropriate input connection on the back panel I/O module(s).

9 Connect all remaining destinations to the appropriate output connection on the back panel I/O module(s).

10 Connect the control device(s) to the appropriate port (XY1, SERIAL1, ENET1, etc.) on the communications back panel.

11 If the router is to be used in a multiple frame system, connect the additional frames using the X-Y1 or X-Y2 ports.

12 If the router is at the end of the X-Y bus, terminate the other end of the pair of X-Y connectors with a coaxial 75Ω termination.

13 Connect the SYNC1 (for NTSC) or SYNC 2 (For PAL) input connector to a valid reference signal if vertical interval switching is desired.

14 Connect the alarm port to the appropriate alarm device(s), as necessary.

Configuring the Platinum Frame

You can perform the initial configuration setup for your Platinum frame either by using the card-edge controls or by using configuration utility software.

- See page 51 for instructions on configuring your frame via card-edge controls.
- See page 54 for instructions on configuring your frame via configuration utility software.

Configuring via Card-Edge Controls

Controls Overview

This section presupposes that you have a working knowledge of how to use card-edge controls on our products. If not, please refer to please refer to your *Platinum Frame and Modules Installation, Configuration, and Operation Manual* to familiarize yourself with its functions before you continue the process.

Copyright © 2010, Harris Corporation

The card-edge controls for Platinum modules are located just behind the front panel of the frame. The controls consist of these items, from left to right:

- Display screen

  The Display (VFD) screens on Platinum modules show two types of controllable options and variable values (parameters):

  - Read-only parameters provide status information, but cannot be changed.
  - Adjustable parameters can be modified using card-edge controls.
- Escape button
- **Nav+** (up)/**Nav-** (down) toggle switch
- **Enter** button

Navigating the Parameters List

***NOTE**: If you do not wish to make changes to your settings, return to the previously selected item in the list, then press **Escape** to move up a level.*

1. Open the front panel of the frame.
2. Press any card edge control button or the toggle switch to turn on the VFD display.

   The module name appears as the banner on the card-edge display screen.
3. Press the **Select** button. The first two items in the Level One list will appear.
4. Click **Nav-** (down) on the **Nav-/Nav+** switch to view more items in the list.
5. Choose the desired item in the list, and then press the **Select** button.

   The Level Two list opens.
6. Repeat steps 4 and 5 to view more items in Levels Two, Three, and Four.
7. If the parameter is numeric, slide the bar to the desired parameter using the **Nav+/Nav-** switch.

   OR

   Choose the desired item in the Level Four list, and then press the **Select** button.
8. Once you have set or viewed the parameter, you can leave it in its current state or return to the card-edge display banner. To return to the card-edge display banner, repeatedly press the **Escape** button.
9. Close the front panel of the frame to ensure the cooling system continues to operate properly.

Copyright © 2010, Harris Corporation

Application Parameters

The application parameters in Table 3-1, specific to a Platinum frame, are set via the card edge. Additional information concerning card-edge controllable parameters for Platinum frames is listed in the Platinum Installation, Configuration, and Operation Manual. Card-edge controllable parameters specific to a particular module are listed with the module's detailed description.

Table 3-1 Application Parameters Available via the Card Edge

Menu Item 1	Menu Item 2	Menu Item 3	Description
COMMS	SERIAL (Serial 1 and Serial 2)		Allows viewing and control of settings affecting serial ports 1 and 2
		SUMMARY	Displays a summary of the selected serial port's settings (mode, baud)
		MODE	Chooses either RS-232 or RS-422 mode for the selected serial port
		BAUD	Chooses baud rate for the selected serial port (available settings are 9600, 19200, 38400, 57600, and 115200)
	ENET (Enet 1 and Enet 2)		Allows viewing and control of settings affecting Ethernet ports 1 and 2
		SUMMARY	Displays a summary of the selected Ethernet port's Address, gateway and Netmask settings
		ADDRESS	Allows setting the Ethernet port's IP address (largest allowed setting is 255.255.255.255)
		GATEWAY	Allows setting the Ethernet port's Default Gateway address (largest allowed setting is 255.255.255.255)
		NETMASK	Allows setting the Ethernet ports network mask (largest allowed setting is 255.255.255.255)
OPERATIONS	SERVICE	SNAPSHOT	Causes an updated copy of the system snapshot file to be written to the flash file system
SYSTEM	FRAME ID		Allows assignment of the frame's system ID
	REBOOT	NORMAL	Restarts the Platinum system normally
		FAILSAFE	Restarts the system in Failsafe mode (normally used only during installation and/or by service personnel for low-level diagnostics, system settings or upgrading resource card components)
		DEFAULTS	Restores resource card communications and operation settings to factory default state

Copyright © 2010, Harris Corporation

Configuring via Software

This section presupposes that you have a working knowledge of Navigator or RouterMapper and have used its other capabilities. If not, please refer to the software ap0plication's user manual to familiarize yourself with its functions before you continue the Add process.

The steps described below direct you through the process by which you need to add the Platinum router to a database. It does not go into detail about other aspects of editing a router. For detailed information on editing routers in RouterMapper, please refer to the software application's user guide.

You must use Navigator 4.5 or RouterMapper v.5.11 or higher to add and configure a Platinum router. The software application is available on CD, which is included as part of your router shipment. This CD contains the most current versions of both software and manual that are available at the time you purchase your router.

Linking to the Database

1. Make sure that configuration utility software is installed on your PC. You will use it for configuration verification and changes.
2. Connect the PC to the TCP/IP (Ethernet) port using RJ-45 cable. The PC must be on the same network as the Platinum frame.
3. Connect AC power to the power supply(ies) for the Platinum frame, and then power up the frame.

***NOTE**: Polling and downloading a Platinum frame is only done through TCP/IP.*

4. Start up the software application on the PC.

   The software's main window opens.
   - If using Navigator, skip to step 7
   - If using RouterMapper, continue at step 5.
5. Select the communication mode from the RouterMapper **Comm Settings** pull-down menu. Make the following selections:
   - Default connection: TCP/IP
   - Enter appropriate IP address
   - Click **Add**
6. Click **OK** to accept the changes and return to the main window.
7. Click on **Poll** to add the router to the database. (This may take a few minutes.)

Adding a Frame

1. At the main window, highlight the Platinum router entry, and then click **Edit**.

   If no errors are found, the software application will update the Device List with all frames that were found during the Poll.
2. See your user manual for information on how to complete these tasks:
   - Edit the frame: set the levels, source offsets and destination offsets, etc.
   - Edit the logical database: define the logical sources, logical destinations, etc..

Copyright © 2010, Harris Corporation

- Configure the control panels (described in the section related to your particular panel).
- Download all frames and control panels

Application Parameters

The application parameters in Table 3-2, specific to a Platinum frame, are set by using Navigator or RouterMapper.You can view the downloaded settings for these parameters via the Module Parameters list box, which is part of the Detected Matrices tab. See your user guide for an explanation of how to access this information.

Parameters marked with an [RO] are read-only.

Table 3-2 Application Parameters Available Through Configuration Utility Software
(* denotes default setting; [RO] = Read-only parameter)

Parameter	Description	Options
Frame Type [RO]	Programmed frame size	■ PM-FR-5 ■ PM-FR-9 ■ PT-FR-15 ■ PT-FR-28
Detected Frame Type [RO]	Actual, physical frame size	■ PM-FR-5 ■ PM-FR-9 ■ PT-FR-15 ■ PT-FR-28
Frame Id	Number assigned to frame from application software to allow it to participate in the control system	0 - 127
Frame Name	Alphanumeric string used in application software to allow user-friendly naming of the Platinum frame; it shows in the hardware list	23 characters
CPU Id [RO]	PT-RES serial number; allows licensing for options such as SNMP	12 characters
Sync Mode1 • • Sync Mode4	Specifies sync settings for sync ports (see the software application manual for descriptions of these settings)	■ Auto ■ Standard ■ Advanced

Copyright © 2010, Harris Corporation

Table 3-2 Application Parameters Available Through Configuration Utility Software *(Continued)*
(* denotes default setting; [RO] = Read-only parameter)

Parameter	Description	Options
Sync Reference1 • • Sync Reference4	Only used if sync mode is "Standard" (see the software application manual for a description of this setting)	■ None* ■ 1280×720/50P Line 7 ■ 1280×720/60P Line 7 ■ 1280×720/60P/1.001 Line 7 ■ 1920×1080/24P Line 7 ■ 1920×1080/24P/1.001 Line 7 ■ 1920×1080/24PsF Line 7 ■ 1920×1080/24PsF/1.001 Line 7 ■ 1920×1080/25P Line 7 ■ 1920×1080/30P Line 7 ■ 1920×1080/30P/1.001 Line 7 ■ 1920×1080/50I Line 7 ■ 1920×1080/60I Line 7 ■ 1920×1080/60I/1.001 Line 7 ■ Analog 525/60 Line 10 ■ Analog 525/60/1.001 Line 10 ■ Analog 625/50 Line 6
Detected Reference1 [RO] • • Detected Reference4 [RO]	Sync reference that is automatically detected by PT-RES (this is the sync reference used when Sync Mode parameter is set to Auto) Four concurrent available sync references are allowed If an external sync reference is removed from the frame, the Sync Presence parameter will indicate that it is not present; however, the Detected Reference parameter will continue to show the previous detected reference to prevent interruption in switching operations	■ None* ■ 1280×720/50P Line 7 ■ 1280×720/60P Line 7 ■ 1280×720/60P/1.001 Line 7 ■ 1920×1080/24P Line 7 ■ 1920×1080/24P/1.001 Line 7 ■ 1920×1080/24PsF Line 7 ■ 1920×1080/24PsF/1.001 Line 7 ■ 1920×1080/25P Line 7 ■ 1920×1080/30P Line 7 ■ 1920×1080/30P/1.001 Line 7 ■ 1920×1080/50I Line 7 ■ 1920×1080/60I Line 7 ■ 1920×1080/60I/1.001 Line 7 ■ Analog 525/60 Line 10 ■ Analog 525/60/1.001 Line 10 ■ Analog 625/50 Line 6
Redundancy Mode	Instructs PT-RES to automatically switch crosspoints from a crosspoint module to its redundant crosspoint module when the active one is removed This feature is not available for frames that do not have redundant crosspoint modules; when set to Manual, you must switch each crosspoint to the redundant card by setting it to Active by using the crosspoint active parameter	■ Manual ■ Auto

Copyright © 2010, Harris Corporation

Table 3-2 Application Parameters Available Through Configuration Utility Software *(Continued)*
(* denotes default setting; [RO] = Read-only parameter)

Parameter	Description	Options
Redundant Switch Mode	Instructs PT-RES to switch all currently active crosspoints to the redundant crosspoint module when the active one is removed	Switch All
External Temperature [RO]	Specifies external operating temperature in degrees Celsius	–128° to 120°C
General Alarm1 [RO] • • General Alarm3 [RO]	Alarm relay on PT-RES	■ No Alarm ■ Alarm
Alarm Enable1 • • Alarm Enable3	Enables/disables General Alarm parameter	■ Enable ■ Disable
Active Crosspoint1 • • Active Crosspoint8	For frames that support redundant crosspoints, this parameter allows you to set the currently active crosspoint module If Redundant Switch Mode is set to Switch All" all active crosspoints will switch through the set crosspoint module and the corresponding, previous active crosspoint module will become inactive For all frames the value of this parameter indicates whether the crosspoint module installed is active (present and allowing switched)	■ On ■ Off
Sync Enable1 • • Sync Enable4	Allows you to select which sync references can trigger crosspoint switches	■ On ■ Off
Sync Presence1 • • Sync Presence4	Indicates which sync reference is presently detected by PT-RES If an external sync reference is removed from the frame, the Sync Presence parameter will indicate that it is not present; however, the Detected Reference parameter will continue to show the previous detected reference to prevent interruption in switching operations	■ On ■ Off
Active TDM Crosspoint1 •Active TDM Crosspoint2	Allows you to set the currently active TDM module	■ On ■ Off

Copyright © 2010, Harris Corporation

Table 3-2 Application Parameters Available Through Configuration Utility Software *(Continued)*
(* denotes default setting; [RO] = Read-only parameter)

Parameter	Description	Options
Active Sync Module1 • • Active Sync Module2	Allows you to set the currently active sync module	■ On ■ Off
Internal Network1 • • Internal Network4	Used with CENTRIO, sets the network address for internal Ethernet for each bank of CENTRIO modules This feature is not available for frames that do not have CENTRIO modules installed	192.168.101.000*
Double Density Mode	Used when a CENTRIO double density submodule is installed on a Platinum IB+ module This feature is not available for frames that do not have CENTRIO modules installed	■ 7+1 ■ 8+1 ■ None*
Temperature Threshold	Indicates the temperature threshold for all the temperature sensors in/on a Platinum frame When a change in any external or internal temperature sensor readings rises to the same value or greater than the temperature threshold value, the frame generates an alarm on the PT-Alarm module When a change in any external or internal temperature sensor value results in all temperature values drop to less than the temperature threshold, the alarm indicator will be cleared	60°C* (-127° to +127°C)

Copyright © 2010, Harris Corporation

Default Configurations

Table 3-3 Platinum Default Settings

Item	Default Setting
Frame ID	0
ENET 1	
IP address	192.168.100.250
Gateway	192.168.100.1
Subnet mask	255.255.255.0
Serial baud rate	38400 baud
Serial mode	RS-232
Telnet (max. # of connections=10)	On
FTP	On
VXY server	On # of users= 4 (max. # of users=10)
ENET 2	Off
IP address	192.168.100.251
Gateway	192.168.100.1
Subnet mask	255.255.255.0
Serial baud rate	38400 baud
Serial mode	RS-232
Telnet (max. # of connections=10)	Off
FTP	On
VXY server	On # of users= 4 (max. # of users=10)

Copyright © 2010, Harris Corporation

Copyright © 2010, Harris Corporation

4 RouterMapper Configuration Utility Initial Setup Guide

This initial setup guide will lead you through the basic steps you need to take to get your RouterMapper software application up and running. It will not provide you with detailed information on how each step is performed. It will refer you to places (by page number and/or by manual name) where you can find more specific information if you need it.

The following topics are covered in this quick-start guide:

The ***RouterMapper Configuration Utility Reference Guide*** can be viewed or downloaded from the RouterMapper software applications disk or from our website. Alternatively, if you want a hard-copy version of the manual, contact your Sales representative to obtain the printed version.

Copyright © 2010, Harris Corporation

Before You Begin

RouterMapper may be used with any IBM-compatible computer that meets these minimum requirements:

System Requirements

CPU	3 GHz Pentium IV processor
RAM	At least 1 GB
Hard disk space	At least 20 GB free
Additional disk drives	CD-ROM or CD-RW
Operating system[1]	Windows 2000 Windows XP Windows Me[2] Windows Vista (requires CCS Navigator™)
Port(s)	Serial port, RS-232 or RS-422/9600 baud or higher Ethernet port
Display resolution	800×600, 256 colors 1024×768, high color (16 bit) recommended
Pointing device	Mouse, trackball, touch screen, or other pointing device

Communication Dependencies

Table 4-1 provides a list of communication device dependencies for Harris router frames, control panels, and master control panel. To download, poll and/or control the device(s) listed in the left column, the communication link(s) marked with a "•" must be properly configured and connected.

Table 4-1 Communication Dependencies

Device(s)	Serial or Ethernet Gateway Connection to Router System	Ethernet Connection to Opus Master Control System
Edge protocol gateway	•	
Opus ABA panels	•	
Opus frames		•
Opus master control panels		•
Router control panels	•	
Router frames	•	

[1] Windows 2000, Windows XP, Windows Me, and Windows Vista are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
[2] See page 63 for special information concerning the installation of RouterMapper using Microsoft Windows Me operating system.

Copyright © 2010, Harris Corporation

Installing the Software

NOTE: *At any time during the installation process, you can click* ***Cancel*** *to abort the installation.*

1. Place the RouterMapper program disk into the correct drive on your personal computer.
2. Select **Run** from the Microsoft® Windows® Start menu.In the Command Line box, enter **[drive designator]:\setup.exe**.
3. Click **OK** to launch the RouterMapper setup program.
4. The setup program will display an installation confirmation dialog box. Click **OK** to continue program installation.
5. The Install Dynamic Routing Fabric Manager dialog box will appear. (The optional Dynamic Routing Fabric Manager function allows you to manage the dynamic routing thread connections between Integrator frames and other large routing systems based on Integrator frames.) Click **OK** to continue the program installation.
6. The Install Directory dialog box will appear. Designate the directory where the RouterMapper program files will be stored.
7. Click **OK**. The Install Electronic Documentation dialog box will appear.

   This dialog box provides you with the opportunity to install "electronic" copies of the printed RouterMapper documentation. In addition, you may install a copy of Adobe® Reader® software[1]. If you would like either the PDF files or the Reader (or both) installed, click the appropriate check boxes.
8. Click **OK**. A Program Group dialog box will appear. At this screen, you may select the program group where the application icons will appear.
9. When the program installation is complete, a Read Me dialog box will appear. This box includes up-to-date information that may or may not have been incorporated into the manual at the time of program release.
10. Select **File > Exit** to close the Read Mes dialog box and return to the desktop.

If the RouterMapper program has been successfully installed, the Start menu will include a new group titled "Leitch Routing Switchers."

Installing RouterMapper on PCs Using Microsoft Windows Me Operating System

If you want to install RouterMapper on a PC that uses a Windows Me operating system, you may need to manually remove the following files and Windows registry entries.

Files and Directories

1. At the Leitch root directory (**C:\Leitch**)
   a. Move any previously-created databases that you want to save to another location.

[1] "Adobe" and "Reader" are registered trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Copyright © 2010, Harris Corporation

b Move any previously-created PAN files that you want to save to another location.

c Delete all files and subdirectories.

2 At the Windows root directory (**C:\Windows** [or **WINNT**, etc.])

a Move the **EDITRTR.INI** file that you want to save to another location.

b Delete **EDITRTR.INI** file in the Windows root directory.

Registry Entries

Use **REGEDIT** to remove the following key, sub-keys and values:
HKEY_CURRENT_USER\Software\Leitch Routers and Switchers

Connecting RouterMapper to the System

- If you are downloading router frame and control panel device configurations **only,** you must have a PC that has a serial port connector.
- If you are downloading Opus master controller device configurations **only,** you must have a PC that has an Ethernet connection.
- If you have a CCS Router Gateway, you must have a PC that has an Ethernet connections (You will connect to a router via the Ethernet gateway.)
- If you are downloading **both** router frame/control panel **and** Opus master control device configurations, you must have a PC that has both serial port and Ethernet connections.

To download device configurations, the PC that is running RouterMapper must be connected to a serial port on one of the router frames. Communications between the PC and the panels is carried from the router frame to all of the panels via the X-Y control bus. **Figure 4-1** shows the possible connections.

Copyright © 2010, Harris Corporation

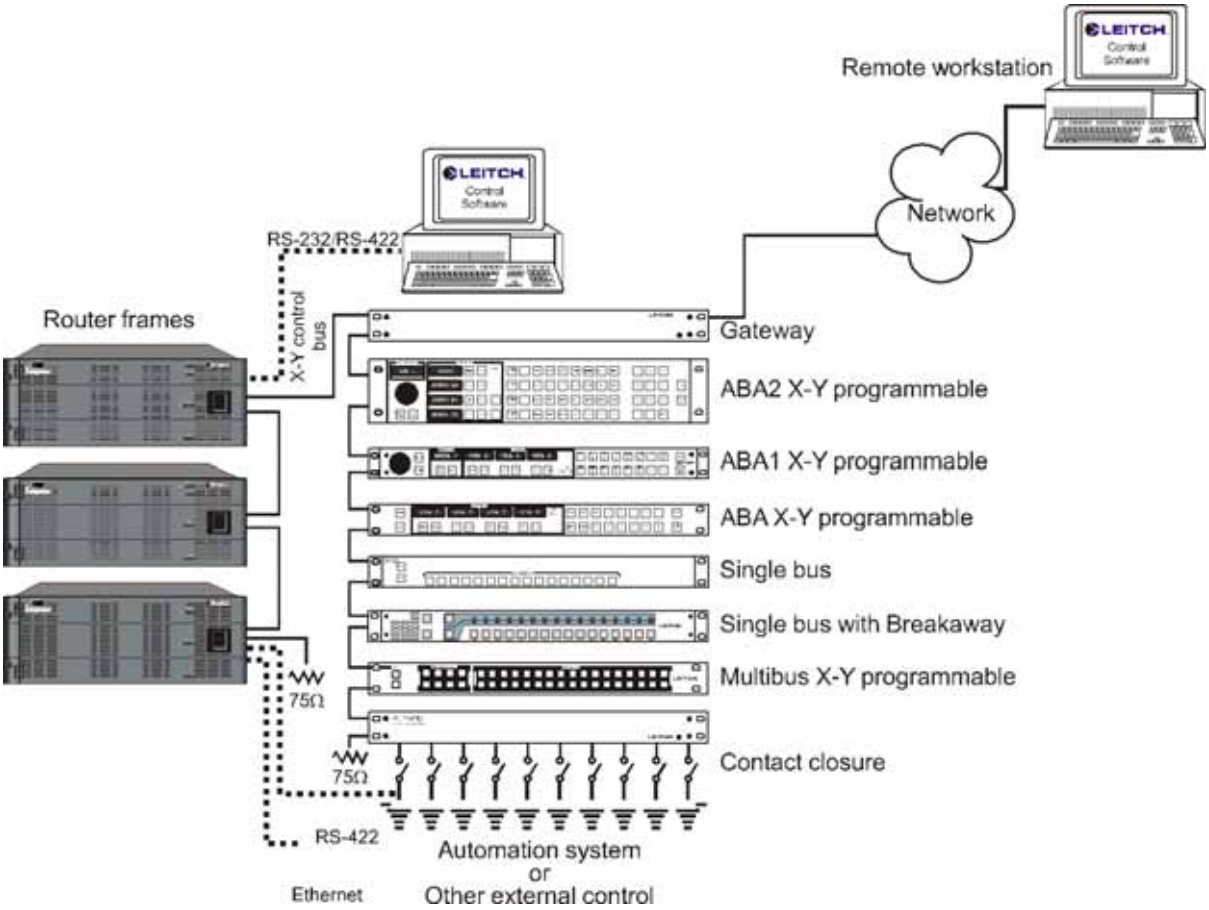


Figure 4-1 Connecting RouterMapper to a Control Panel

Creating an Additional Serial Port

***NOTE**: For more information on ordering the SPT-LSERIAL, contact your dealer or our Customer Service department.*

If a serial port is not available on any of the router frames in the system, then an SPT-LSERIAL can be used to provide a serial port for the system. Possible connections are shown in **Figure 4-2**.

Copyright © 2010, Harris Corporation

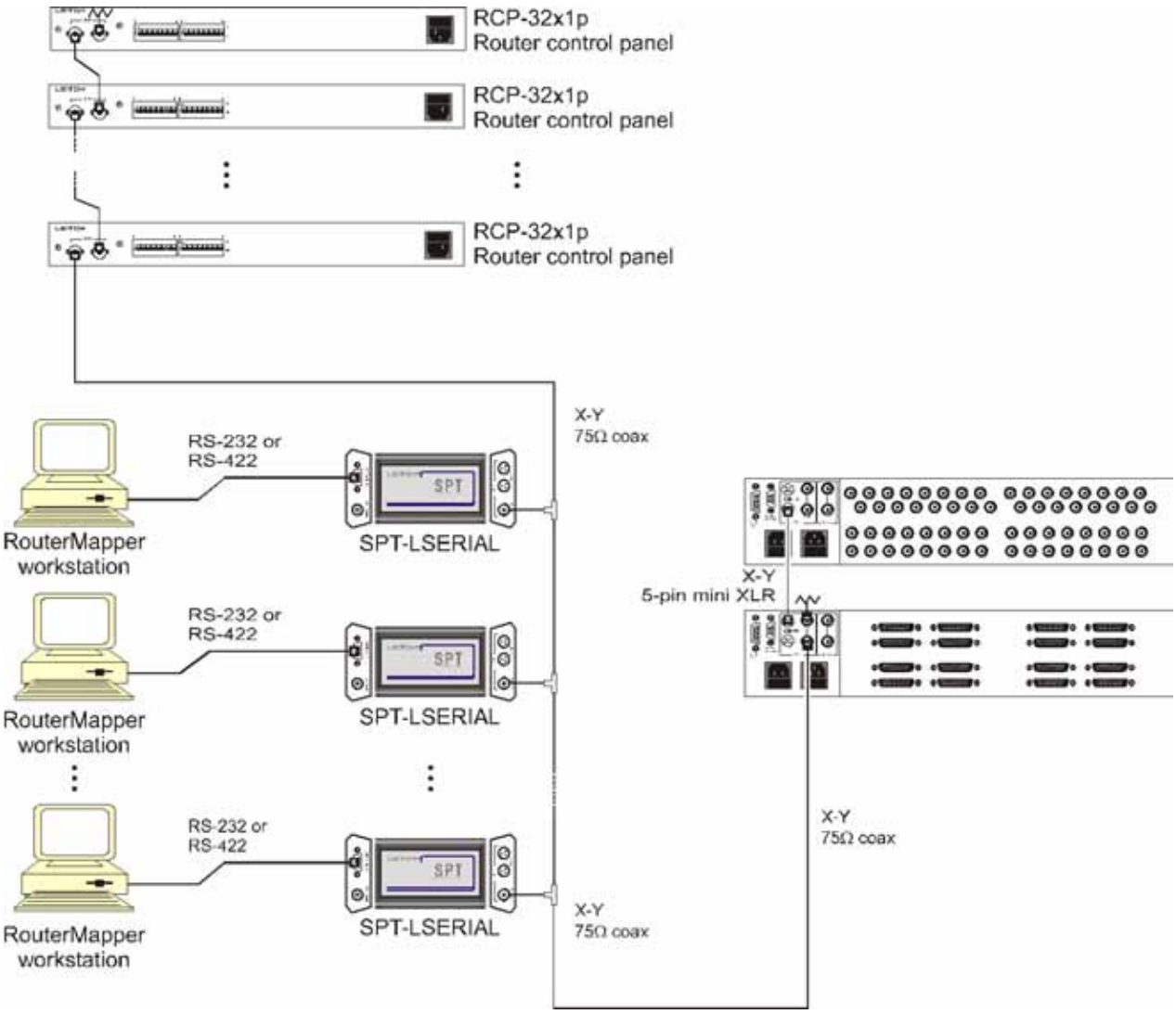


Figure 4-2 Connecting RouterMapper to Panel via SPT-LSERIAL

Setting Up RouterMapper Software

The Communications Settings dialog box allows you to control various telecommunications devices by changing settings.

Controlling Communications Settings

1. From the RouterMapper main window, click Comm Settings at the RouterMapper menu bar.
2. Choose one of these selections:
   - If you have a direct serial connection type, you can change baud rate or comm port settings.

Copyright © 2010, Harris Corporation

NOTE: *Detailed instructions on setting up a remote dial-up connection are provided in* ***Remote Dial-Up*** *on page 23 of your RouterMapper Configuration Utility manual. A copy of the manual is available on your setup disk.*

- If you have a remote dial-up connection type, you can set the baud rate for your modem, the remote router telephone number, automatic redialing properties, tone or pulse dialing mode, and your modem initialization string.
- If you have a TCP/IP connection type, you can set the IP address connections and give instructions on what to do if a current IP address connection fails.
- If your PC is not connected to a routing system, but you want to see how RouterWorks software will operate with a routing system, choose Demo Mode to simulate the presence of a router and will allow the RouterWorks software to be operated normally.

Setting Preferences

The Preferences dialog box allows you to control how particular aspects of RouterMapper information is displayed. To access the Preferences dialog box:

1. From the RouterMapper main window, click Preferences at the RouterMapper menu bar.
2. Choose one of these selections:
   - Editor (allows you to display certain kinds of helpful information when you edit router databases or panel settings)
   - Panel Defaults (provides the default button definition for all panels' two auxiliary buttons)
   - Soft Panel Fonts (allows you to select the fonts to use on soft panel and hard panel displays)
   - Hard Panel Fonts (allows you to select the fonts to use on soft panel and hard panel displays)
   - Button Color (allows you to change panel button background color and panel button text color; and to select color printing for key caps)
   - Zero-Based Export (allows you to controls whether you export a RouterMapper database with zero-based or one-based numbers)

Creating a RouterMapper Database

1. Poll the system for frames, control panels, and master controllers; discover them; or add them manually (see ***Polling the Control System*** on page 41; ***Discovering Devices*** on page 48, and ***Adding Devices Manually*** on page 50 of your ***RouterMapper Configuration Utility*** manual).

Copyright © 2010, Harris Corporation

2 Edit the frames. Set the levels, source offsets and destination offsets, etc. (see ***Editing a Frame Definition*** on page 263 of your ***RouterMapper Configuration Utility*** manual; for Opus master control switchers see ***Selecting a Master Control Frame*** starting on page 2 of your ***RouterMapper-Opus Configuration Utility*** manual).

3 Edit the logical database. Define the logical sources, logical destinations, etc. (see ***Editing a Logical Database*** on page 201 of your ***RouterMapper Configuration Utility*** manual).

4 Configure the control panels (see the table of contents of your *RouterMapper Configuration Utility* manual for your particular panel; for Opus master control switchers see ***Editing an Opus Panel*** starting on page 51 of your ***RouterMapper-Opus Configuration Utility*** manual).

5 Download all frames and control panels (see ***Downloading Device Definitions*** on page 54 of your ***RouterMapper Configuration Utility*** manual).

Special Information About Setting up Communications Settings for Platinum Routers

IMPORTANT: The ENET 1 and ENET 2 tabs control the Ethernet ports on your Platinum router. The configuration steps you follow will differ, depending on whether you use one or both ports.

The ENET 1 and the ENET 2 tabs' network properties are divided into two sections: the Current (read-only) section, which is displayed on the left side of **Figure 4-3**/**Figure 4-4**; and the Programmed (editable) settings section, which is displayed on the right side of **Figure 4-3**/**Figure 4-4**.

NOTE*: You cannot change the MAC address at this tab. The MAC address is set up via Navigator or card-edge controls.*

Programmed settings include

- Frame IP address (this is necessary for transferring or upgrading files via an FTP site; the actual frame IP address is set up via Navigator or card-edge controls.)
- Gateway address
- Subnet Mask address

Copyright © 2010, Harris Corporation

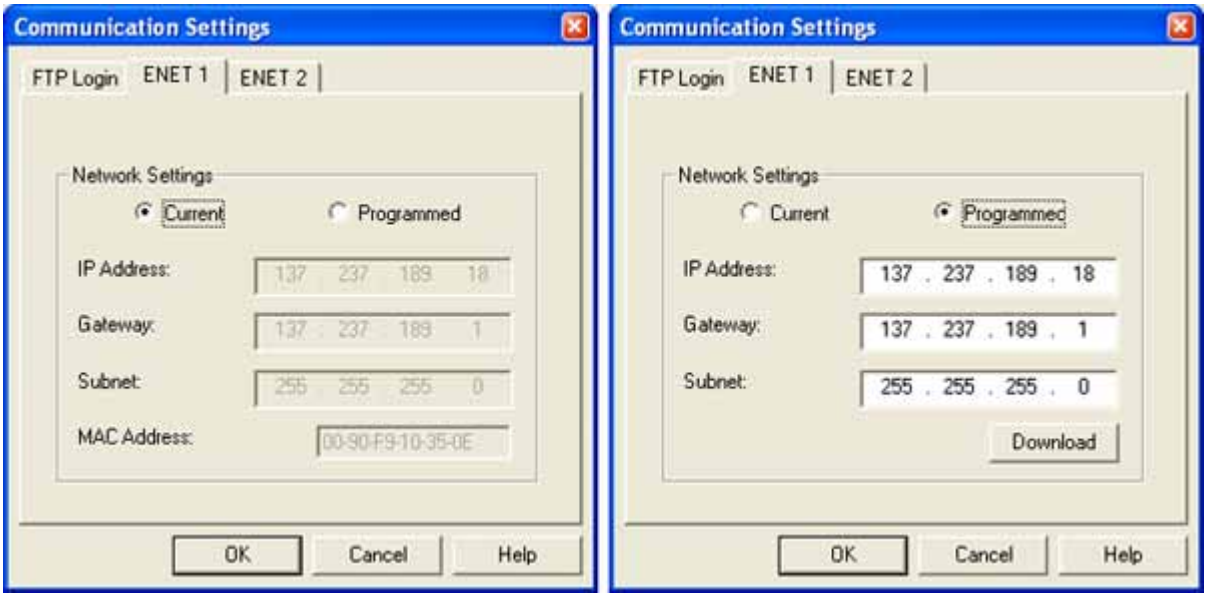


Figure 4-3 ENET 1 Tab Showing Current and Programmed Selection Results

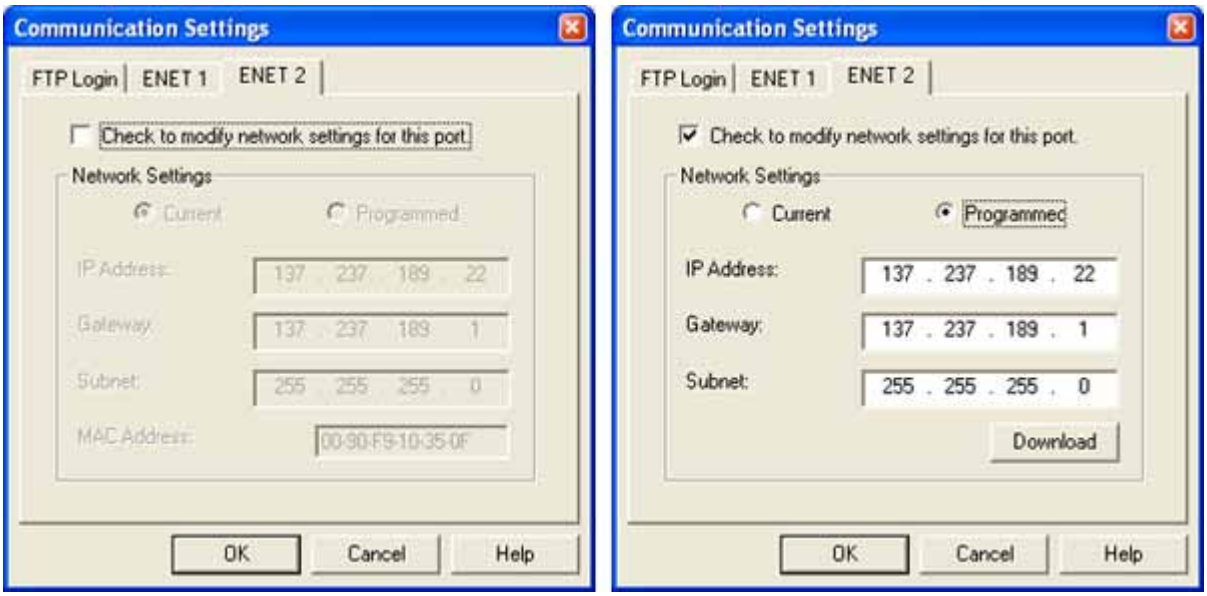


Figure 4-4 ENET 2 Tab Showing Current and Programmed Selection Results

To set up communication for RouterMapper to transfer configuration files to the Platinum frame (this is not assigning an IP address to the frame):

1 In the Platinum Communications Settings box, click **Settings...**. The Communication Settings dialog box will appear.

If necessary, select the FTP Login tab.

Copyright © 2010, Harris Corporation

Figure 4-5 FTP Login Tab

2 In the **Username** box, enter the user name used for FTP transfers. (The actual username is set up or changed via Navigator.)
3 In the **Password** box, enter the user name used for FTP transfers. (The actual password is set up or changed via Navigator.)
4 In the **Confirm** box, re-enter the password you just entered.
5 Click **OK** to accept the changes.
6 Select the ENET 1 tab.
7 Fill in the Frame IP address.
8 Click **OK** to accept the changes.

To assign IP settings to the Platinum frame's ENET 1 and/or ENET 2 ports:

1 Fill in the FTP Login information as appropriate for your network.
2 Select the ENET 1 tab.
3 Fill in the Frame IP address, Gateway address, and Subnet Mask address. (You cannot change the MAC address at this tab. The MAC address is set up via Navigator or card-edge controls.)

***NOTE**: The ENET 2 port is disabled by default; you will need to make changes only if you are using a second Ethernet port on a Platinum router.*

4 Select the ENET 2 tab.
5 Select the **Check to modify network settings for this port** check box.
6 Fill in the Frame IP address, Gateway address, and Subnet Mask address.

Copyright © 2010, Harris Corporation

7 Click **Download** to accept the changes and send the changes to the router. You will receive a series of informational messages showing the progress of the download.

If the IP address you changed from is already set up in the Comm Settings menu, this download will change the selection at the RouterMapper **Comm Settings** menu. If the IP Address you changed from is not already set up, this download will not add the selection to the list.

Special Information about Setting up an Opus Master Control Switcher

The Opus master control switcher uses Ethernet-based communication. The default IP addresses will function correctly in one frame and one control panel configuration. We recommend that the PC used for configuration, the control panel, and the frame should all be connected directly to the hub and that the hub is ***not*** connected to a network server/ router. If you must connect this system to an additional network, please contact Customer Service for more detailed information.

- The Opus master control switcher also supports external router control. If the external router control functionality is used, the router configuration should be downloaded through the serial port to the target Opus master control frame after the Opus master control frame configuration has been successfully downloaded through your Ethernet connection. See ***Controlling an External Router*** starting on page 41 of your ***RouterMapper-Opus Configuration Utility*** manual, for details.
- To change network configuration of an Opus frame, see page 7 in your ***RouterMapper-Opus Configuration Utility*** manual.
- To change network configuration of an Opus control panel, see page 7 in your ***RouterMapper-Opus Configuration Utility***. Also see ***Setting up Network Information*** starting on page 53 of your ***RouterMapper-Opus Configuration Utility*** manual.
- To make a configuration of multiple frames and panels, see ***Editing the Master Assignment Window*** starting on page 56 of your ***RouterMapper-Opus Configuration Utility*** manual.

Opus Ethernet Communication Error and Diagnosis

A network communication error occurred if the Download Abort - Communication Error message appears.

If a communication error occurred, you need to check the physical network link between the PC and the target frame or the target panel.

The following method can be used to verify network communication condition.

Verify Network Communication by Using Ping

Under a DOS prompt, try the following command to clarify whether there is a network problem.

ping <Current Frame IP Address>; then, click **Enter**.

Copyright © 2010, Harris Corporation

Example 1: Ping response for a good network link

Example 1 shows what will be displayed if testing communication with a frame that has the IP address 172.16.10.210.

C:\WINDOWS>ping 172.16.10.210

Pinging 172.16.10.210 with 32 bytes of data:

Reply from 172.16.10.210: bytes=32 time=2ms TTL=255
Reply from 172.16.10.210: bytes=32 time=1ms TTL=255
Reply from 172.16.10.210: bytes=32 time=1ms TTL=255
Reply from 172.16.10.210: bytes=32 time=1ms TTL=255

Ping statistics for 172.16.10.210:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milliseconds:

Minimum = 1ms, Maximum = 2ms, Average = 1ms

Example 2: Ping response for a bad network link

Example 2 shows what will be displayed if there is a bad network link to a frame that has the IP address 172.16.10.210.

C:\WINDOWS>ping 172.16.10.210

Pinging 172.16.10.210 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 172.16.10.210:

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

Approximate round trip times in milliseconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

Persistent Communication Errors

If **Ping <Current Frame IP Address>** shows a good physical link but the communication errors persist:

1. Reboot the target frame.
2. Close and reopen the RouterMapper program.

Copyright © 2010, Harris Corporation

Contacting Us

If you have questions about this or other any of our other products, contact us for technical support and product information.

Technical Support

We are committed to providing round-the-clock, 24-hour service to our customers around the world. Visit our website for information on how to contact the Customer Service team in your geographical region.

Product Information

If you would like the latest product information or documentation, contact your dealer or our Sales Department; or, visit our website for more information.

Copyright © 2010, Harris Corporation

Copyright © 2010, Harris Corporation

5 RouterWorks Router Control Software Initial Setup Guide

This initial setup guide will lead you through the basic steps you need to take to get your RouterWorks software application up and running. It will not provide you with detailed information on how each step is performed. It will refer you to places (by page number and/or by manual name) where you can find more specific information if you need it.

The following topics are covered in this quick-start guide:

The *RouterWorks Router Control Software Reference Guide* can be viewed or downloaded from the RouterWorks software applications disk, or from our website. Alternatively, if you want a hard-copy version of the manual, contact your Sales representative to obtain the printed version.

Copyright © 2010, Harris Corporation

Before You Begin

System Requirements

RouterWorks may be used with any IBM-compatible computer that meets these minimum requirements:

CPU	3 GHz Pentium IV processor
RAM	At least 1 GB
Hard disk space	At least 20 GB free
Additional disk drives	CD-ROM or CD-RW
Operating system[1]	Windows 2000 Windows XP Windows Me[2] Windows Vista (requires CCS Navigator™)
Port(s)	Serial port, RS-232 or RS-422/9600 baud or higher Ethernet port
Display resolution	800×600, 256 colors 1024×768, high color (16 bit) recommended
Pointing device	Mouse, trackball, touch screen, or other pointing device

Communication Dependencies

Table 5-1 provides a list of communication device dependencies for Harris router frames, control panels, and master control panel. To download, poll and/or control the device(s) listed in the left column, the communication link(s) marked with a "•" must be properly configured and connected.

Table 5-1. Communication Dependencies

Device(s)	Serial Or Ethernet Gateway Connection to Router System	Ethernet Connection to Opus Master Control System
Edge protocol gateway	•	
Opus ABA panel	•	
Opus frame		•

[1] Windows 2000, Windows XP, Windows Me, and Windows Vista are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
[2] See page 78 for special information concerning the installation of RouterWorks using Microsoft Windows Me operating system.

Copyright © 2010, Harris Corporation

Table 5-1. Communication Dependencies *(Continued)*

Device(s)	Serial Or Ethernet Gateway Connection to Router System	Ethernet Connection to Opus Master Control System
Opus master control panel		•
Router control panels	•	
Router frames	•	

Installing the Software

***NOTE**: At any time during the installation process, you can click **Cancel** to abort the installation.*

1. Place the RouterMapper program disk into the correct drive on your personal computer.
2. Select **Run** from the Microsoft® Windows® Start menu.In the Command Line box, enter **[drive designator]:\setup.exe**.
3. Click **OK** to launch the RouterMapper setup program.
4. The setup program will display an installation confirmation dialog box. Click **OK** to continue program installation.
5. The Install Dynamic Routing Fabric Manager dialog box will appear. (The optional Dynamic Routing Fabric Manager function allows you to manage the dynamic routing thread connections between Integrator frames and other large routing systems based on Integrator frames.) Click **OK** to continue the program installation.
6. The Install Directory dialog box will appear. Designate the directory where the RouterMapper program files will be stored.
7. Click **OK**. The Install Electronic Documentation dialog box will appear.

   This dialog box provides you with the opportunity to install "electronic" copies of the printed RouterMapper documentation. In addition, you may install a copy of Adobe® Reader® software[1]. If you would like either the PDF files or the Reader (or both) installed, click the appropriate check boxes.
8. Click **OK**. A Program Group dialog box will appear. At this screen, you may select the program group where the application icons will appear.
9. When the program installation is complete, a Read Me dialog box will appear. This box includes up-to-date information that may or may not have been incorporated into the manual at the time of program release.
10. Select **File > Exit** to close the Read Me dialog box and return to the desktop.

If the RouterMapper program has been successfully installed, the Start menu will include a new group titled "Leitch Routing Switchers."

[1] "Adobe" and "Reader" are registered trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Copyright © 2010, Harris Corporation

Installing RouterWorks on PCs Using Microsoft Windows Me Operating System

If you want to install RouterWorks on a PC that uses a Windows Me operating system, you may need to manually remove the following files and Windows registry entries.

Files and Directories

1. At the Leitch root directory (**C:\Leitch**)
   - **a** Move any previously-created databases that you want to save to another location.
   - **b** Move any previously-created PAN files that you want to save to another location.
   - **c** Delete all files and subdirectories.
2. At the Windows root directory (**C:\Windows** [or **WINNT**, etc.])
   - **a** Move the **EDITRTR.INI** file that you want to save to another location.
   - **b** Delete **EDITRTR.INI** file in the Windows root directory.

Connecting RouterWorks to a Router

To control a router with the RouterWorks software, the PC must be connected to a serial port in the routing system. For more information about connecting your PC to a serial port, see your ***RouterMapper Configuration Utility Reference Guide***.

Setting Up a RouterMapper Database

Before RouterWorks can be used to control a router, a database for the routing switcher must be created. Sources, destinations, and switching levels that are to appear on the on-screen control panels must first be defined using the RouterMapper application. Procedures for creating and editing databases can be found in the ***RouterMapper Configuration Utility Reference Guide*** that was provided with your software.

If you have already defined a router database using RouterMapper, it is not necessary to create a new one. Simply designate your existing database as the RouterWorks database by editing the panel initialization files as described in ***Designating the Router Database*** on page 77 of your ***RouterWorks Router Control Software Reference Guide***.

Copyright © 2010, Harris Corporation

Launching RouterWorks Applications

***NOTE**: If your PC is not connected to a routing system, but you want to see how RouterWorks operates, select "Demo Mode" from the **Comm Settings** menu in RouterMapper. Selecting Demo Mode will simulate the presence of a router and will allow the software to be operated normally.*

1. Open the *Leitch Routing Switchers* group window.
2. Choose one of the following options:
   - Select the *single-bus panel, multi-bus panel,* or *matrix panel* icons to open those applications.
   - Select the *Panel Wizard* icon to quickly set up a RouterWorks panel. See **Chapter 4**, ***Customizing Panels*** on page 61 in your ***RouterWorks Router Control Software Reference Guide*** for detailed information on how to use the Panel Wizard.
   - Select the *Read Me* icon to reopen the text notes that were displayed on installation.
   - Select the RouterWorks *Help* icon to open the Help file.
3. See your ***RouterWorks Router Control Software Reference Guide*** for detailed information on how to perform the following tasks:
   - ***AFV (Audio Follow Video) Switching*** on page 25
   - ***Alarms (Matrix Panels Only)*** on page 47
   - ***Allowing Overrides*** on page 44
   - ***Bidirectional Take*** on page 54
   - ***Breakaway Switching*** on page 27
   - ***Modifying On-Screen Display via the .PAN File*** on page 77
   - ***Connecting a Source*** on page 24
   - ***Executing and Editing Salvos*** on page 48
   - ***Locking and Protecting Destinations*** on page 36
   - ***Multiple Disconnect*** on page 32
   - ***Performing a Multiple Take (Matrix Panels Only)*** on page 29
   - ***Selecting a Destination*** on page 23
   - ***Source Disconnect*** on page 31
   - ***Source Replace*** on page 33
   - ***Undoing a Take*** on page 35
   - ***Using the Panel Wizard*** on page 62

Contacting Us

If you have questions about this or other Harris products, contact us for technical support and product information.

Copyright © 2010, Harris Corporation

Technical Support

Harris Corporation is committed to providing round-the-clock, 24-hour service to our customers around the world. Visit our website for information on how to contact the Customer Service team in your geographical region.

If you need technical support, call or fax the Customer Service Department. Customer support is available 24 hours each day, 365 days each year. Please visit our website for more information.

Product Information

If you would like the latest Harris product information or documentation, contact your dealer or our Sales Department; or, visit our website for more information.

Copyright © 2010, Harris Corporation