# PREMIERE SERIES MATRIX SWITCHERS


PREMIERE

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# PREFACE – ABOUT THIS MANUAL

## DOCUMENTATION AND SAFETY OVERVIEW

This manual provides detailed instructions for the installation, operation, and maintenance of PESA's Premiere Series Matrix Switchers.

It is the responsibility of all personnel involved in the installation, operation, and maintenance of the equipment to know all the applicable safety regulations for the areas that they will be working in. ***Under no circumstances should any person perform any procedure or sequence in this manual if the procedural sequence will directly conflict with local Safe Practices. Local Safe Practices shall remain as the sole determining factor for performing any procedure or sequence outlined in this document.***

***Additionally, access to the internal components of the equipment that is described in this document is restricted to qualified service personnel only.***

## WARNINGS, CAUTIONS, AND NOTES

Throughout this manual, you will notice various *Warnings, Cautions,* and *Notes*. These addendum statements supply invaluable information pertaining to the text that they address. It is imperative that audiences read and understand the statements to avoid possible loss of life, personal injury, destruction/damage to the equipment, and/or added information that could enhance the operating characteristics of the equipment (i.e., Notes). The following subsection represents a description of the *Warnings, Cautions*, and *Notes* statements contained in this manual:

- **WARNING**

| | |
|---|---|
|   | **Warning statements identify conditions or practices that can result in loss of life and/or permanent personal injury if the instructions contained in the statement are not complied with.** |

- **CAUTION**

| | |
|---|---|
|   | **Caution statements identify conditions or practices that can result in personal injury and/or damage to, or destruction of, equipment if the instructions contained in the statement are not complied with.** |

- **NOTE**

| | |
|---|---|
|   | **Notes are for informational purposes only. However, they may contain invaluable information important to the correct installation, operation, and/or maintenance of the equipment.** |

***Additionally, the Graphical User Interface (GUI) and Backstage Control software verbiage is used interchangeably throughout this manual.***

## SPECIAL NOTICE

While every precaution has been taken in the preparation of this manual, the manufacturer assumes no responsibility for errors or omissions. Neither does the manufacturer assume any liability for damages resulting from the use of the information contained herein. The manufacturer reserves the right to change the specifications, functions, or circuitry of the product without notice.

The manufacturer cannot accept liability for damage due to misuse of the product or due to any other circumstances outside the manufacturer's control (whether environmental or installation related). The manufacturer shall not be responsible for any loss, damage, or injury arising directly, indirectly, or consequently from the use of this product.

# Chapter 1: Introduction to The Premiere Series Matrix Switchers

This Chapter contains information to introduce Premiere Matrix Switchers to the end-user. The contents include a product overview, some terminology that is used to explain product usage, and technical support contact information.

## 1.1 PREMIERE MATRIX SWITCHER OVERVIEW

The Premiere product line is a fixed-size routing switcher. Offered in 8x4, 12x8, 16x8, and 16x16 sizes, this matrix is available in composite video (NTSC, PAL, SECAM), RGB, RGBS, RGBHV, four-channel audio, and stereo audio.


**FIGURE 1: Premiere Matrix Switcher**

Premiere matrix control is provided through a network-able Windows® GUI, local and remote pushbutton panels, Ethernet, and/or compatible third-party controllers using a simplified protocol interface. The Windows®-based GUI is included with each system. The provided software allows the system to operate on a network and includes basic, user-programmable capabilities.

Base feature sets for the Premiere 8x4, 12x8, 16x8, and 16x16 matrix switchers include the following:

- Capability of switching composite video (NTSC, PAL)
- Capability of switching component video (RGB, RGsB, RGBS, RGBHV)
- Capability of switching balanced/unbalanced stereo audio
- 75 Ohm BNC-type connectors for video connections
- Phoenix®-type connectors for audio
- RS-232 control card
- Audio mute capability
- Adjustable audio gain/attenuation from local panel or remote connections via the Graphical User Interface (GUI)
- Advanced sync capability to allow video lock before switching to next source
- Ethernet, Serial, and USB connections for remote control configuration and operation.
- Windows®-based GUI system setup and operation
- Up to six levels of control
- Audio breakaway

Optional feature sets for Premiere 8x4, 12x8, 16x8, and 16x16 units include, but are not limited to, the following:

- Optional local X/Y pushbutton front panel with illuminated buttons
- Optional remote X/Y pushbutton panel with illuminated buttons
- Vertical interval switching
- Optional CAT PAWS conversion boxes

## 1.2 SYSTEM USAGE

The following (see Figure 2) represents a typical peripheral device configuration for a Premiere Matrix Switcher system installation.

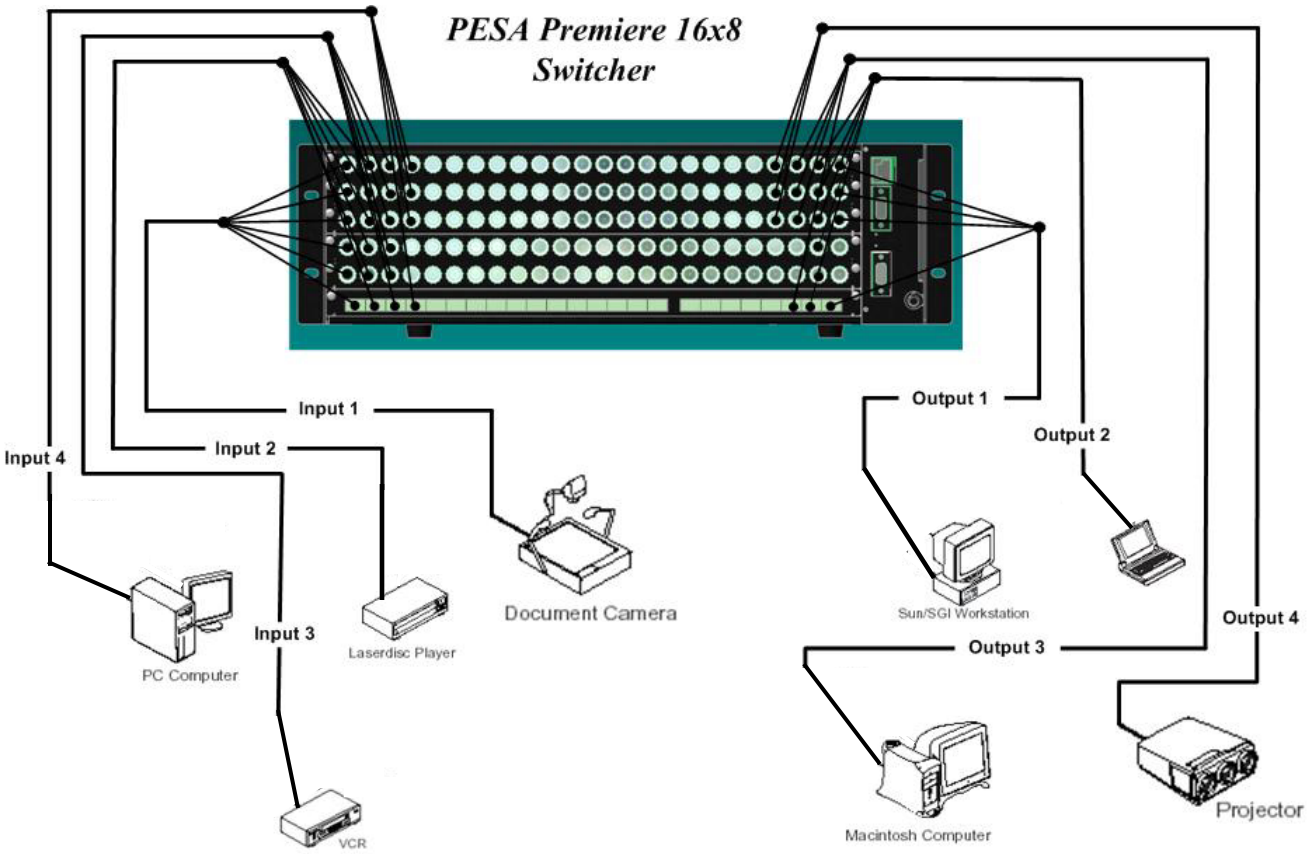


**FIGURE 2: Peripheral Equipment Example**

## 1.3 TERMINOLOGY

This subsection defines several terms that are used consistently throughout this manual. Additionally, there is an Abbreviations, Acronyms, and Definitions (AA&D) section in Chapter 10 of this manual. It is strongly suggested that the user become familiar with the terms that are used in this manual to avoid confusion.

| TERM | DESCRIPTION |
|---|---|
| **BCS** | Basic Control Structure. A set of alphanumeric characters that form command lines. Premiere Matrix Switchers use BCS commands to control the system from any serial device that is connected to the switcher's serial port connector. |
| **Control Panel** | A Premiere control panel (optional) may be connected to the switcher and allows the user to control the matrix from a remote location. |
| **GUI** | Graphical User Interface. A computer interface that incorporates graphical elements (picture, icons, etc.), rather than strictly text, to allow a user to perform specific tasks. Backstage Control is the GUI for the Premiere Series of Matrix Switchers. |
| **Level** | A level is a group of one or more signal components that are switched together. An example is that of stereo audio where the left and right channels switch simultaneously. |
| **Macro** | A Macro is a pre-designated set of switches that always occur together. Executing the assigned macro for the switch combination is a shortcut method for executing that specific switch combination. |
| **Matrix** | The system matrix contains all of the system's electronic switching (routing) capabilities and switch assignments for the Premiere Matrix Switcher. It includes the specific signal routing schema (e.g., roadmap) to allow the user to assign source input signals to specific destination output(s). |
| **Router** | Used interchangeably with term Switcher or Matrix Switcher. Typically, electronic equipment that employs high-speed, electronic switches to control the direction of signals with respect to input versus output. |

*Continued on next page*

## 1.3 TERMINOLOGY (cont.)

| TERM | DESCRIPTION |
|---|---|
| **Signal** | A signal is an analog audio, analog video, serial digital, synchronization information, or any other type of transmission that carries data. A source or destination signal (input or output) can be comprised of a set of connectors whose signals are switched together (e.g., RGBHV signal). Using a Premiere Matrix Switcher to route a specific input signal to a specific output, the input and output (source and destination) must be of the same signal type and must reside on the same level. |
| **Source and Destination Connections** | Source is the switcher's input connection and the destination is the switcher's output connection. |
| **Switch** | A switch is the active, electronic connection between the source signal and one or more destinations. |

## 1.4 PESA SWITCHING SYSTEMS, INC., TECHNICAL SUPPORT

| | |
|---|---|
| NOTE | **Please note that there are no user-serviceable parts or components contained in the Premiere Switcher. All service questions/problems should be forwarded to the PESA Switching Systems, Inc., Service Department (listed below).** |

### SERVICE AND ORDERING ASSISTANCE

***PESA Switching Systems, Inc.***
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# Chapter 2: Premiere Installation

Generally, there are only two types of installation for the Premiere Matrix Switcher: Desktop or 19" rack. This chapter will address both installations and describe the electrical requirements.

## 2.1 UNPACKING

Use care when unpacking the Premiere and save the packaging that the equipment was shipped in. The packaging can be reused in the rare event that the equipment needs to be returned to the factory. Verify the contents that were received are included on the packing list. Notify PESA Customer Service or your distributor if there are any discrepancies.

## 2.2 DESKTOP INSTALLATION

If the Premiere will be used as a desktop unit, the protective-rubber feet should be installed and the 19"-rack mounting plates should be removed. Complete the following steps to attach the feet and to remove the rack mounting plates.

- Protective foot installation (see Figure 3):

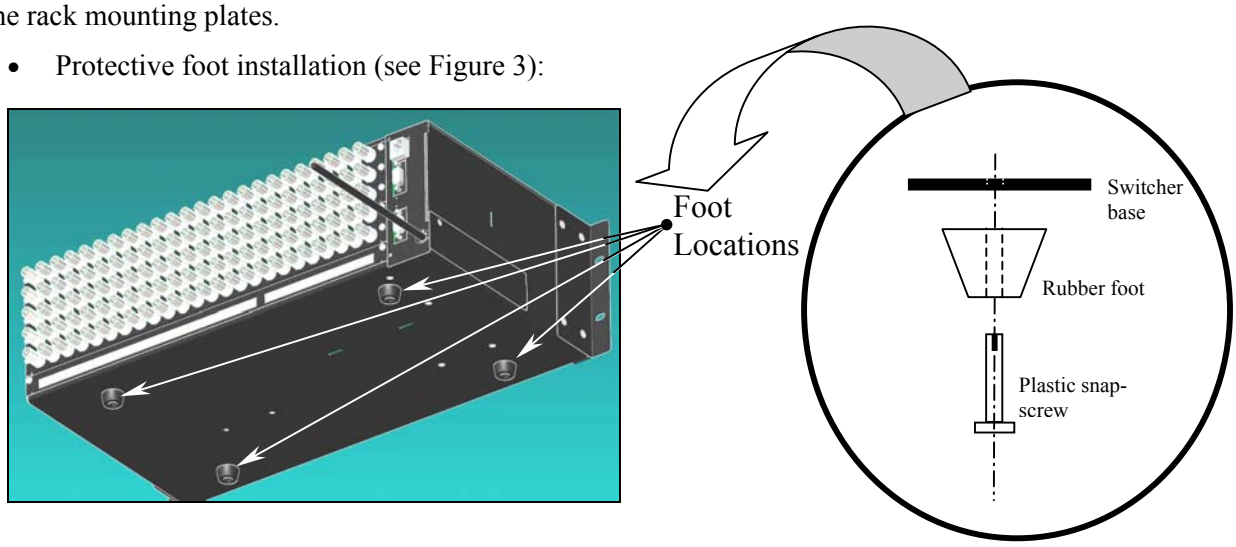



**FIGURE 3: Rubber Foot Installation**

a) Place a plastic snap-screw through the hole in one of the rubber feet (orient the smaller end of the foot away from the chassis).

b) Push the screw firmly into the corresponding hole in the base of the chassis until it snaps into place. If necessary, use a blunt instrument such as the handle of a screwdriver to set the snap-screw.

c) Repeat steps a) and b) for the remaining three feet.

d) To remove a foot, use a blade-type screwdriver and turn the plastic snap-screw counterclockwise until loosened.

- 19”-rack installation plate removal (see Figure 4):

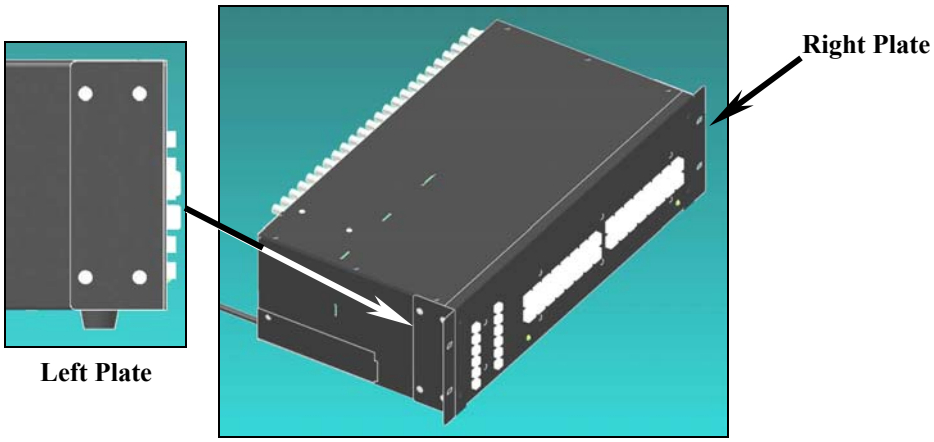



**FIGURE 4: 19-inch Rack Mounting Plate**

Locate and remove the four, Philip-head screws that attach each plate (left and right) to the chassis.

## 2.3 19-INCH RACK INSTALLATION

Each Premiere Matrix Switcher is shipped with the 19”-rack mounting plates installed. Position and align the switcher in the rack. Secure the chassis to the rack (see Figure 5) using four, rack-mounting screws (not supplied).

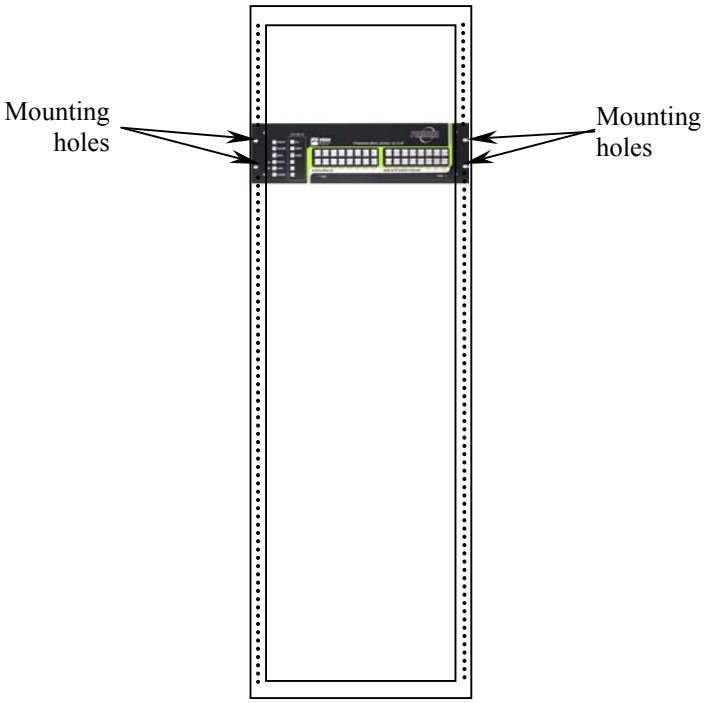



**FIGURE 5: 19-inch Rack Installation**

## 2.4 AUDIO CONNECTORS

Each Premiere Matrix Switcher is shipped with audio connectors (female) that are plugged into their respective receptacles (see Figure 6). All switcher audio connections will be populated with female connectors. Users are required to use these connectors to wire their audio systems for their switcher audio connections.

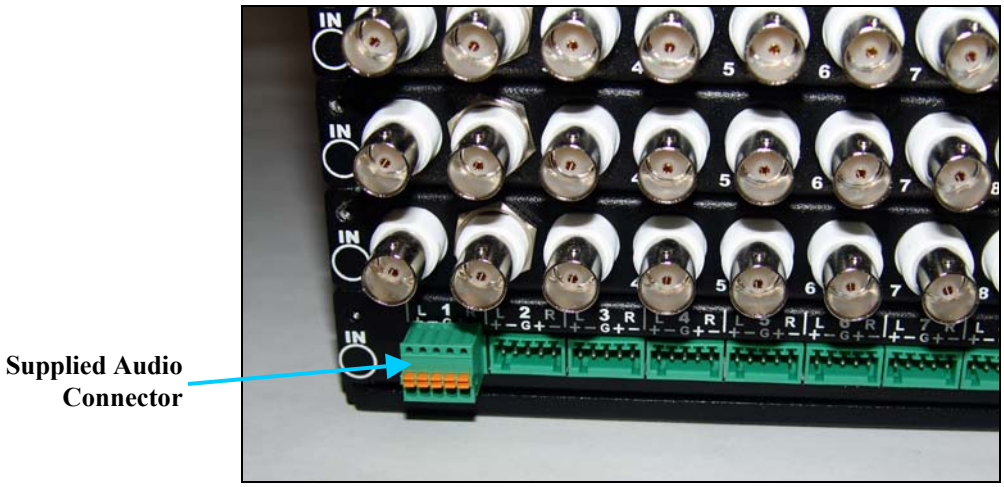
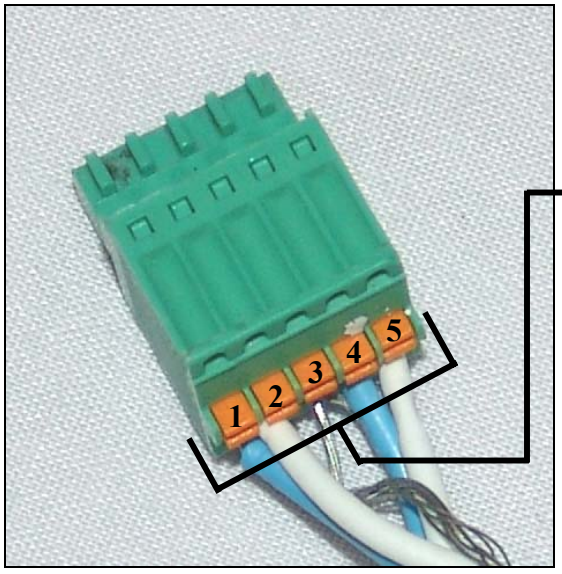



**FIGURE 6: Audio Connector For User-Audio Wiring**

### *2.4.1 Audio Connector Wiring Pin-outs*

The field wiring pin-out for each of the supplied audio connectors is as follows (see Figure 7):




**1: Left Channel Positive (+)**
**2: Left Channel Negative (-)**
**3: Common Shield (G)**
**4: Right Channel Positive (+)**
**5: Right Channel Negative (-)**

**NOTE:** *Recommended stranded conductor sizes for this connector is 26 to 20 American Wire Gage* (AWG).

**FIGURE 7: Audio Connector Pin-outs**

### *2.4.2 Audio Cabling Preparation And Connecting Sequence*

The following sequence is a suggested method of wiring the supplied audio connector:

1) If applicable (some audio systems use twisted pair), strip at least 1½ inches of the outer sheathing material from each audio cable (left and right channels) to expose the two conductors and shield (see Figure 8).

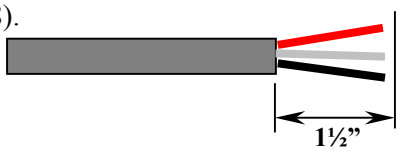



**FIGURE 8: Initial Audio Cable Preparation**

2) From the conductors, strip between ¼ to ½ inch of insulation from the ends (see Figure 9).

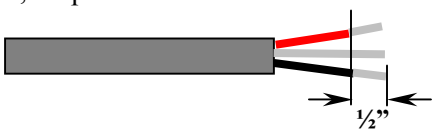



**FIGURE 9: Audio Conductor Preparation**

3) Twist the bare strands of each conductor together to secure the strands. Twist the two shield wires together to form one wire (see Figure 10).

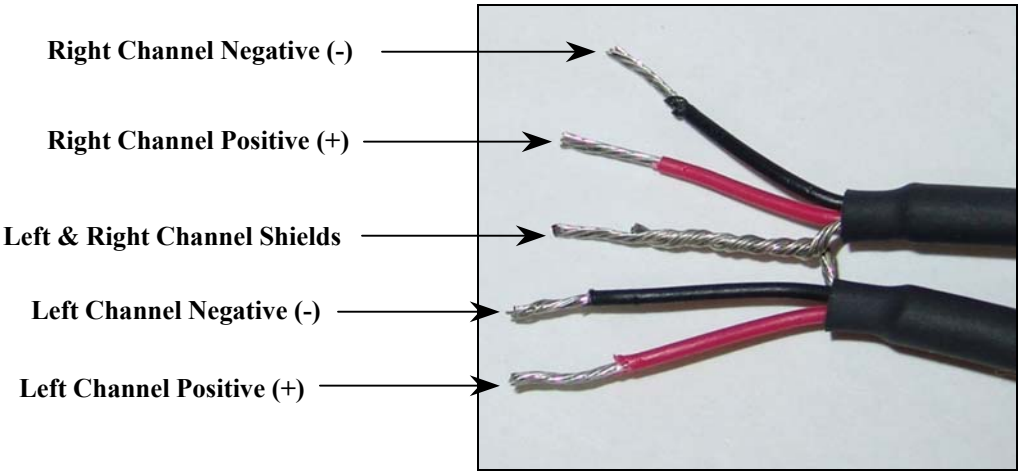



**FIGURE 10: Typical Audio Cabling Preparation**

4) (See Figure 11.) Secure the connector (useful to free both hands) either into the Premiere Matrix Switcher's corresponding audio receptacle or in a small, bench-type vice. Use a small, blade-type screwdriver (no more than 1/8 inch or 2.5 millimeter wide blade) to indent the spring-loaded tab and then, insert the wire in the appropriate connection hole and release the tab. Repeat for the remaining wires.

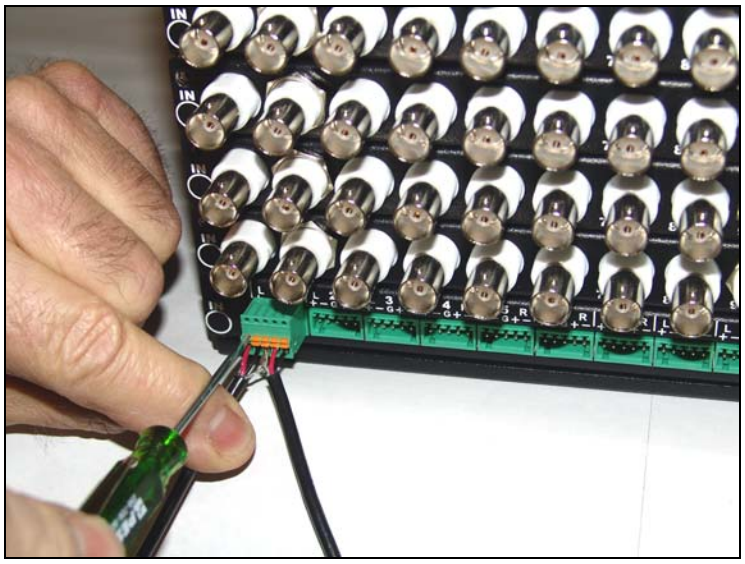


**FIGURE 11: Connecting the Audio Cabling**

5) If applicable, repeat Steps 1 through 4 for the remaining audio cables.

## 2.5 ELECTRICAL REQUIREMENTS

(See Figure 12.) All Premiere Series Matrix Switchers operate on 95 to 240VAC, 50-60 Hertz at 110Watts maximum (1.15 Amps maximum) power source. The chassis is factory-equipped with a standard line cord for USA locations that is UL rated for 120VAC. However (prior to shipment), the cord will be changed at the factory as necessary to be compliant and compatible with the country's available electrical source where the system is being used. The following power cords are available:

- USA 120VAC (#2805770)
- UK 230VAC (#2805990)
- EURO 230VAC (#2805980)

| | |
|---|---|
| STOP | **Since the Premiere Matrix Switcher's AC power cord is being used as the system's primary means of electrical disconnect, the AC receptacle should be located within visible sight of the switcher and should be easily accessible.** |

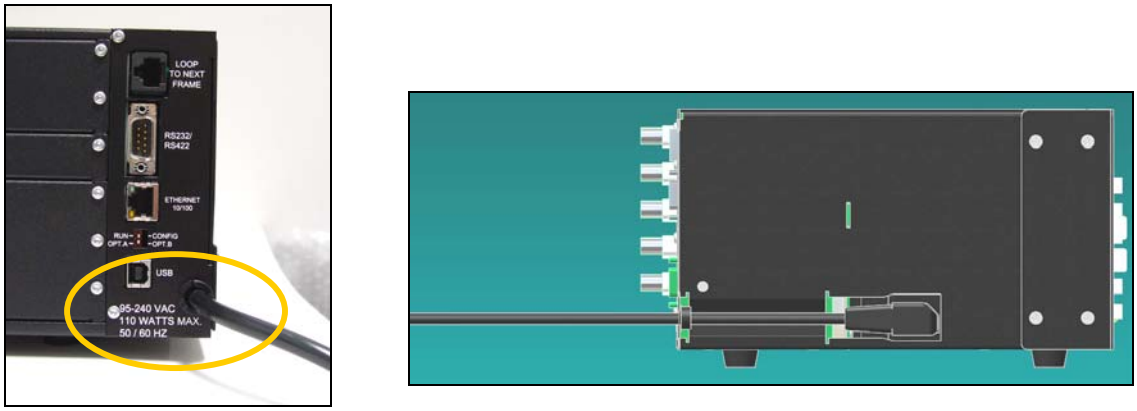



**FIGURE 12: Electrical Source Connection (factory installed).**

# Chapter 3: Premiere Configurations and User Controls

This Chapter will address the specific system configurations, connections, and user controls for the Premiere Matrix Switcher series equipment.

## 3.1 PREMIERE MATRIX SWITCHER CONFIGURATIONS

Premiere Matrix Switcher configurations are determined by the number of inputs versus the number of outputs a unit has. If a unit has 8 inputs and 4 outputs, then the Switcher is labeled as an 8x4 unit. The Premiere Series of matrix switchers include the following configurations:

- 8x4
- 12x8
- 16x8
- 16x16

## 3.2 SYSTEM AND USER INTERFACE CONNECTIONS

Each Premiere Matrix Switcher is equipped with standard connections that are used for system communications and user interfacing (see Figure 13).

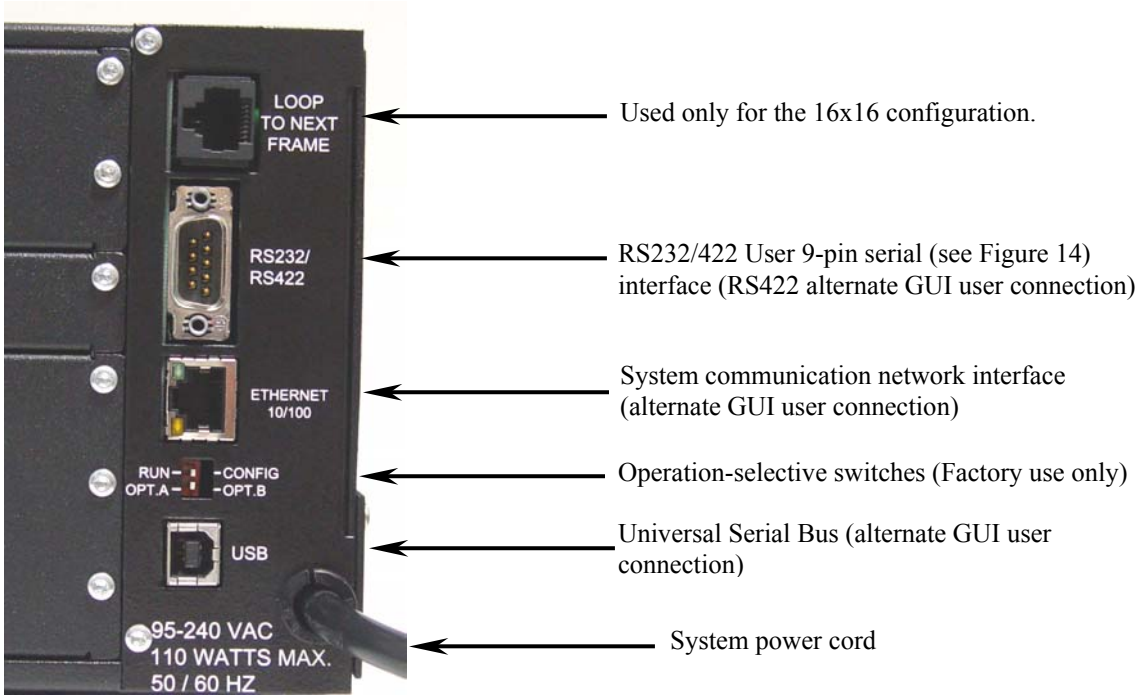



**FIGURE 13: System and User Connections**

- RS232 Pinout Structure (see Figure 14)

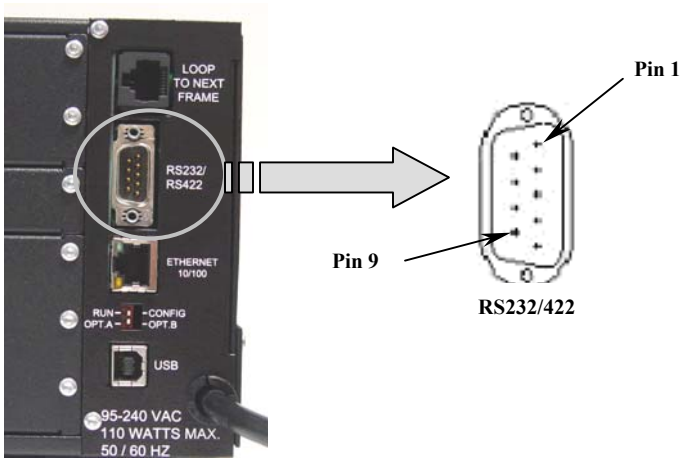



**FIGURE 14: RS-232/422 Control Connector**

**TABLE 1: RS232/422 Pin Assignments**

***RS232 Pinout***

| Pin | Switcher Signal | To Other Equipment |
|---|---|---|
| 1 | n/c | n/c |
| 2 | *TX (out) | RX (in) |
| 3 | **RX (in) | TX (out) |
| 4 | n/c | n/c |
| 5 | GND | GND |
| 6 | n/c | n/c |
| 7 | n/c | n/c |
| 8 | n/c | n/c |
| 9 | n/c | n/c |

***RS422 Pinout***

| Pin | Switcher Signal | To Other Equipment |
|---|---|---|
| 1 | n/c | n/c |
| 2 | *TX+ (out) | RX+ (in) |
| 3 | **RX- (in) | TX- (out) |
| 4 | n/c | n/c |
| 5 | GND | GND |
| 6 | n/c | n/c |
| 7 | *TX- (out) | RX- (in) |
| 8 | **RX+ (in) | TX+ (out) |
| 9 | n/c | n/c |

*: TX/TX+/TX- = Data output ***from the Switcher***

**: RX/RX+/RX- = Data input ***to the Switcher***

## 3.3 PREMIERE 8X4 MATRIX SWITCHER CONNECTOR LAYOUT AND USER CONTROL DESCRIPTIONS

See Figure 15 for the 8x4 connector layout.

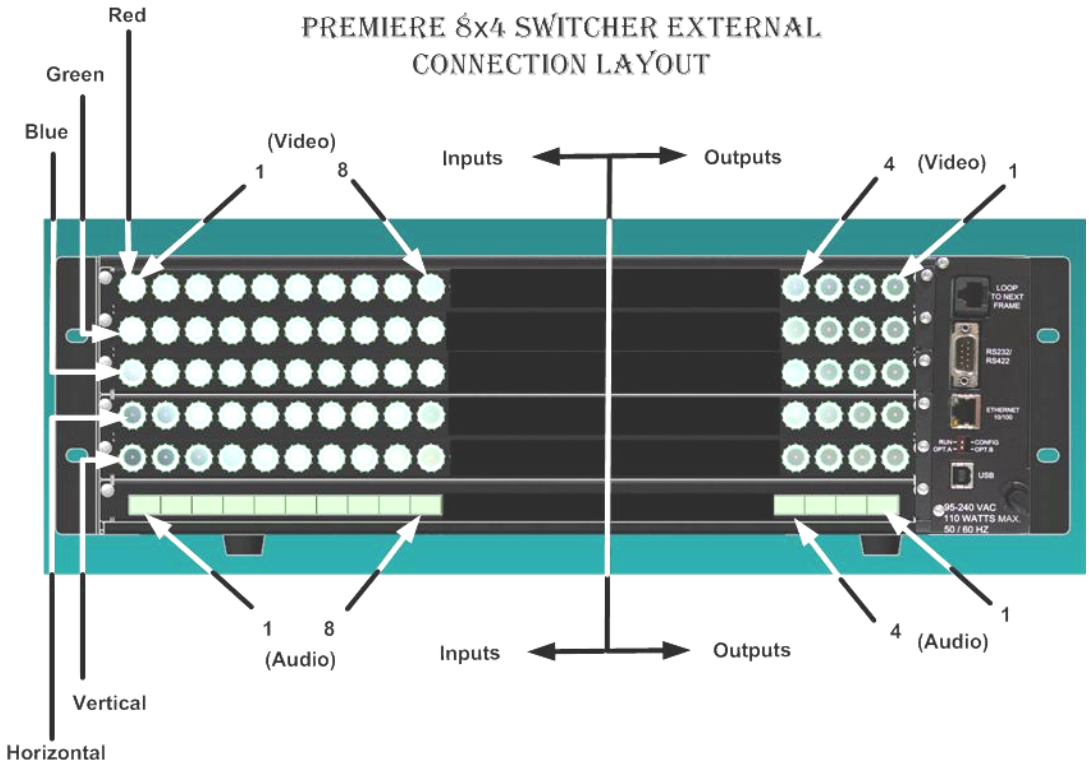



**FIGURE 15: Premiere 8x4 Connector Layout (Rear View)**

## 3.4 PREMIERE 12X8 MATRIX SWITCHER CONNECTOR LAYOUT AND USER CONTROL DESCRIPTIONS

See Figure 16 for the 12x8 connector layout.

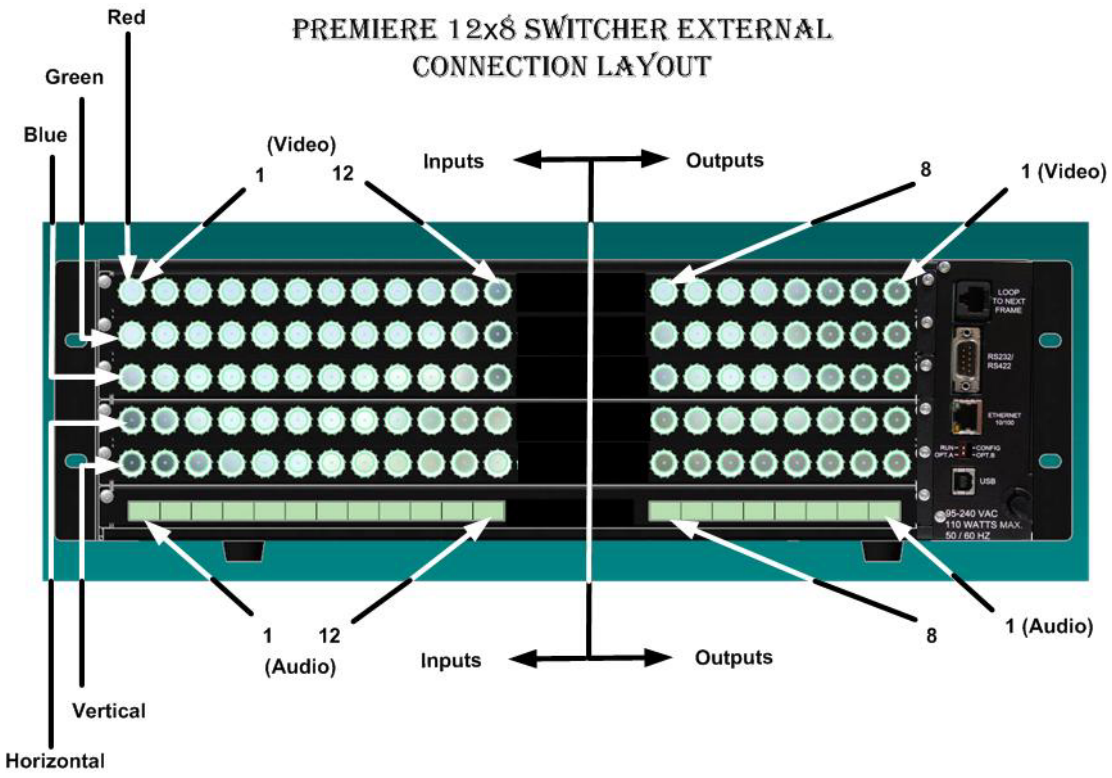



**FIGURE 16: Premiere 12x8 Connector Layout (Rear View)**

| | |
|---|---|
| NOTE | **The 12x8 Premiere Matrix Switcher configuration uses the 16x8 panel with the last four inputs (Sources) being inactive.** |

## 3.5 PREMIERE 16X8 MATRIX SWITCHER CONNECTOR LAYOUT AND USER CONTROL DESCRIPTIONS

See Figure 17 for the 16x8 connector layout.

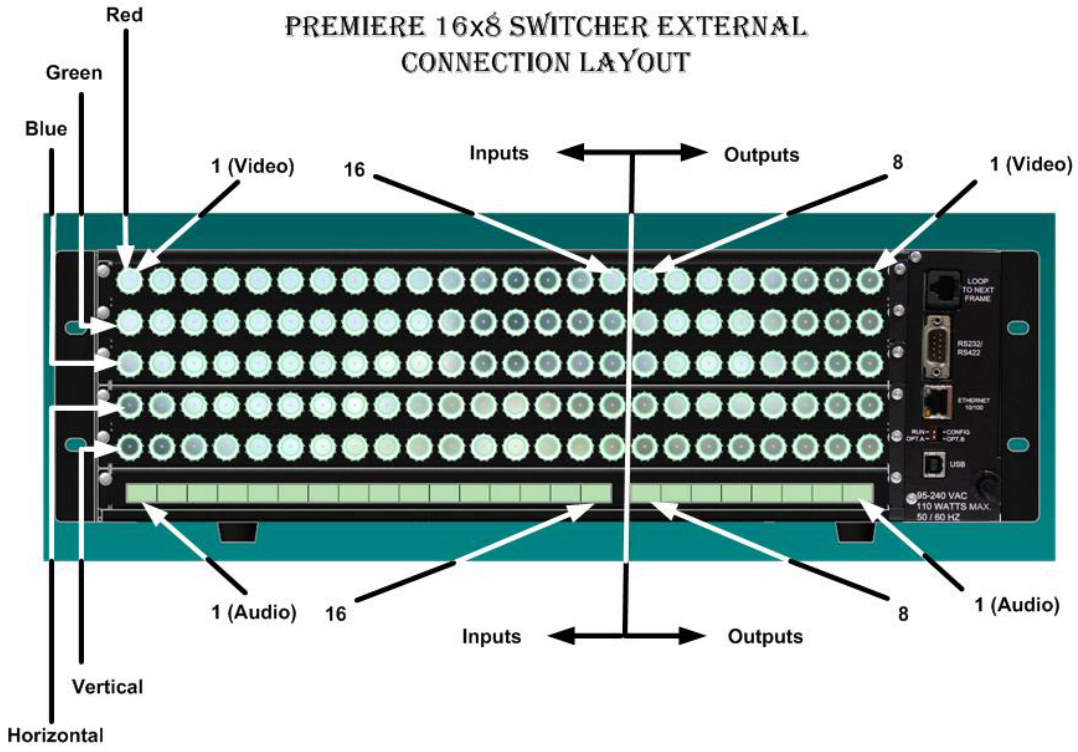



**FIGURE 17: Premiere 16x8 Connector Layout (Rear View)**

## 3.6 PREMIERE 16X16 MATRIX SWITCHER CONNECTOR LAYOUT

See Figure 18 for the 16x16 connector layout.

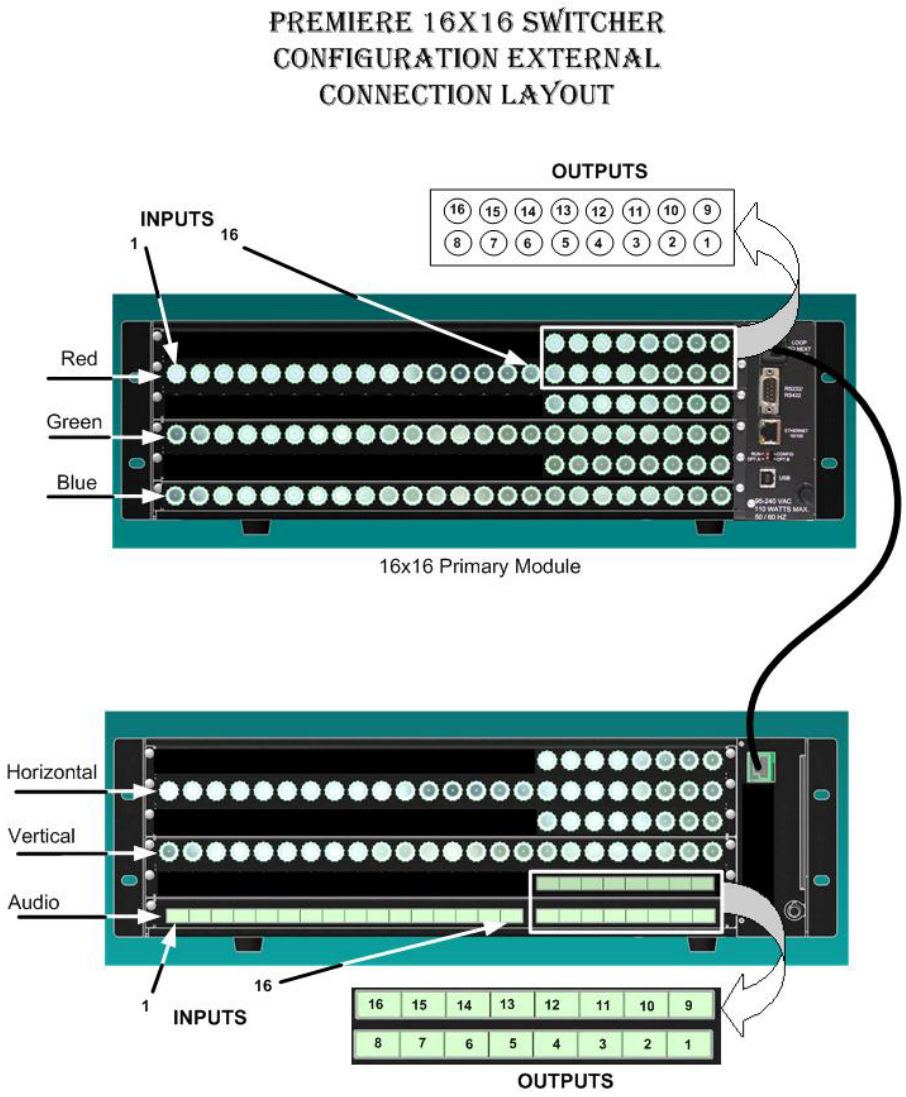



**FIGURE 18: Premiere 16x16 Connector Layout (Rear View)**

| | |
|---|---|
| NOTE | **After the units have been properly interconnected, powering the units requires that the primary and secondary units be powered simultaneously - or as close as possible. If unable, power the primary unit first and then, the secondary unit.**<br>**Additionally, both units are shipped as separate chassis and either chassis can be mounted as the top chassis.** |

## 3.7 BASIC USER CONTROL DESCRIPTIONS

All Premiere matrix switchers include either a blank front panel or a pushbutton control panel that provides basic user control functionality. Optional remote control panels are also available.

Switchers without a control panel, local or remote, can only be operated using an external controller. The Windows®–based Backstage Control software (Graphical User Interface) is provided for setup and operation of the Premiere. Third-party controllers can be used as well.

Premiere matrix switchers with the built-in control panel can be operated directly from the front panel interface and/or from an external controller.

Other than the number of source and destination buttons (see Figure 19) on the front panel, the functionality of the control panel is identical for all Premiere matrix sizes.

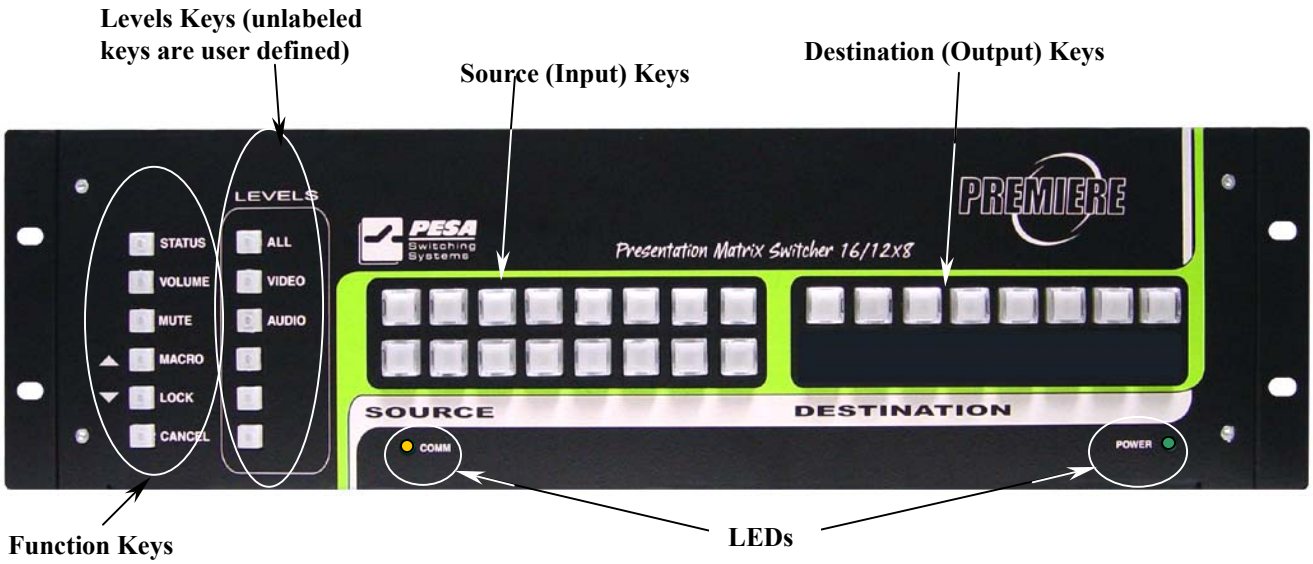



**FIGURE 19: Typical Front Basic Control Interface Panel**

This section will be divided into the following subsections:

- Basic Functions and LED Indicators
- Levels
- Source/Destination Switches

### *3.7.1 Basic Functions and LED Indicators*

This subsection will describe the functionality of the following front panel pushbutton switches (keys) and indicators:

- STATUS key
- VOLUME key
- MUTE key
- MACRO key
- LOCK key
- CANCEL key
- COMM LED
- POWER LED

#### 3.7.1.1 Status Key

When pressed, the Status key (see Figure 20) places the control panel in the Status Mode. The Status Mode is used to view the source and destination status and confirm that the switches are executing properly.


**FIGURE 20: Status Key Location**

To access and use the status mode, perform the following:

1. Press the STATUS key to access the Status Mode and illuminate the key.

   *Result:* All other key LEDs will extinguish and the STATUS key illuminates (continuous on with no flashing).

2. Press one of the LEVEL keys, corresponding to the control level that status is to be verified on.

   *Result:* The key will illuminate (steady).

3. Press any SOURCE key to view the destinations that are connected to this source on the control level selected in Step 2.

   *Result:* If no DESTINATION keys are illuminated, then no destinations are connected to this specific source on the selected control level.

4. Press any DESTINATION key to view the source input connected to this destination on the selected control level.

   *Result:* If no SOURCE keys are illuminated, then no source is connected to this destination on the selected control level.

5. As required, repeat steps 2 through 4 for the remaining Sources, Destinations, and/or levels.

6. To exit the status mode, press CANCEL key.

### 3.7.1.2 VOLUME Key

| | |
|---|---|
| NOTE | **To use the VOLUME function, the panel must first be in the switching mode (i.e., all keys are extinguished – no user function is selected). Only the audio portion associated with either the source or destination connection is affected by the volume control.** |

(See Figure 21 for the VOLUME key location.)


**FIGURE 21: VOLUME Key Location**

This function allows the volume of each of the audio outputs to be adjusted from the front panel. There is an additional gain (volume) adjustment associated with each input, which can be adjusted to normalize the amplitude of all the source input signals prior to being routed to their outputs.

To access and initiate a volume adjustment, perform the following:

| | |
|---|---|
|  | **Only qualified technicians should perform this adjustment. Typically, when the VOLUME function is used, audio measurement equipment is monitoring the input or output that is being adjusted. These adjustments can be critical to the listening environment that is being affected.** |

1. Press and hold the VOLUME key until the key illuminates (flashes).
2. Press the specific DESTINATION or SOURCE key that requires the volume adjustment. Multiple selections are not accepted; only one key at a time can be adjusted.

   *Result:* The selected key will illuminate (steady). The MACRO key ("up" or "increase" arrow ▲) and the LOCK key ("down" or "decrease" arrow ▼) will then illuminate (steady).

| | |
|---|---|
|  | **Volume adjustments are performed in an incremental fashion, stepping up or down, rather than continuously adjusting until the key is released. Each press of the key increases or decreases the volume by 0.5dB.** |

3. To increase the volume for the selected destination/source, press and release the MACRO (up) key. To decrease the volume for the selected destination(s), press and release the LOCK (down) key. Repeat as necessary until the desired volume levels are attained.
4. Repeat Steps 1 through 3 for the desired remaining Source and/or Destination volume adjustments.
5. To exit the volume control mode, press the CANCEL key.

### 3.7.1.3 MUTE Key

When initiated (MUTE key is pressed - see Figure 22), the mute function disables the entire audio system in the Premiere – all audio switching functions cease and all associated audio user functions are disabled.


**FIGURE 22: MUTE Key Location**

When the Premiere is in this mode, the MUTE key is illuminated (flashing). This function acts as an active shutdown or panic feature for the audio system of the matrix switcher. However, the system remains energized and once the MUTE key is pressed again, all previous operations continue as previously programmed.

Once the mute mode has been initiated, the only way to exit or close the mute mode is to press the MUTE key again.

### 3.7.1.4 MACRO Key

(See Figure 23 for the MACRO key location.)


**FIGURE 23: MACRO Key Location**

A macro is a specific, preprogrammed switch configuration (source to destination connection assignments) that can be recalled with a single key press. Macros are only developed and assigned to keys by using the Backstage Control software (GUI) and can be initiated from either the front panel or from the GUI. There are 6 levels that macros can be assigned to. Each level can have as many macros as the number of SOURCE and DESTINATION keys on the front panel. For example, for a 12x8 switcher, there can be 20 macros per level for a total of 120 macros (20 x 6). For further information about macro development and assignments, refer to the GUI (Backstage Control) documentation in Chapter 5 of this manual.

Additionally, the MACRO key functions as an increase-volume key when the front panel is in the volume control mode.

To execute a macro, perform the following sequence:

1. Press the MACRO key to place the switcher in the macro mode.

   *Result:* The MACRO key illuminates (steady). All other keys are extinguished. After approximately 5 seconds, the CANCEL key illuminates (flashing).

2. Press the specific LEVELS key where the macro resides.

   *Result:* The specific LEVELS key will illuminate (steady).

3. Press either a SOURCE or DESTINATION key to initiate the macro assigned to it.

   *Result:* The assigned macro for the key is initiated.

4. Repeat steps 1 through 3 to execute a different macro.

### 3.7.1.5 LOCK Key

The LOCK key (see Figure 24) mode locks and unlocks the control panel functions to prevent inadvertent program changes.


**FIGURE 24: The LOCK Key Location**

The lock mode requires a password to execute and exit the function. The default password is the first 5 keys in the LEVELS column in order beginning at the top. The password can only be changed through the Backstage Control software (GUI). Any combination of five keys in the Level column on the front panel can be programmed as a password. For further information about changing passwords, refer to the Backstage Control software (GUI) section (Chapter 5) in this manual.

Additionally, the LOCK key functions as a decrease volume key when the front panel is in the volume control mode.

To initiate the panel lock mode, perform the following sequence:

1. Press the LOCK key.

   *Result:* The LOCK key illuminates (flashing) and all other lights are extinguished. A 15-second password entry period begins and if the password is not entered correctly during this period, the lock mode must be initiated again.

2. Enter the 5-key password by pressing each key in sequence.

   *Result:* The LOCK key changes from flashing to steady illumination and the panel is locked.

3. To unlock the panel, press the LOCK key until it is flashing. Re-enter the password by pressing each key in sequence. (Remember, there is a 15-second time limit for password entry!)

   *Result:* The LOCK key extinguishes and the front panel controls can be accessed.

### 3.7.1.6 CANCEL Key

The cancel mode allows the user to cancel the current command or function and return the front panel to the "Ready State" or "Switching" mode. Once the CANCEL key (see Figure 25) is pressed, the key is extinguished and the command is exited.


**FIGURE 25: CANCEL Key Location**

This command can be executed at anytime or when the CANCEL key is illuminated (flashing), which usually begins after an approximate 5-second delay when the user has initiated a function. However, the Cancel function will not unlock the matrix switcher since the lock mode is password protected.

### 3.7.1.7 COMM and POWER LEDs

(See Figure 26.) The COMM LED provides a visual indication of data communication between the Premiere and an external controller. The COMM LED will blink when data is being transferred to or from the Premiere. The POWER LED provides a continuously illuminated, visual indication that the Premiere is powered and internal voltages are present.


**FIGURE 26: COMM and POWER LED Locations**

### *3.7.2 LEVELS Keys*

LEVELS keys (see Figure 27) provide access to specified control levels for active switching requirements.


**FIGURE 27: LEVELS Key Locations**

The first three LEVELS keys (starting at the top) are defaulted to ALL, VIDEO, and AUDIO respectively. The last three keys are user-defined keys. However, all of the keys can be redefined through the Backstage Control software (GUI). The LEVEL keys are also used in conjunction with MACRO assignments as described in section 3.7.1.4. Any macro can be assigned to any (or all) of the six Level keys. However, when the LEVELS keys are used in conjunction with the SOURCE and DESTINATION keys, macros are only limited to the number of keys the specific switcher contains.

For further information about macros and level assignments, refer to Chapter 5 of this manual.

### *3.7.3 SOURCE/DESTINATION Keys*

SOURCE and DESTINATION keys (see Figures 28 and 29) are used to route signals between inputs and outputs.


**FIGURE 28: SOURCE and DESTINATION Key Locations (12x8 Matrix Switcher)**

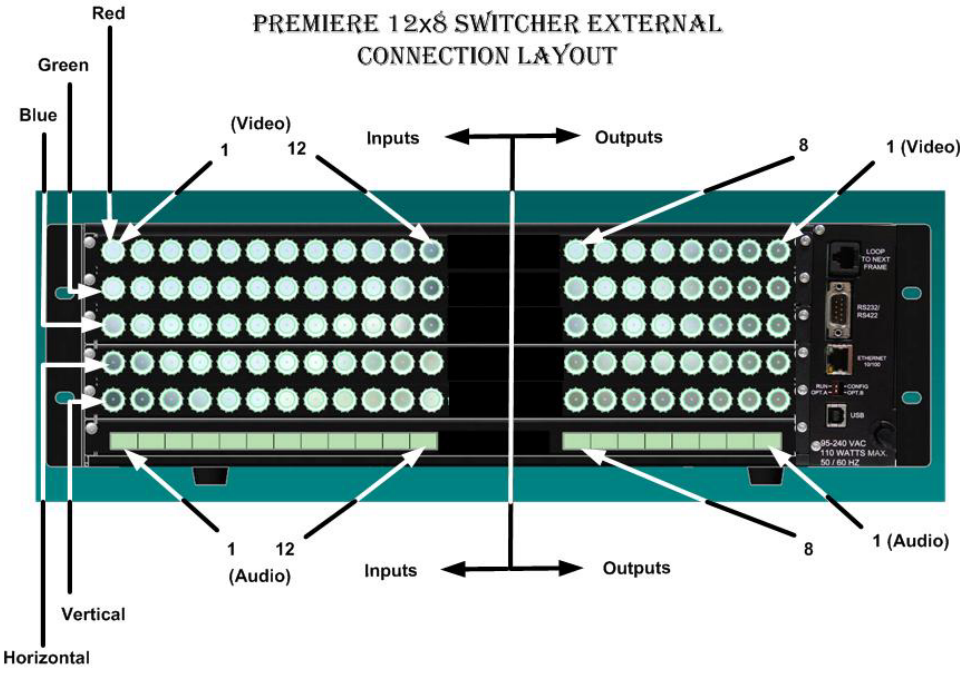



**FIGURE 29: Typical 12x8 Premiere Input and Output Connection Layout**

During manual operations, a SOURCE key is pressed and a selected DESTINATION key is pressed to mate the source to that destination. Base switch selections assume that you select a source first; however, you can select a destination before selecting a source. When you select the destination first, the DESTINATION key illuminates (flashes) and becomes the "hot" destination for the source selection.

Additionally, the SOURCE and DESTINATION keys are used in conjunction with the selection of macros. Macro programming utilizes the Backstage Control software (GUI) while macro selection can be accomplished from either the front panel or the GUI.

Once the switcher is in the manual mode and a source has been assigned to a destination, that selection will continue to run until another switch has been taken. Once the manual mode has been cancelled, the system returns to the last assigned switch function that was initiated.

## 3.8 USING MULTIPLE PREMIERE SWITCHERS

This section will address connecting multiple Premiere Matrix Switchers together with an external controller using the Ethernet local area network (LAN).

### *3.8.1 Using Multiple Premiere Matrix Switchers*

In a multi-switcher system employing an external controller (such as a PC) and an Ethernet Hub (router), the control device delivers all control information to individual switcher units that are addressed through the Ethernet link. However, basic commands can still be initiated in individual switcher units by using the front panel of a specific device. The last sequence of commands will be employed; that is, if the last command string was initiated through the PC, then those will have priority and vice-versa with command strings initiated through the front panel.

Even though (in most multiple switcher systems) an Ethernet communication link is used, an external controller can be directly connected to any Premiere matrix switcher in the system via either the unit's RS232/422 port or USB port (see Figure 30). The serial protocol for this release is RS232 while in the future, either RS232 or RS422 can be used. Again, control communications established using either of these ports are limited to the unit that the controller is connected to.

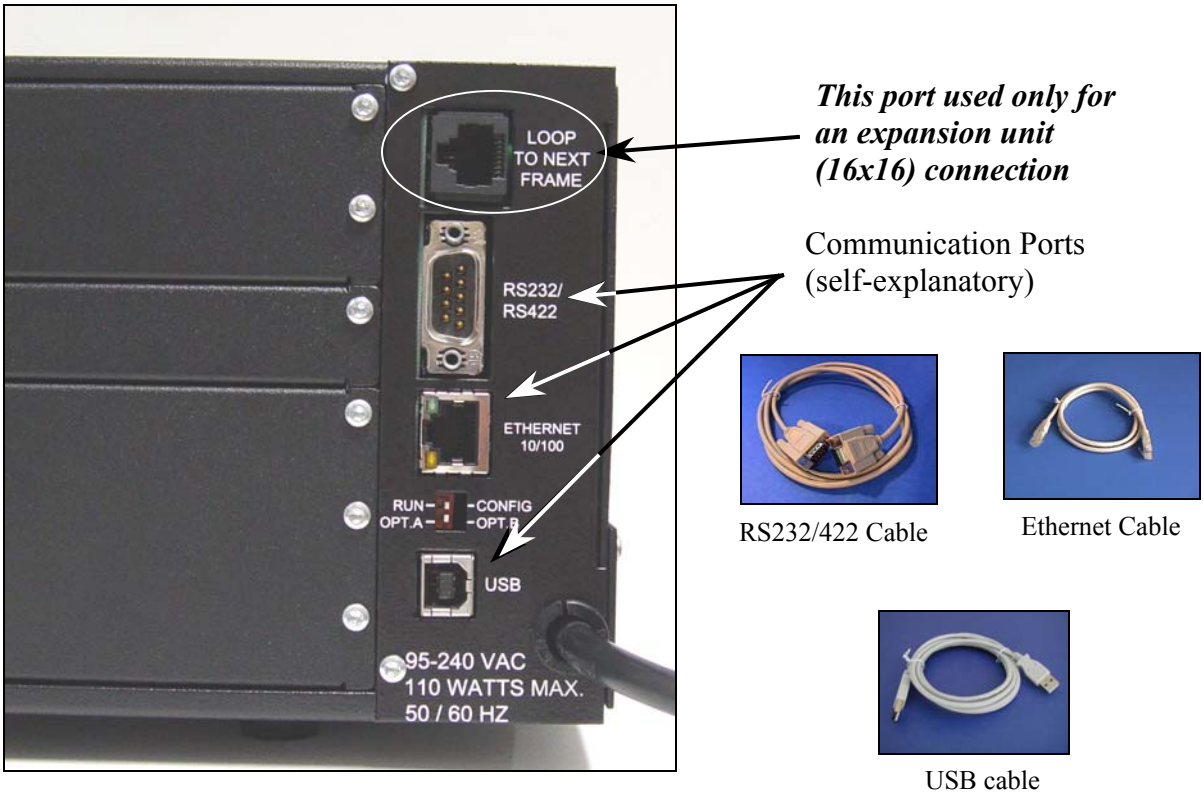



**FIGURE 30: An Individual Switcher's Connections**

### *3.8.2 Ethernet Setup*

In this setup, commands are passed directly to a switcher over the network using an external controlling device. In Figure 31, the controlling device is a PC and all commands will be directed through the Ethernet Hub to the specific switcher that is addressed.

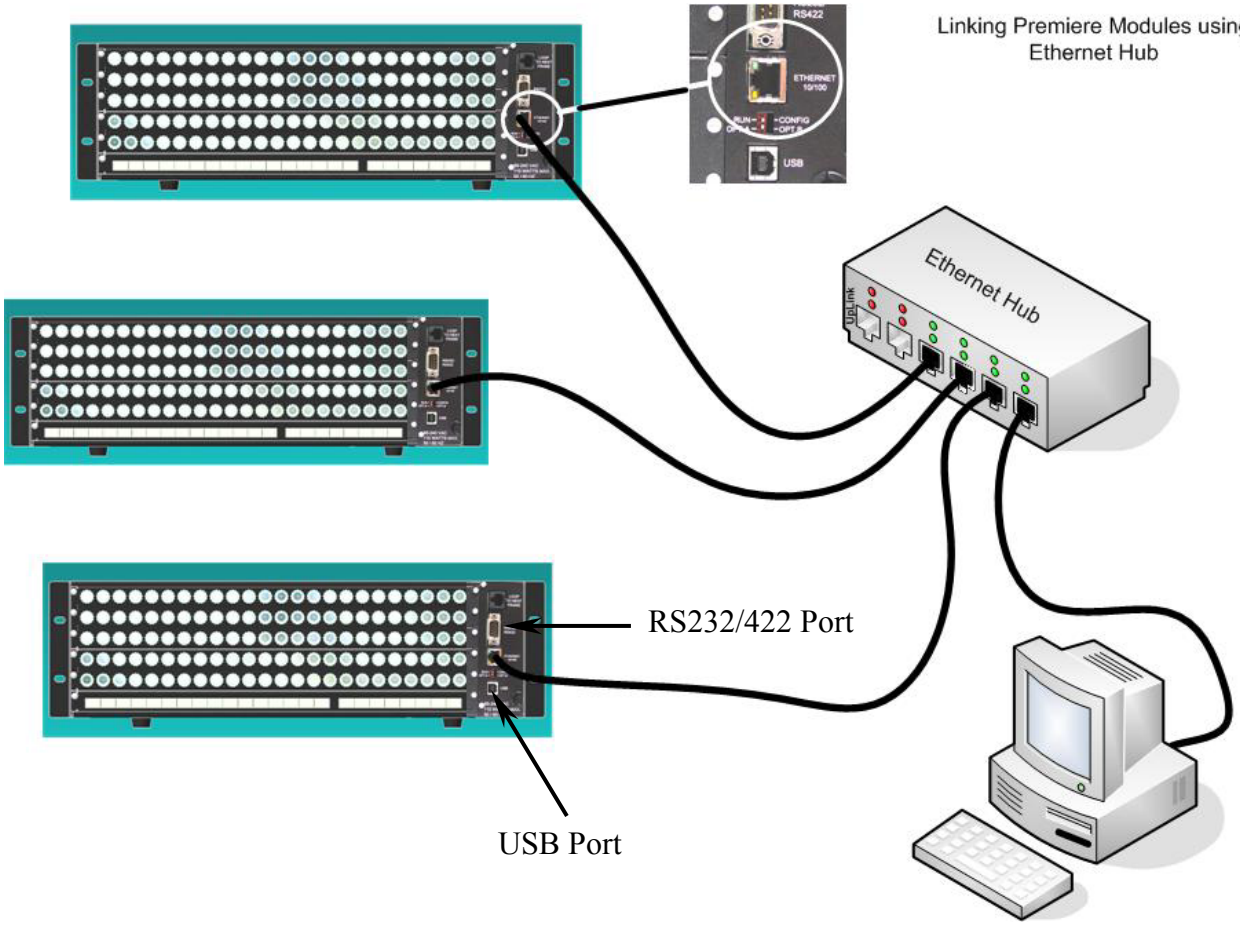



**FIGURE 31: Typical Ethernet Connection of Switchers**

# Chapter 4: Initial Setup, Startup, and Executing Switcher Commands

This section will include basic initial Premiere Matrix Switcher setup and start sequences. Additionally, this section will describe the basic user configurations and the execution of the switcher commands.

## 4.1 INTRODUCTION TO THE PREMIERE MATRIX SWITCHER

All Premiere matrix switchers that include the optional basic control interface front panel are configured and operated similarly; that is, they can either be operated from the front panel, through an external Graphical User Interface (GUI), or both. However, if the unit does not have a basic control interface front panel, then all control and configurations are performed through an external controller (e.g., PC).

## 4.2 PREMIERE PRE-CONFIGURATIONS

All Premiere units are pre-configured to customer specifications at the factory. The Premiere Matrix system auto-recognizes a predefined configuration from the way matrix cards are loaded into the frame. The control system module polls the matrix slots to determine which matrix is resident in each slot. From the subsequent manifest of matrices, the control system determines how to set up its control levels and size of each matrix.

The number of levels is strictly dependent upon what matrix cards are loaded into each of the slots. If the permutation of cards in each slot is not recognized as a predefined configuration, the system treats each matrix as its own independent level.

The predefined configurations require that all the matrix cards be of the same number of inputs and outputs. If there is a mixed composition of matrix card sizes, the system treats each matrix as it own independent level.

In addition to a set of predefined configurations, the Premiere control software allows the user the ability to override the predefined configurations. The non-predefined configurations are constructed only within the Premiere GUI and are downloaded to the Premiere controller.

All factory pre-configurations are listed in Chapter 10.

## 4.3 INITIAL PREMIERE MATRIX SWITCHER SETUP SEQUENCE

Once the Premiere Matrix Switcher has been properly unpacked and positioned where it will be operated from, the hardware and power connections can be completed.

### *4.3.1 Hardware Setup*

While following the diagram(s) for your specific system configuration as described in Chapter 3, perform the following:

- Connect the source device connections to the Source inputs on the Premiere.
- Connect the destination device connections to the Destination outputs on the Premiere.
- Note all of the source and destination connections for reference.
- If using the expansion module, verify the interface cabling as described in Chapter 3.
- If using the Graphical User Interface (GUI), connect the cabling to the GUI PC using either the Premiere's serial, Ethernet, or USB port as described in Chapter 3.

### *4.3.2 Supply Power Connection*

The Premiere Matrix Switcher should be connected to a 95 to 240VAC, 50/60 Hertz circuit capable of delivering at least 110Watts (1.15 Amps maximum) of power. The line cord shipped with your specific unit is compliant and compatible with your country's available power source. It should be connected to an overcurrent-protected source that is not being shared with any other device(s).

| | |
|---|---|
|   | **Since the Premiere Matrix Switcher's AC power cord is being used as the system's primary means of electrical disconnect, the AC receptacle should be located within visible sight of the switcher and should be easily accessible.** |

| | |
|---|---|
|   | **For the 16 x 16 Premiere Matrix switcher configuration, powering the units requires that the primary and secondary units be powered simultaneously - or as close as possible. If unable, power the primary unit first and then, the secondary unit.** |

## 4.4 INITIAL PREMIERE MATRIX SWITCHER STARTUP SEQUENCE

Once the hardware and supply power has been properly connected, the initialization sequence for the Premiere unit includes a lamp test. As soon as the power cord is connected to a receptacle, all lamps on the front panel will sequentially illuminate from left to right. In the event the sequence locks, simply press and hold the Cancel key until the system extinguishes the lamps.

## 4.5 EXECUTING SWITCHER COMMANDS

When not using the Graphical User Interface (GUI), all commands are executed from the front panel of the Premiere unit. All key functions are described in Chapter 3 of this manual. The user's manual, front-panel sequences are the same as the GUI sequences that are initiated through the use of a PC. Except for written commands and macro creations that are executed through the use of the GUI only, all other executables are created from the Basic Control Structure (BCS, commonly referred to throughout this document as the Backstage Control) commands. For further information about the execution and use of commands, refer to Chapter 5.

# Chapter 5: Graphical User Interface (GUI)

| | |
|---|---|
| NOTE | **It is assumed that personnel performing this installation will have basic PC skills such as being able to properly navigate through a Windows® environment. This includes being able to use Windows Explorer, understanding keyboard functions, and use of the mouse/trackball.** |

## 5.1 INSTALLING THE PREMIERE GRAPHICAL USER INTERFACE (GUI) SOFTWARE

A compact disc (CD) containing the GUI software program (Backstage Control) is shipped with each Premiere Matrix Switcher. Once the CD is placed in a CD ROM reader, the "autorun" feature should automatically start the installation process. In the event that the application does not automatically start, you can access the CD and browse for the setup application's executable file (see Figure 32). Then, you can manually start the application by double-clicking on the executable file.


**FIGURE 32: GUI Installation Application's Executable File**

Once the installation application's opening screen is displayed (see Figure 33), complete the installation as follows:


**FIGURE 33: Premiere Installation Initial Screen**

1. The next screen that appears is the welcome screen that contains some initial instructions and copyright information (see Figure 34). To continue the installation, click on the Next function button.

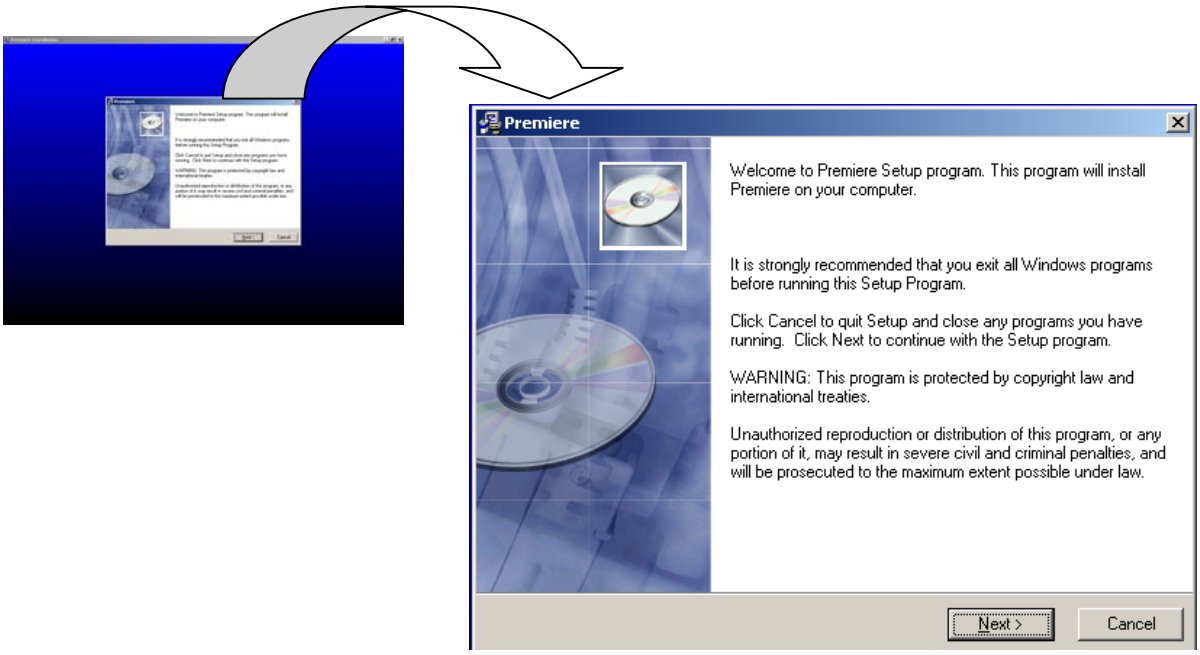



**FIGURE 34: Welcome Screen**

2. The following screen appears (see Figure 35). The program can automatically detect previous versions of Backstage Control. If the user elects to check for a previous installation, the program will overwrite the existing files. This is useful in the event a special directory that contains the previous version is to be used. If the selection is Yes or No, skip to Step 4. If you select Cancel, continue to Step 3.

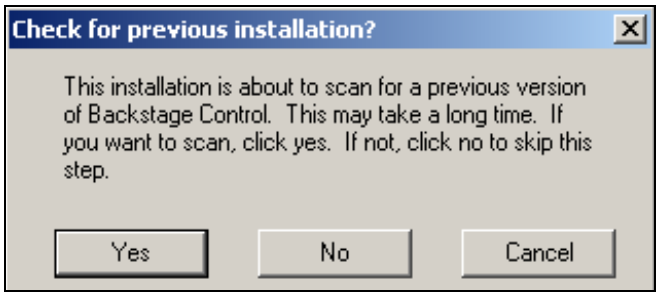



**FIGURE 35: Check for Previous Installation? Screen**

3. If you select Cancel, then the following screen appears (see Figure 36).

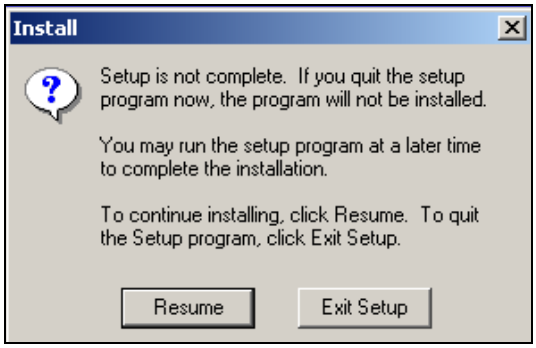



**FIGURE 36: Install Prompt**

| | |
|---|---|
| NOTE | **During the installation sequence, whenever the Cancel function button is selected, the program returns to the screen in Figure 36.** |

If you elect to Resume, the program returns to the Check for previous installations? screen. Exit Setup selection will close the entire Setup program.

4. The program searches for existing Backstage Control installations. If another version is detected, the following screen is displayed (see Figure 37). If no other version is detected, the screen in Step 5 is displayed.

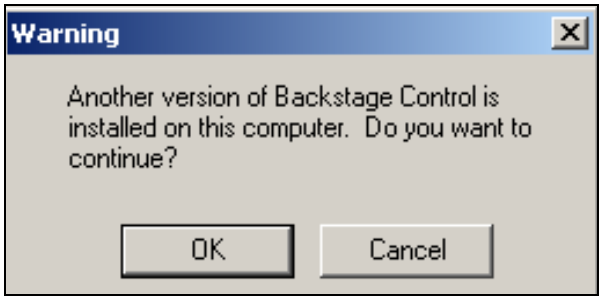



**FIGURE 37: Warning Screen**

If you select OK, go to Step 5. If you select Cancel, return to Step 3.

5. The next screen that appears (see Figure 38) contains information about where the program files will be placed. You can select another directory or allow the program to create the indicated directory. Click on the Next function button to continue the installation.

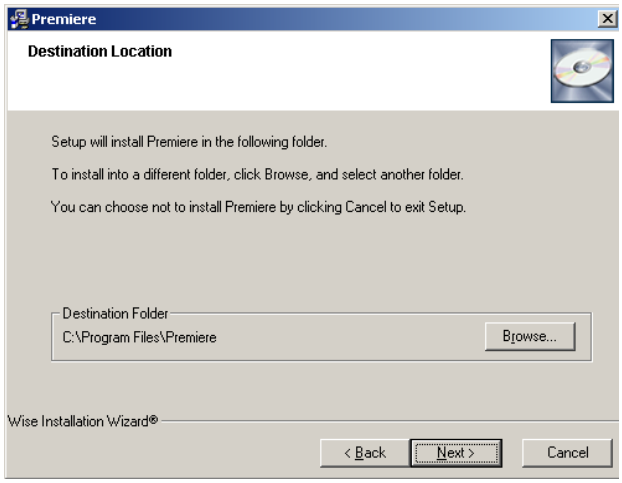



**FIGURE 38: Destination Location Screen**

6. The next screen that appears (see Figure 39) contains information that advises the installation is about start. Click on the Next function button to continue the installation.

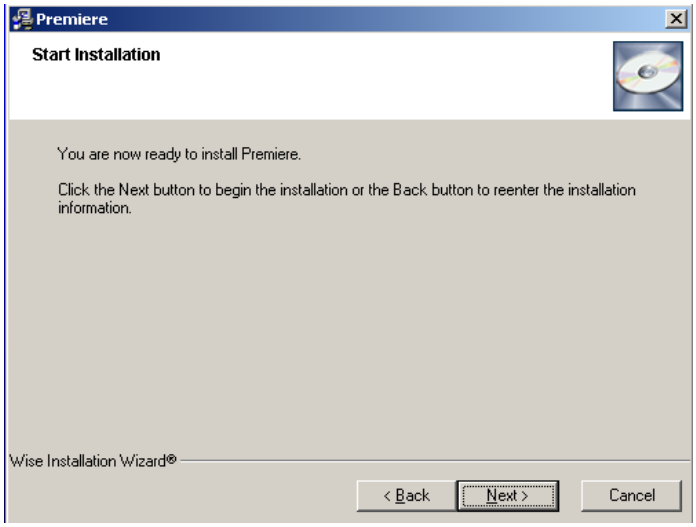



**FIGURE 39: Start Installation Screen**

7. The next screen that appears (see Figure 40) monitors and displays the installation progress.

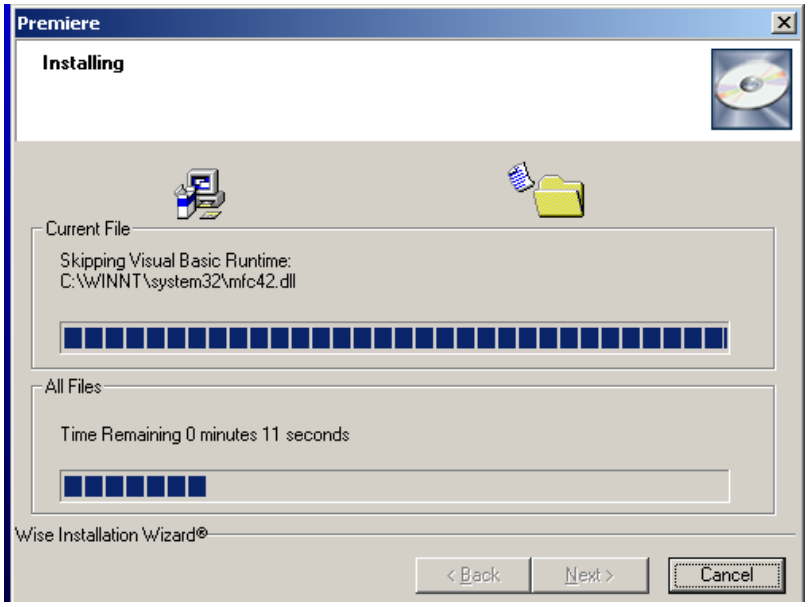



**FIGURE 40: Installation Progress Screen**

8. Once the installation of the files has been completed, the following screen is displayed (see Figure 41). Click on Finish to complete the installation process.

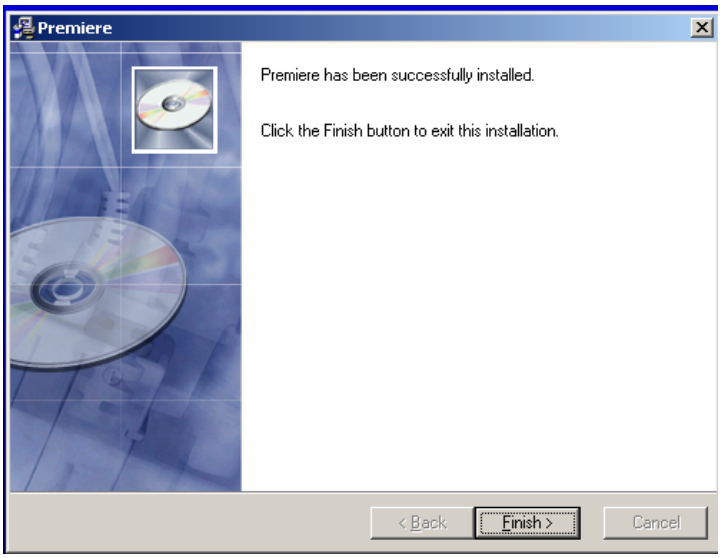



**FIGURE 41: Installation Successful Screen**

After a successful installation, a shortcut (see Figure 42) to the Backstage Control GUI software application is placed on your desktop. Then to access the program, simply double-click on the application's icon or access the program through the Start/Programs menu.


**FIGURE 42: Premiere Backstage Control GUI Application Icon**

## 5.2 CONNECTING THE PREMIERE MATRIX SWITCHER TO A PERSONAL COMPUTER (PC)

To be able to use the Premiere GUI application (Backstage Control), the specific switcher must be connected to a PC. One of the following connection/interface methods can be used (see Figure 43):

- RS232/422, Serial 9-pin cable (RS232 is fixed for this release; future releases will include either RS232 or RS422 selectable serial protocols).
- USB cable
- Ethernet (Telnet protocol) RJ45 cable (after initial configuration)

| | |
|---|---|
| NOTE | **For the Ethernet connection, the Telnet address and port assignment *MUST* be preconfigured prior to using that option. First-time access to the GUI program is either via the serial (com) port or the USB port only.** |

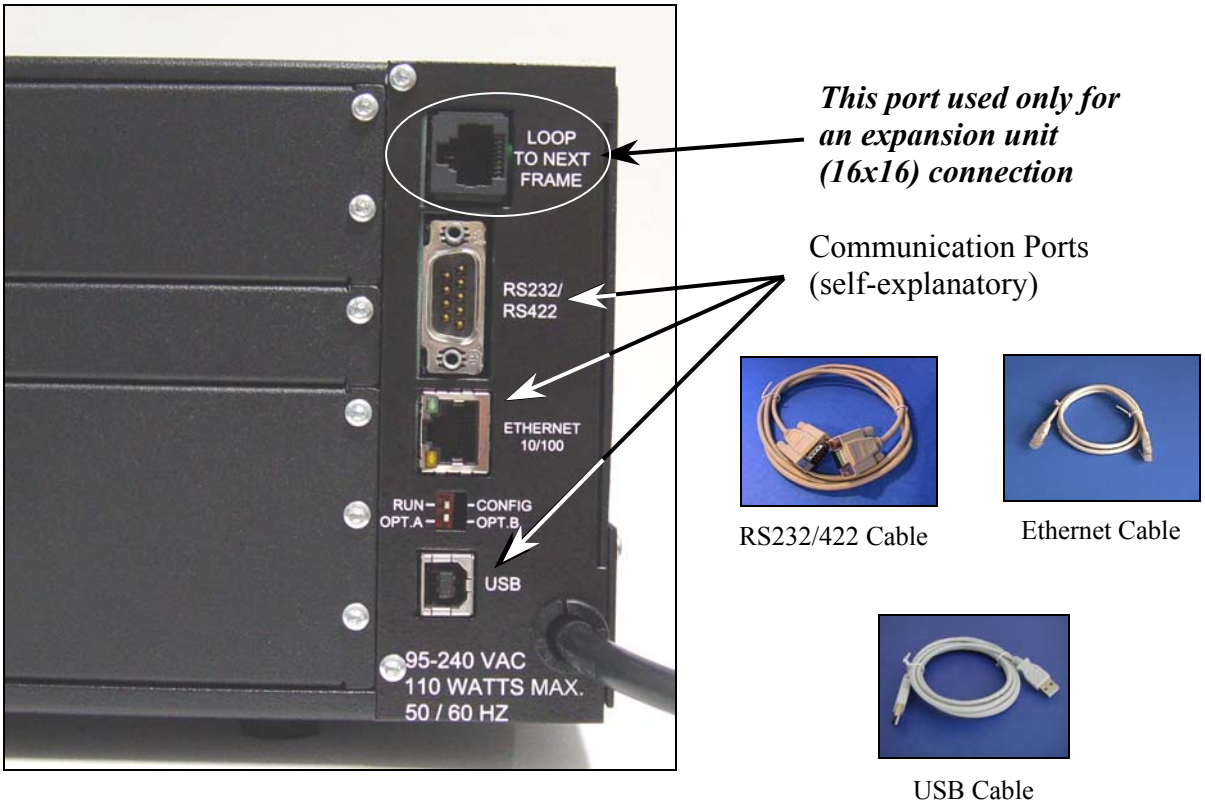



**FIGURE 43: Premiere Interface Connections**

## 5.3 USING THE PREMIERE GUI PROGRAM

Once all of the Source, Destination, power, and PC interface connections are completed, the GUI is accessed by double-clicking on the Premiere icon located on your PC desktop (if created, see Figure 44) or through the standard Windows® program selection sequence from the Start menu.

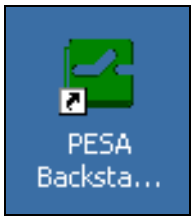



**FIGURE 44: Premiere Startup Icon**

This section will explain the basic steps for using the GUI to control the Premiere unit that you have. If this is your first time, follow each subsection in sequential order that is listed in this section. Otherwise, proceed to the subsection of interest.

### *5.3.1 Initial Port Selection Setup*

After program initialization, the following screen sequence appears (see Figure 45).


**FIGURE 45: Initial Setup Selection Screen**

Select and complete **one** of the following:

| | |
|---|---|
| NOTE | **First-time access to the GUI program is either via the serial (com) port or the USB port only.** |

- Com Port – If in use, click on the Com Port radio button and type the number that is assigned to the serial port that is connected to the PC in the Com Port # window. ***This port is used to access the GUI in the PESA mode only.***
- USB – If in use, click on the USB radio button. ***The GUI can always be accessed using this connection regardless of which emulation mode is selected.***
- Stand Alone - If selected, the software program does not communicate with the switcher. Basically, this connection is a demonstration mode that allows the user to perform all of the functions that can be perform during normal operations, but the commands are not transferred to the switcher even though a "Save" function was initiated. When this connection selection is exited and another connection (i.e., Com Port, USB, or Telnet) is selected, all actions that were performed in the Stand Alone are cancelled and the new connection's last saved settings are automatically initiated.

| | |
|---|---|
| NOTE | **The Telnet address and Telnet port assignment *MUST* be preconfigured prior to using that option.** |

- Telnet – If an Ethernet line is in use, click on the Telnet radio button, the address in the Telnet Address window will appear, and the associated port in the Telnet Port window will be displayed.

| | |
|---|---|
| NOTE | **The Telnet address and port assignment are typically obtained from Information Technology personnel, through your Internet Provider (IP), or through other internet-assigned personnel.** |

When all of the specific port information has been provided, click on the Next function button to access the GUI program.

*Result:* The following screen appears (see Figure 46).

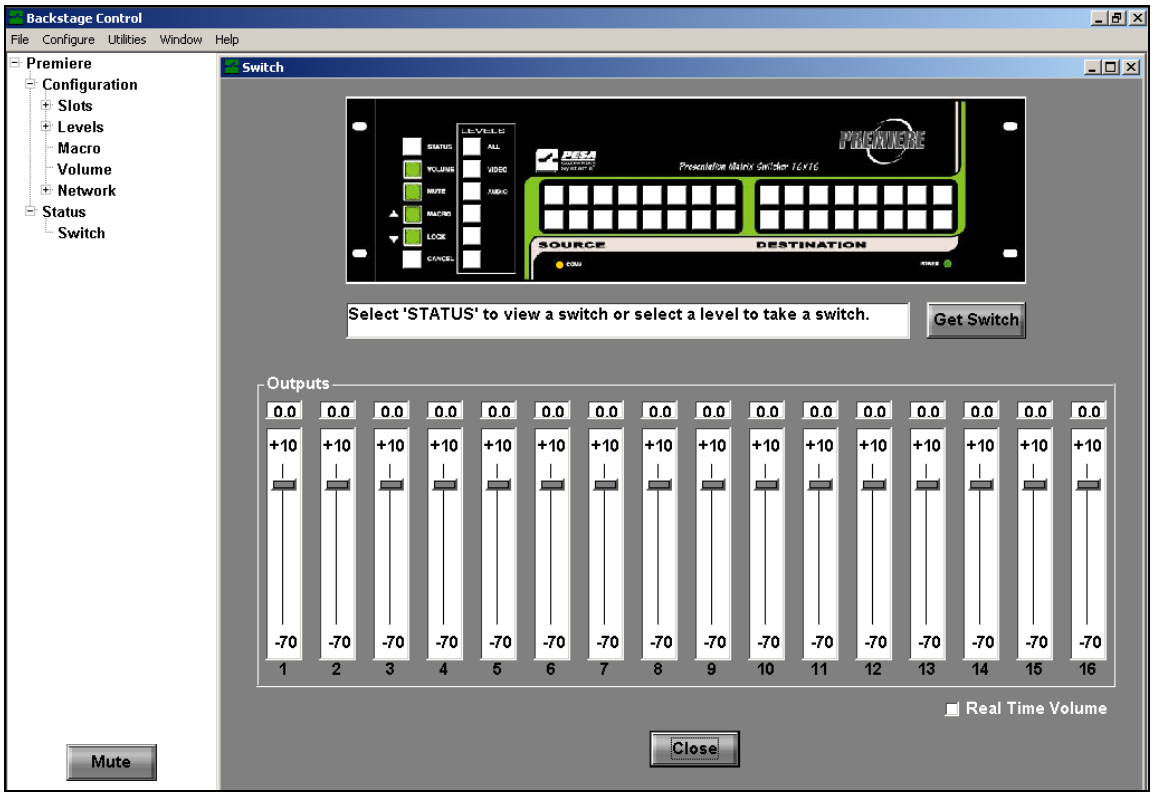



**FIGURE 46: Premiere GUI Screen**

### *5.3.2 User Configuration Setup*

Typically, the first GUI operational step to perform is to either verify the factory configuration (for a listing of all of the possible factory configurations, refer to Chapter 10, Appendix B) or reconfigure the current configuration. To use the included program's step-by-step configuration instructional sequence, perform the following:

1) On the menu bar, click on Configure and then, click on Configuration Wizard.

   *Result:* The following sequence of screens appears (see Figure 47).

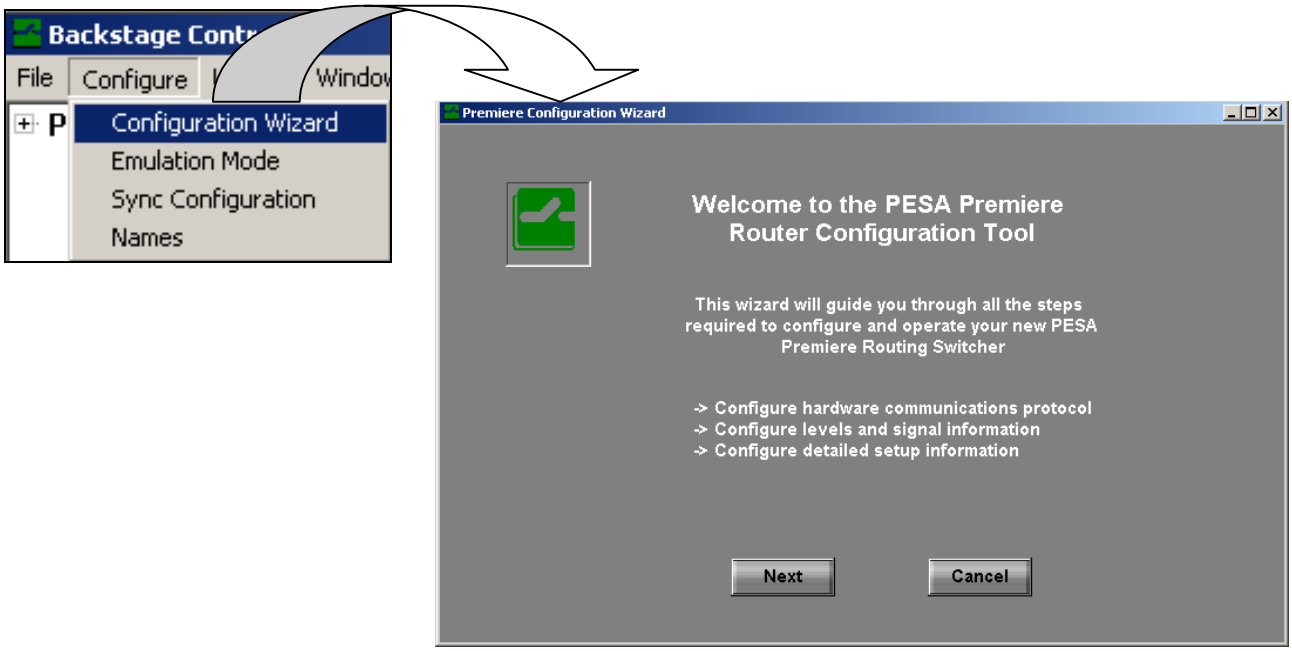



**FIGURE 47: Configuration Wizard**

2) Click on the Next function button to continue.

*Result*: The following screen appears (see Figure 48).

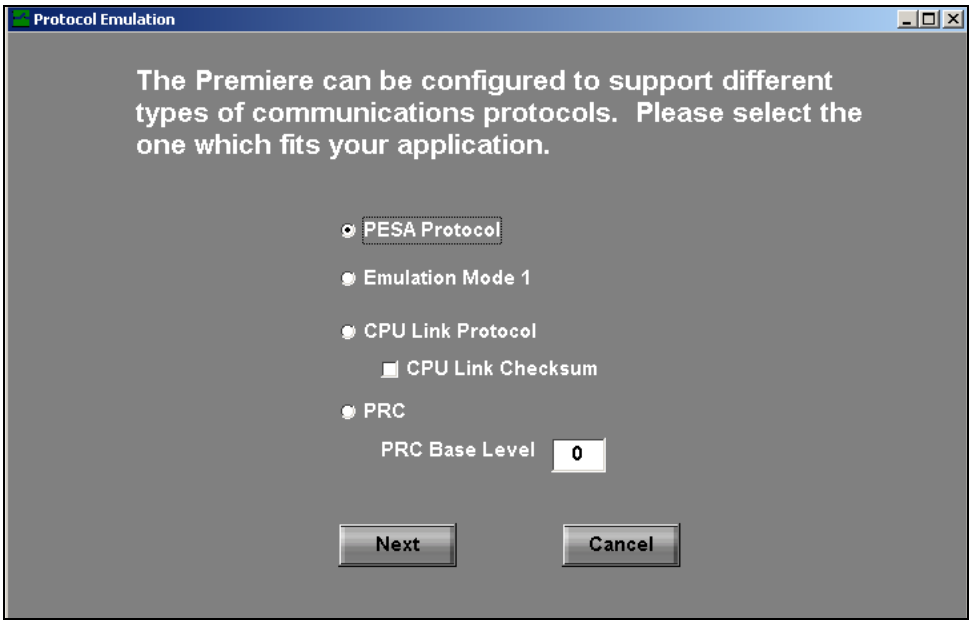



**FIGURE 48: Protocol Selection**

3) There are four protocol selections. Click on the radio button next to the selection that fits your application. A general description of the selections are as follows:

- PESA Protocol - A specific, proprietary PESA Switching Systems, Inc. protocol
- Emulation Mode 1 - A protocol converter that allows communication with other equipment.
- CPU Link Protocol - A proprietary PESA Switching Systems, Inc., protocol that allows communication between Central Processing Units.
  - CPU Link Checksum - Used in conjunction with the CPU Link Protocol to check for packet-data errors. This selection is typically checked when CPU Link Protocol is selected.
- PRC - PESA Remote Controller protocol
  - PRC Base Level - A starting point for the 6 consecutive level assignments of the Premiere. Once a level has been assigned, the assigned level must be programmed into the 3500 Pro/LE controller.

| | |
|---|---|
| NOTE | **If you are unsure of the protocol selection to use, call PESA Customer Service for assistance.** |

Then, click on the Next function button to continue.

*Result*: The following screen appears that indicates the current configuration settings (see Figure 49).

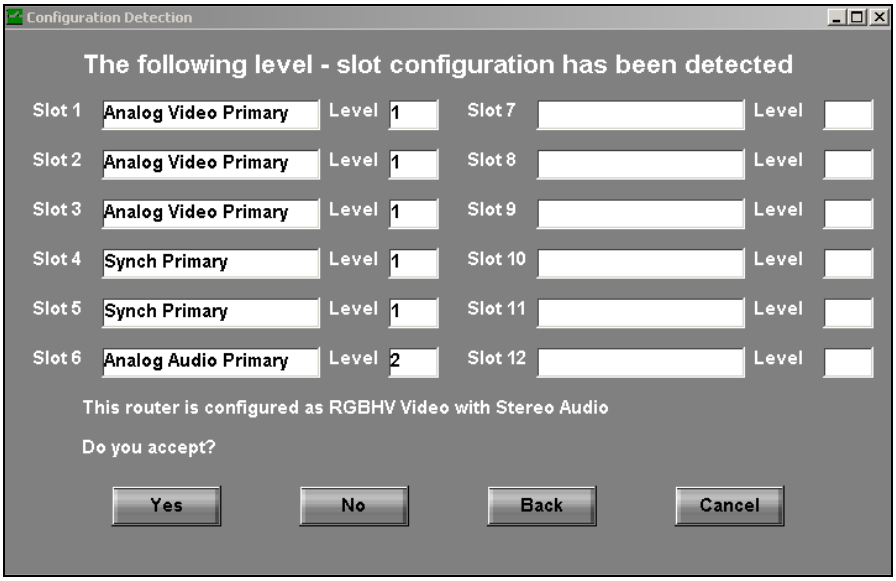



**FIGURE 49: Typical Configuration Detection Screen**

4) If the configuration is acceptable, click the Yes function button and go to Step 9. Otherwise, click on the No function button to rename the slot configurations.

*Result*: The following screen appears to warn you that changes could make your system unstable (see Figure 50).

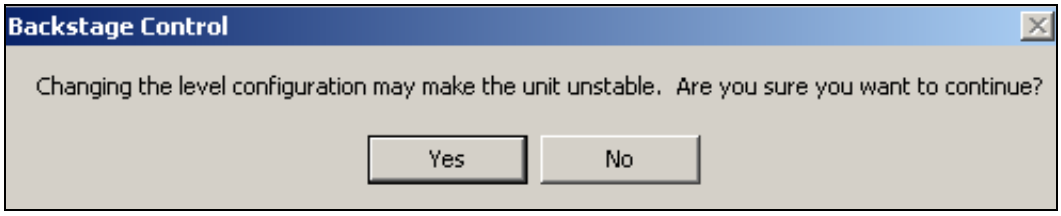



**FIGURE 50: Slot Configuration Warning Screen**

5) Clicking on No will return you to the previous screen (Step 3). Clicking on Yes will display the Level-Slot Configuration screen (see Figure 51).

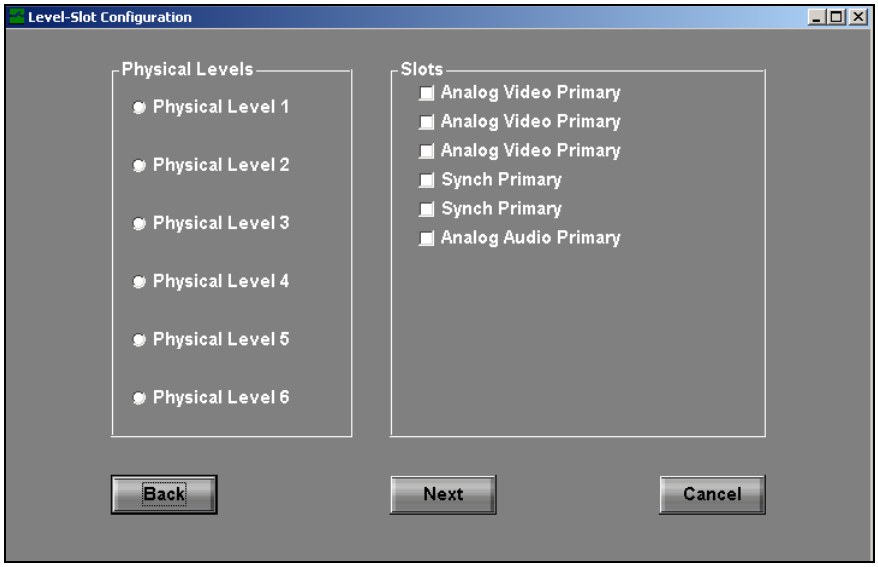



**FIGURE 51: Level-Slot Configuration Screen**

| | |
|---|---|
| NOTE | **In the Premiere Matrix Switcher configuration, Slots are mapped to Physical Levels while the Physical Levels are mapped to the Master Levels (buttons on the front control panel).** |

6) Clicking on a radio button next to a Physical Level will populate the Slots that are assigned to the specific Physical Level.

*Result:* The associated slots will appear green in color and a check mark will be displayed in the associated box ☑ (see Figure 52).

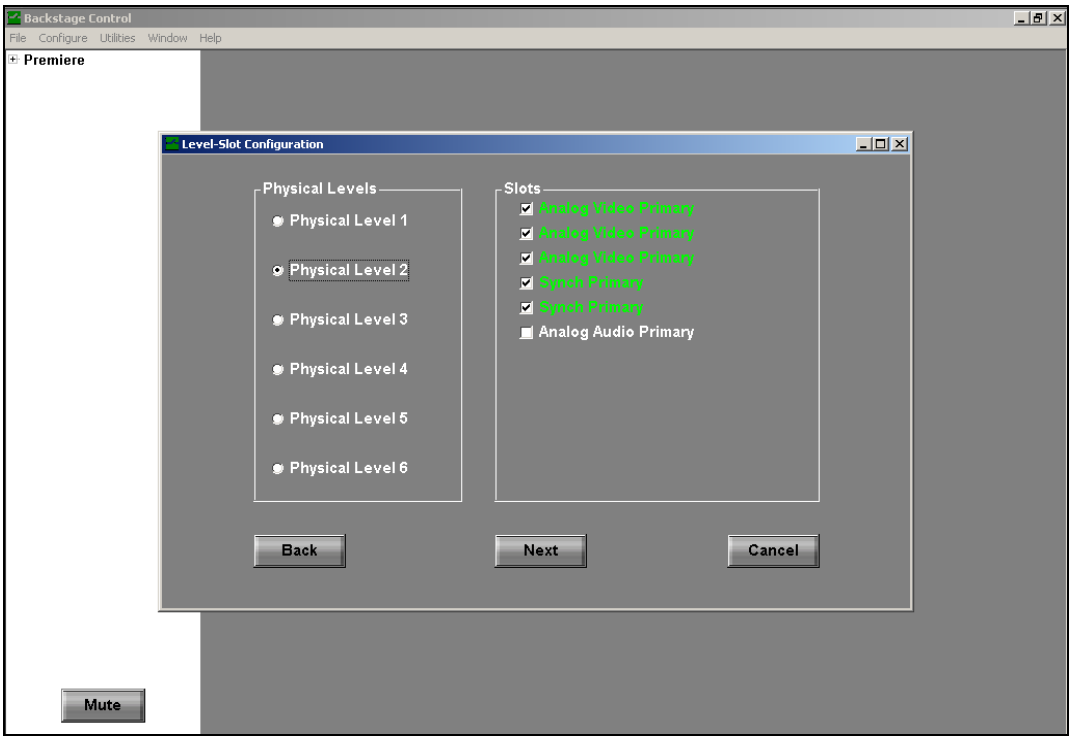



**FIGURE 52: Level-Slot Configuration Screen**

To select or deselect a level or slot, click on the radio button for a Physical Level selection and then, click in the associated box of the Slot to either select or deselect the slot.

7) When the selections are complete, click on the Next function button.

*Result:* The configuration screen changes to the Master Levels to Physical Levels selections (see Figure 53).

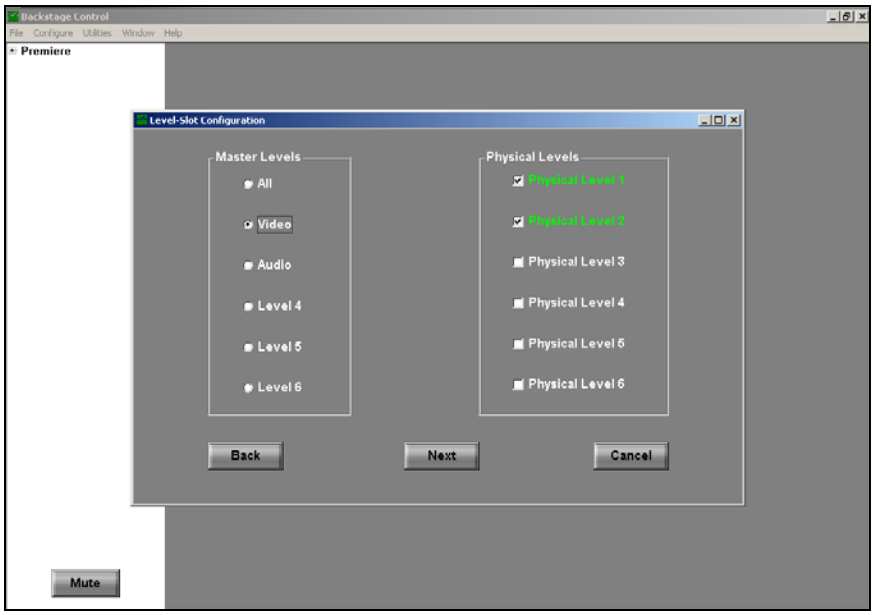



**FIGURE 53: Master/Physical Configuration Screen**

When a Master Levels radio button selection is clicked on, the assigned Physical Levels will appear green in color and a check mark will be displayed in the associated box ☑. To select or deselect a level, click on the radio button for a Master Levels selection and then, click in the associated box of the Physical Levels to either select or deselect the level.

8) When the selections are complete, click on the Next function button.

*Result:* The Numbers or Names screen is displayed (see Figure 54).

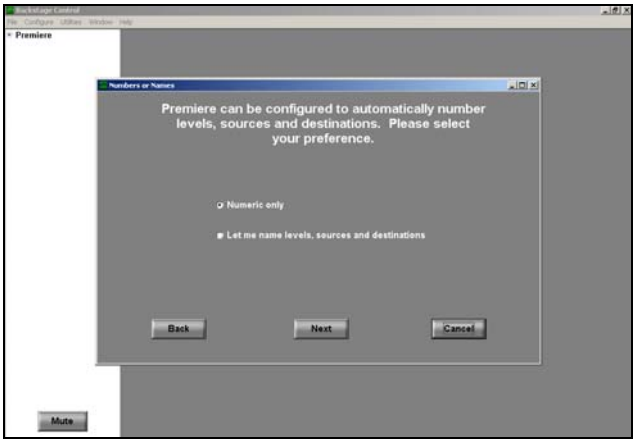



**FIGURE 54: Numbers or Names Selection Screen**

9) Click on the radio button next to your preference. If the Numeric Only radio button is selected, the default names are selected. If the Let Me Name the levels, sources, and destinations radio button is selected, then the levels can be renamed. If you select the Numeric Only selection, go to Step 11. Otherwise, click on the Let Me Name the levels, sources, and destinations radio button.

*Result*: The following Names screen will display (See Figure 55).

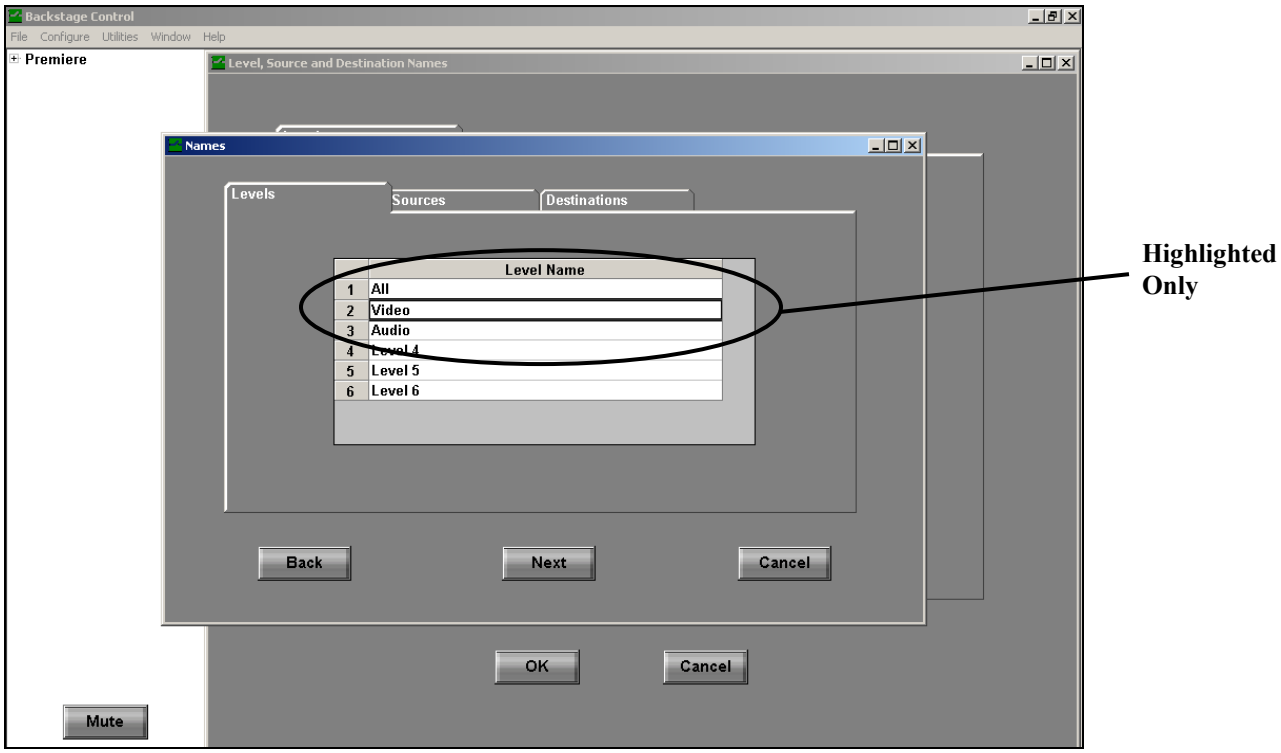



**FIGURE 55: User Configuration Names Screen**

10) The tabs (Levels, Sources, and Destinations) on the Names screen contain the listing of the associated names for the specific tab. Click on the tab selection and, if necessary, rewrite the names by double-clicking on the selection to place the cursor in the window/field (see Figure 55) and retype the desired name. If desired, repeat the sequence for the other tabs.

| | |
|---|---|
| NOTE | **A highlighted (single-click) entry cannot be renamed. You must double-click on the entry to be renamed in order to place the cursor in the associated field that is required to delete the current entry and rewrite the new entry.** |

11) Click on the Next function button.

*Result*: The following Detailed Configuration screen appears (see Figure 56).

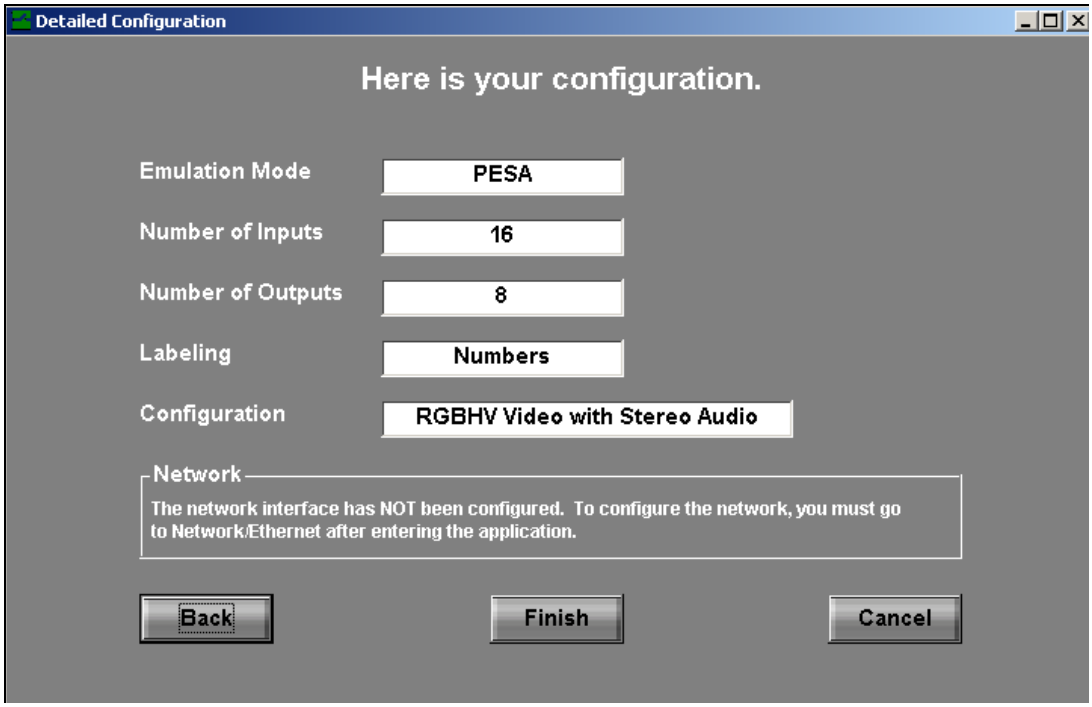



**FIGURE 56: Detailed Configuration Screen**

12) Click on the Finish function button.

*Result*: The settings are saved and the Premiere Matrix Switcher is restarted as indicated by the lamp startup-illumination sequence. When complete, the following popup is displayed indicating the unit is now configured (see Figure 57).


**FIGURE 57: Unit Is Configured Popup**

13) Click on the OK function button to exit the Wizard and return to the main screen.

*Result:* If the configuration is acceptable, the system will automatically return to the main screen. If the following popup instruction is displayed (see Figure 58), follow the directions and position the switch accordingly.


**FIGURE 58: Run/Config Switch Positioning Instructions**

14) When the switch has been properly positioned, click on the Close function button.

*Result*: The settings are saved and the Premiere Matrix Switcher is restarted as indicated by the lamp startup-illumination sequence. When complete, the following popup is displayed indicating the unit is now configured (see Figure 59).


**FIGURE 59: Unit Is Configured Popup**

You may want to verify the switcher status by following the Status Verification sequence as outlined in Section 5.3.9 of this manual.

### 5.3.3 *Emulation Mode Selection*

When selected (see Figure 60), this mode allows the Premiere Switcher to communicate with other protocols that are common to the video industry.

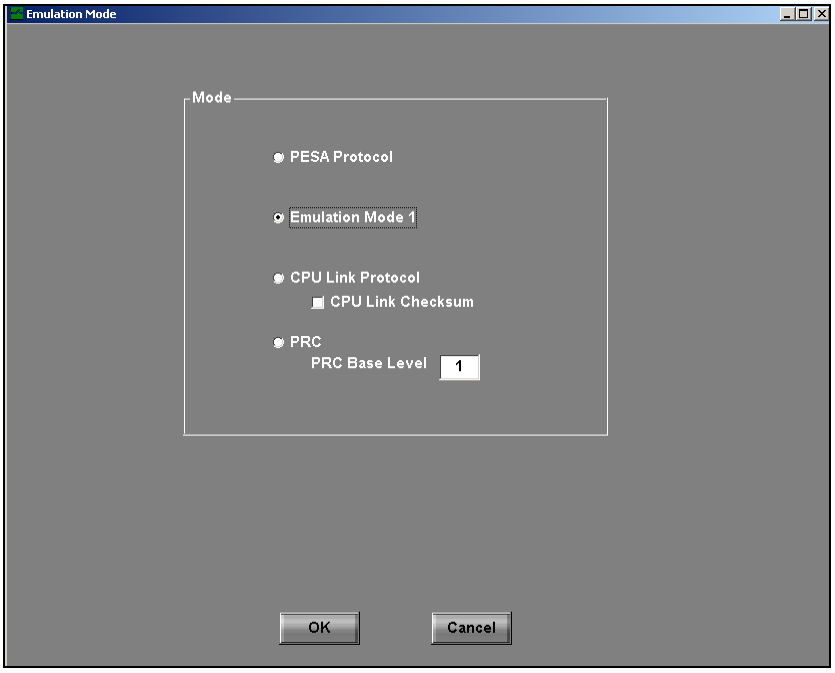



**FIGURE 60: Emulation Mode 1 Selection**

| | |
|---|---|
| NOTE | **However, not all industry-related protocols are emulated. For more information about the protocols that are emulated, contact PESA Customer Service.** |

After the OK function button (see previous Figure 60) is clicked on, the following screen appears (see Figure 61) notifying the user that the PESA BackStage Control (GUI) will not be available after reboot over the serial port and future emulation control will be performed from the controller that is being emulated. You must reboot for the emulation mode to be activated.

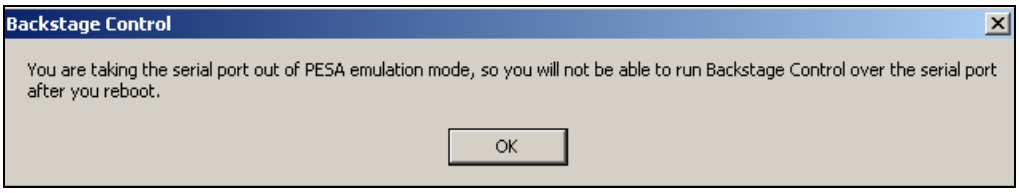



**FIGURE 61: Emulation Warning Popup**

### 5.3.4 *Sync Configuration*

The Sync Configuration sets the delay timeframe for the video card to be shutdown for a re-sync. The timeframe is user selectable from 0 to 127 intervals at 0.125 milliseconds per interval. There are six levels displayed in a bitmap configuration for a specific card slot in each level that is set using a hexadecimal notation.

To define and configure the Sync Configuration using the GUI, perform the following:

1) On the menu bar, click on Configure and then, click on Sync Configuration (see Figure 62).

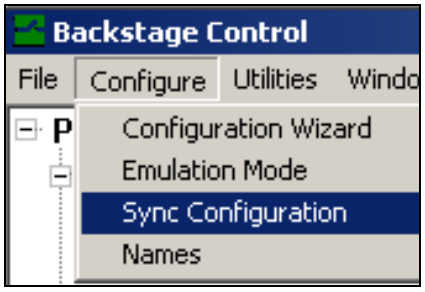



**FIGURE 62: Accessing The Sync Configuration Screen**

*Result*: The Sync Configuration screen is being displayed (see Figure 63).

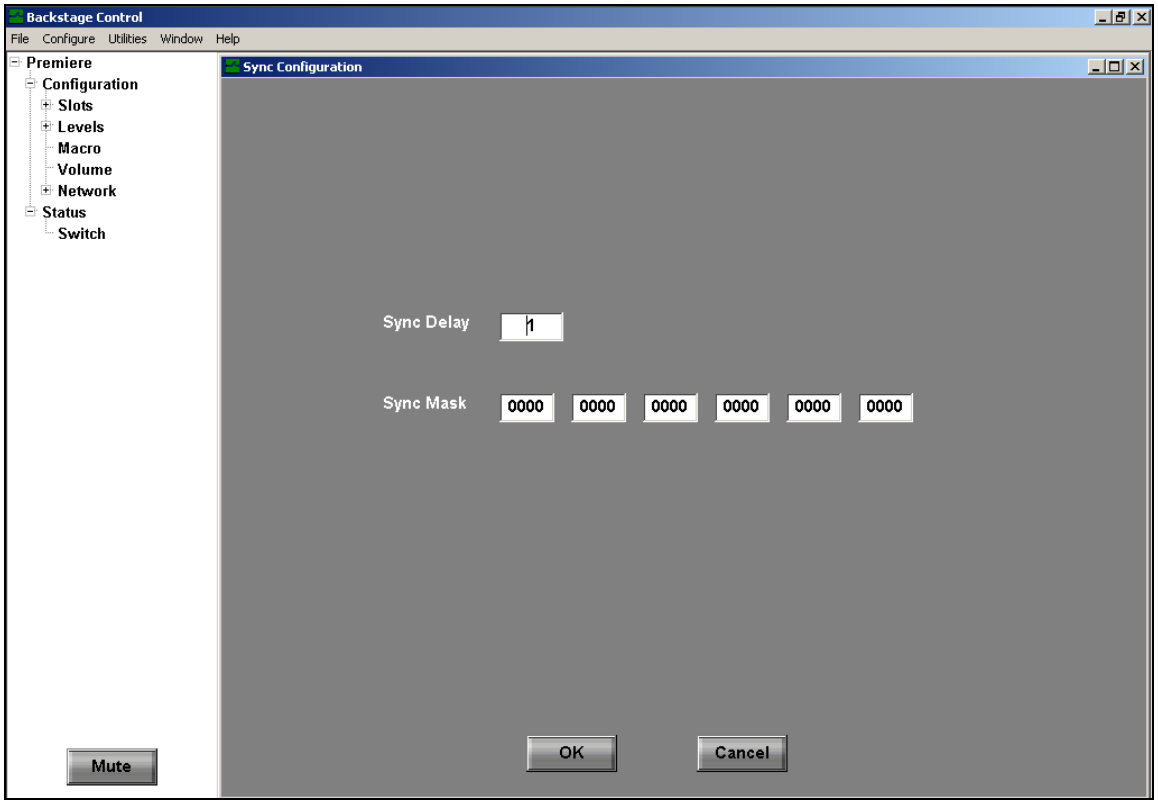



**FIGURE 63: The Sync Configuration Screen**

| NOTE | **In Figure 63, the factory default setting for the Sync Delay is 1 (or 0.125 millisecond). The levels have not been set; therefore, no sync timeframe has been applied to any card in any level.** |
|---|---|

2) In the Sync Delay window, type a desired interval number from 0 to 127.

   ☛ Remember that the number you insert will be a ***multiplier*** for 0.125 milliseconds (i.e., if 4 is inserted, the Sync Delay interval will be 4 times 0.125 milliseconds or 0.500 milliseconds). Additionally, only one multiplier can be applied to any or all of the levels.

3) In a Sync Mask window (Levels 1 through 6 from left to right), type the hexadecimal value for the card slot location in that level (i.e., if the card slot is the #6 position, the hexadecimal value will be 0020). If required, repeat for each of the remaining windows.

4) To save the values, go to Menu Bar and click on Utilities. Then, click on Commit Changes and Reboot (see Figure 64).

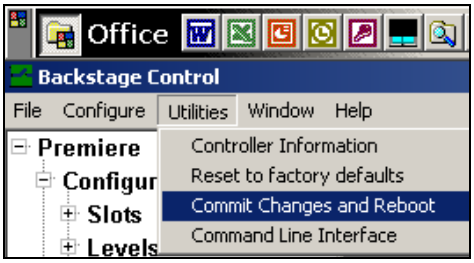



**FIGURE 64: Saving the Options**

To exit the screen without saving the parameters, click on the Cancel function button.

5) To exit the screen, click on the OK function Button.

### 5.3.5 *Changing Names for Levels, Sources, and Destinations*

Users can change the names of Premiere system Levels, Sources, and Destinations without the assistance of the configuration wizard as follows (refer to Section 5.3.2 for Physical and Master Level sequences):

1. On the menu bar, click on Configure and then, click on Names.

   *Result*: The following screen sequences occur (see Figure 65)

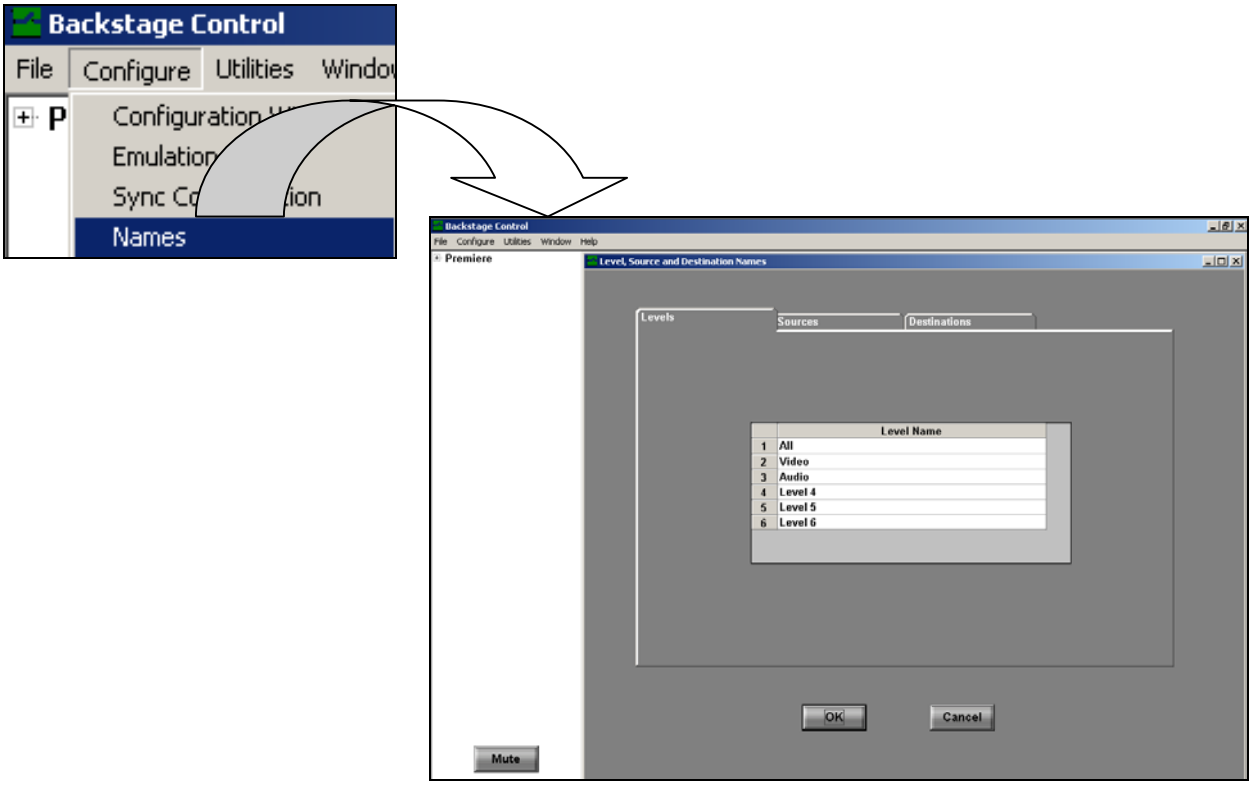



**FIGURE 65: Configuration Naming Screen Sequence**

| | |
|---|---|
| NOTE | **The number of populated slots controls the Level assignments. The maximum amount of levels is six. The standard factory setup includes only three levels that are configured, which are: All, Video, and Audio.** |

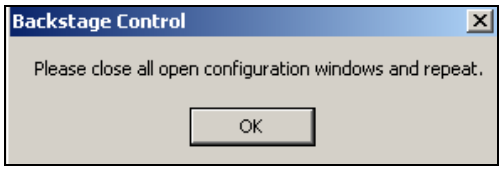
2. Click on the appropriate tab (Levels, Sources, or Destinations) to access the current name listings for the selected subject.
3. Double-click on the specific name that you wish to rename to access the rewrite mode.
4. Delete the current entry by using the backspace key or by using the mouse to highlight and delete the current name entry. Then, type the new entry in the current window.

5. Repeat Steps 2 through 4 for renaming other entries in the Levels, Sources, or Destinations tabs as required.
6. When complete, click on the OK function button to exit the Names menu.
7. On the main menu bar, click on Utilities and then, click on Commit Changes and Reboot selection.

   *Result*: A prompt will be displayed (see Figure 66).

NOTE

**If a configuration window is open, the following prompt will be displayed:**




**You must close or cancel any open configuration window before committing (saving) the previous changes.**

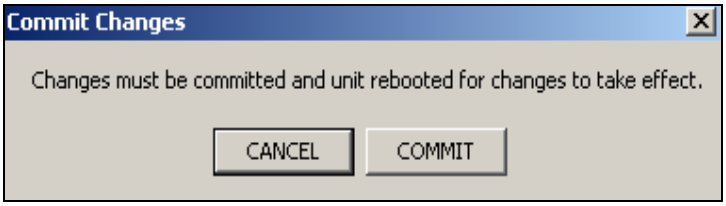



**FIGURE 66: Commit Changes Prompt**

9) Click on the Commit function button to save the changes and reboot the switcher.

   *Result*: A verification prompt will be displayed (see Figure 67).

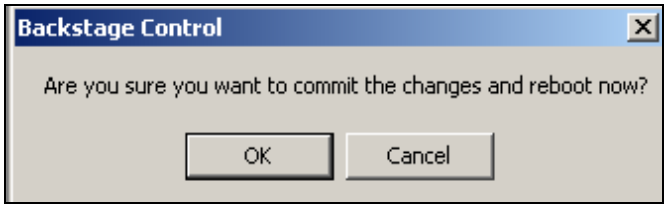



**FIGURE 67: Action Verification Prompt**

10) Click the OK function button.

    *Result*: The changes will be downloaded to the switcher, the switcher will be reset, and the startup sequence will be initiated. The switcher will return to the last take-switch function that was performed.

You may want to verify the switcher status by following the Status Verification sequence as outlined in Section 5.3.9 of this manual.

### *5.3.6 Special Addendum For Specific Controller Level/Cabling Compatibility*

The PESA Premiere Switcher is compatible with most controllers on the market today. However, there can be controllers that do not mate exactly with the pinouts of the Premiere Switcher's cabling. Additionally, there may be other controllers that have trouble distinguishing between levels as PESA has denoted their usage, which is different than their controller's levels denotation. The following is a typical workaround that can be employed to make the Premiere Switcher compatible with other controllers with specific level configurations and cable-mating issues.

A PESA Premiere must have Firmware Version 1.8 or newer if it is to be connected to a Controller with male DTE pinouts. Contact the PESA Customer Service Department if your Premiere needs an update.

The Premiere's RS-232 port is female with DCE pinout. If the port on the other controller is a male with DTE pinout, connect the ports with a 9M-9F, straight-through serial cable. The 9M-9F, straight-through serial cables are readily available at computer stores or can be obtained through PESA Sales Department.

For other specific controller products to communicate with the Premiere switcher, the Premiere must be configured for CPU Link Emulation Mode with Checksum enabled. The Master Levels need to be reconfigured as well, so that "Video" is the first Master Level and "All" is the last active Master Level. (Active Master Levels have physical levels assigned to them and have specific rather than generic names.)

The following steps describe how to configure these changes into the Premiere switcher using the BackStage Control Software:

1) Start the BackStage Control Software.
2) Select the communication method desired (e.g., USB, ComPort, or Telnet).
3) In the Menus, select Configure->Emulation Mode.
4) Select CPU Link Protocol radio button and check the CPU Link Checksum box (see Figure 68). This will enable the communications necessary to talk to other equipment. Click OK.


**FIGURE 68: CPU Link Selections**

5) In the Menus, select Configure->Names to display the level names (see Figure 69).

| | Level Name |
|---|---|
| 1 | All |
| 2 | Video |
| 3 | Audio |
| 4 | Level 4 |
| 5 | Level 5 |
| 6 | Level 6 |

→

| | Level Name |
|---|---|
| 1 | Video |
| 2 | Audio |
| 3 | All |
| 4 | Level 4 |
| 5 | Level 5 |
| 6 | Level 6 |

**FIGURE 69: Typical Level Name selections**

6) Retype each active level name one position above its current position. Since there is no position above line 1, type "All" into the last active position. The result depends on the number of active levels, but should be similar to what is shown above. Click OK.

7) The buttons in the LEVELS section on the Premiere's front panel will now be incorrectly labeled. Create labels with the level names entered in the previous step. Put these on the front panel next to the level buttons in the same order as entered in the previous step.

8) In the option tree on the left side, select Levels->Configuration->Master.

9) The Master Level Configuration screen will appear. Under Master Levels, select the radio button for the first Master Level.

10) Check marks will be displayed for any Physical Levels that belong to the first Master Level. Check only Physical Level 1 and uncheck all other levels (see Figure 70).


**FIGURE 70: Master and Physical Levels Selections**

11) Next (see Figure 71), select the second Master Level. Check only Physical Level 2 and uncheck all other levels.

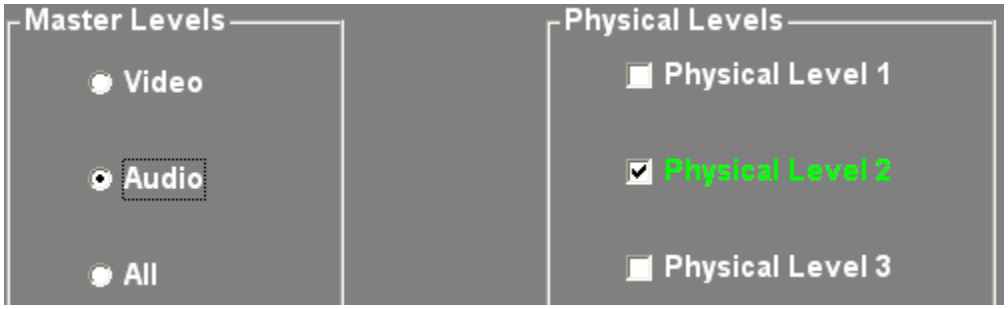



**FIGURE 71: Initial Level Selections**

12) Continue assigning levels in a straight across, one-to-one fashion until you select the "All" Master Level. For "All", check all Physical Levels that have been assigned to Master Levels up to this point. All other Physical Levels should be unchecked. The result should be similar to what is shown in Figure 72. Click OK.

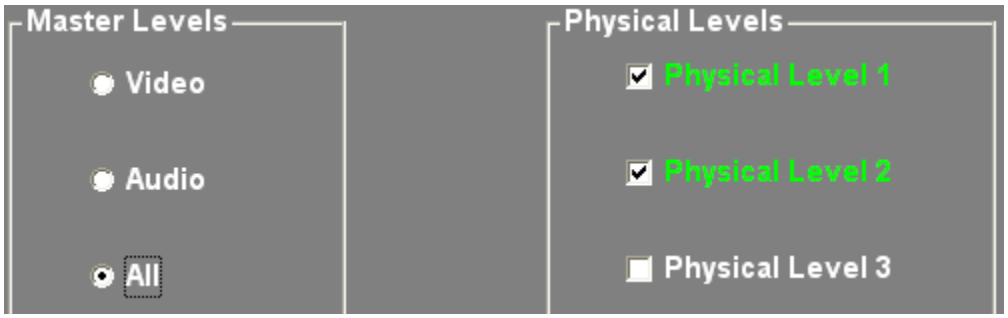



**FIGURE 72: Final Level Selections**

13) Close all screens, and select Utilities->Commit Changes and Reboot from the Menus. Click COMMIT and then, click OK when the message boxes appear.

Now the Premiere Unit is configured for use with other specific controller products.

### *5.3.7 Verifying The Slot Configurations*

After the system has been configured, the slot configurations should be verified. Perform the following to verify the slot configurations:

1. In the tree window, access the Slots directory by expanding the Premiere, Configuration, and Slots root directories by clicking on the x-box (☒) adjacent to each directory (see Figure 73).

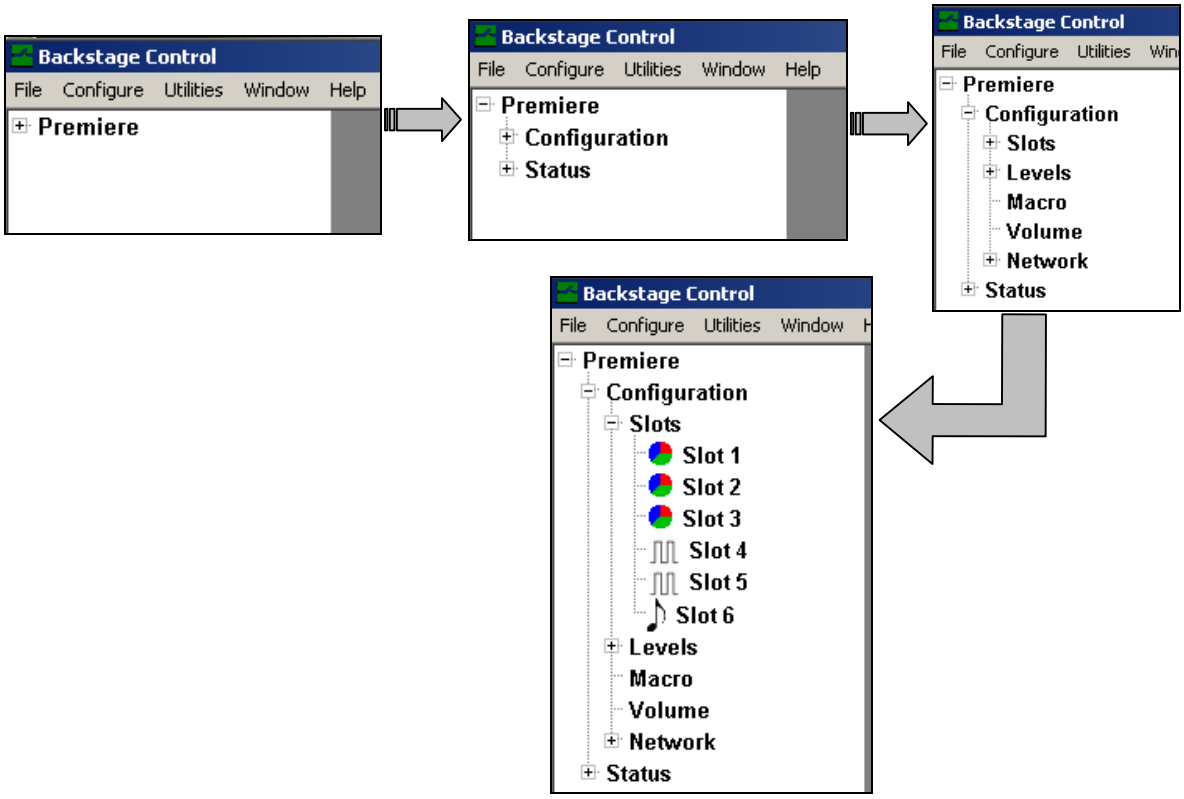



**FIGURE 73: Expanding The GUI Tree Directories**

2. Click on the Slot 1 directory to display thee current configuration for that slot.

   *Result*: The following screen is displayed (see Figure 74).

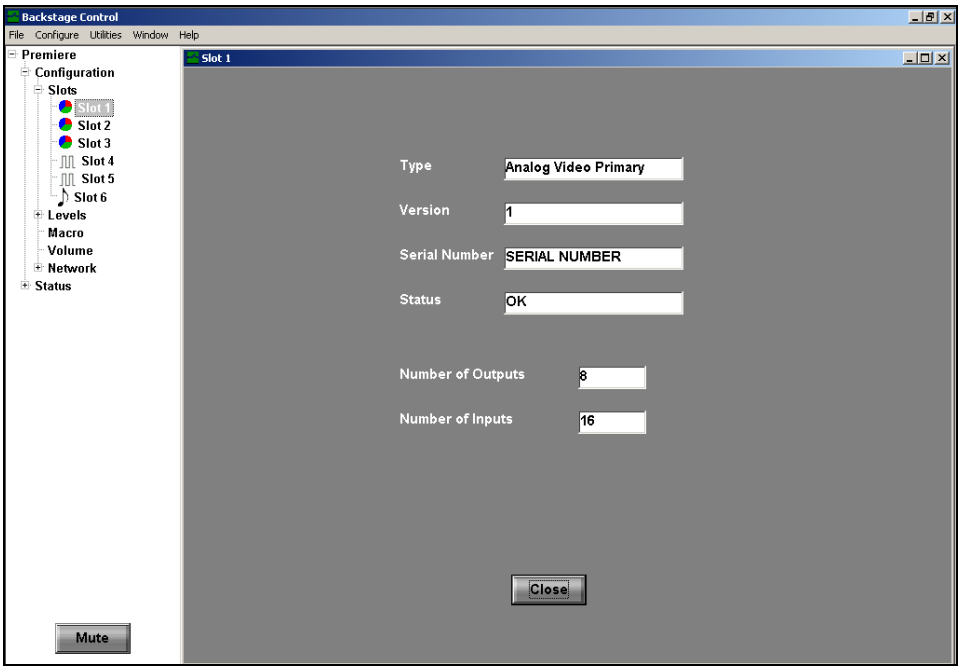



**FIGURE 74: Typical Slot Configuration Settings Screen**

3. You can now compare the settings with the default settings that are listed for your specific system located in Chapter 10, Appendix B.
4. Click on the Close function button to exit the slot display window.
5. Repeat Steps 2 through 4 for each of the remaining slot verification processes.

### 5.3.8 *Taking a Switch*

After the system has been configured and the slot configurations have been verified, perform the following sequence to take a switch:

1. In the tree window, access the Switch directory by expanding the Premiere and Status root directories by clicking on the x-box (☒) adjacent to each directory (see Figure 75).

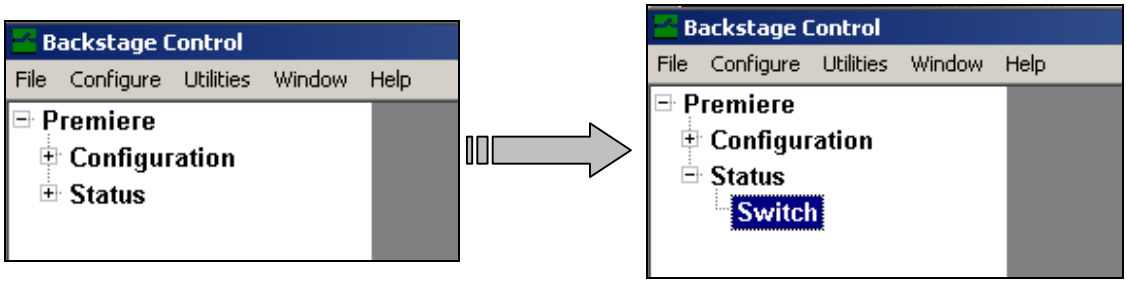



**FIGURE 75: Expanding The Root Directories**

2. Click on the Switch subdirectory to display the switch controls.

   *Result*: The following screen will be displayed (see Figure 76) along with a prompt display window.

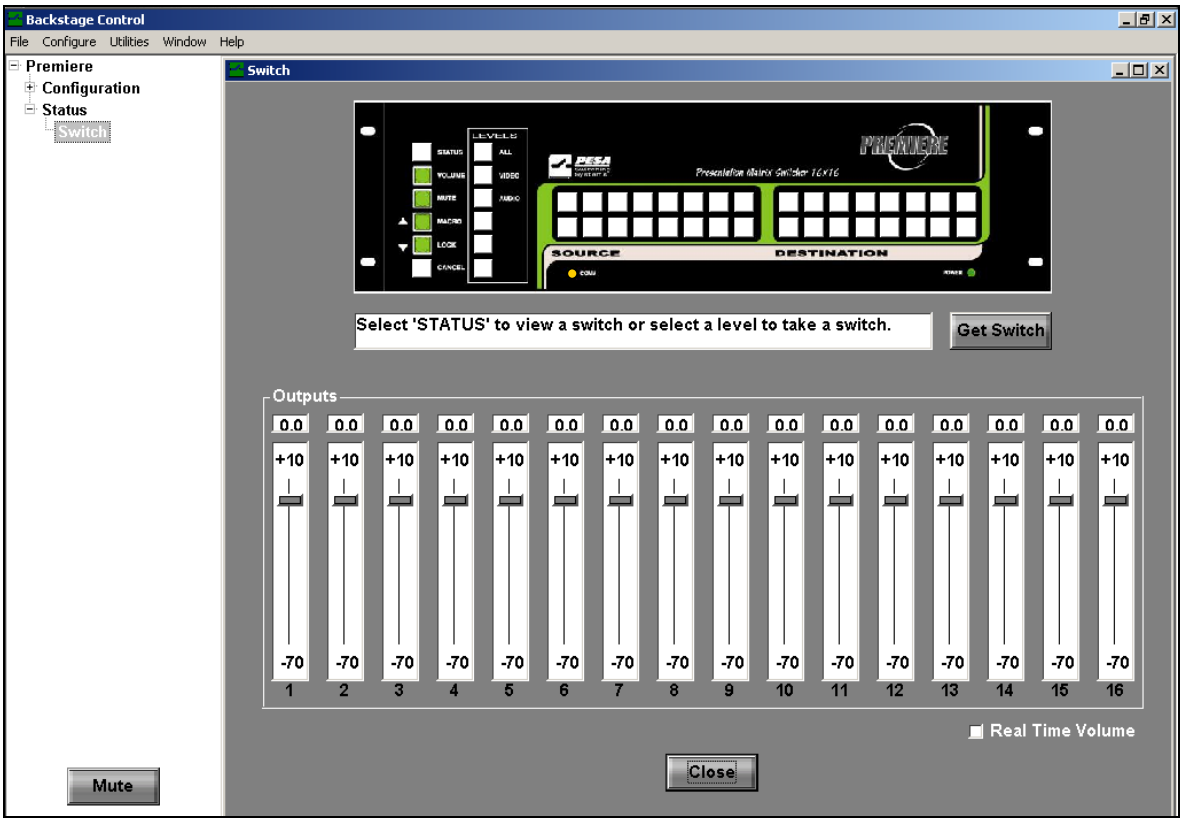



**FIGURE 76: Switch Control Display**

3. Click on a Level (All, Video, Audio, or other) that you wish to take the switch.

| | |
|---|---|
| NOTE | **The number of populated slots controls the Level assignments. The maximum amount of levels is six. The standard factory setup includes only three levels that are configured: All, Video, and Audio.** |

| | |
|---|---|
| NOTE | **Only one Level can be selected for each take-switch function.** |

*Result*: The selected Level will illuminate amber in color (see Figure 77) and a new prompt will be displayed.

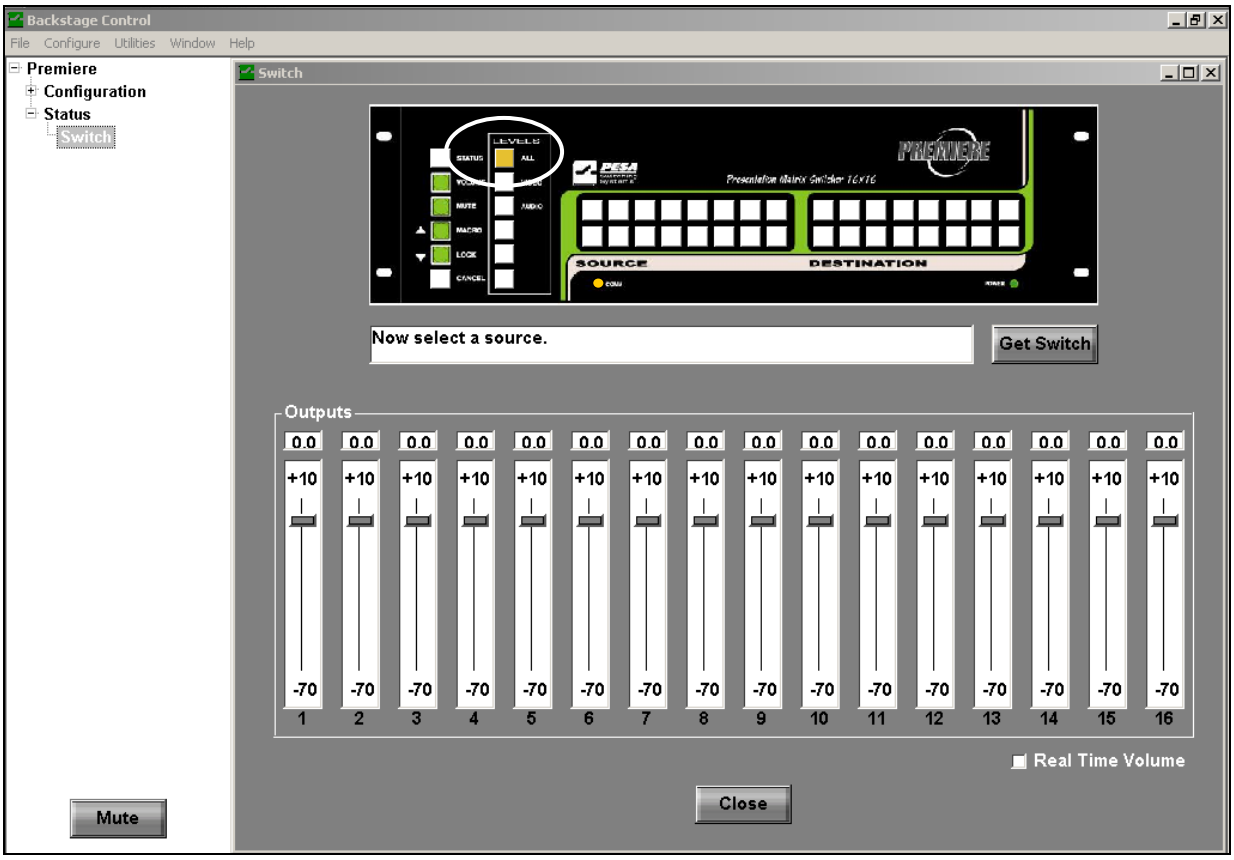



**FIGURE 77: Selecting a Level Example**

4. Select a Source by clicking on one of the Source buttons.

| | |
|---|---|
| NOTE | **Only one Source can be selected for each take-switch function.** |

*Result*: The selected Source will illuminate amber in color (see Figure 78) and a new prompt expressing a make-switch caution to the user will be displayed.

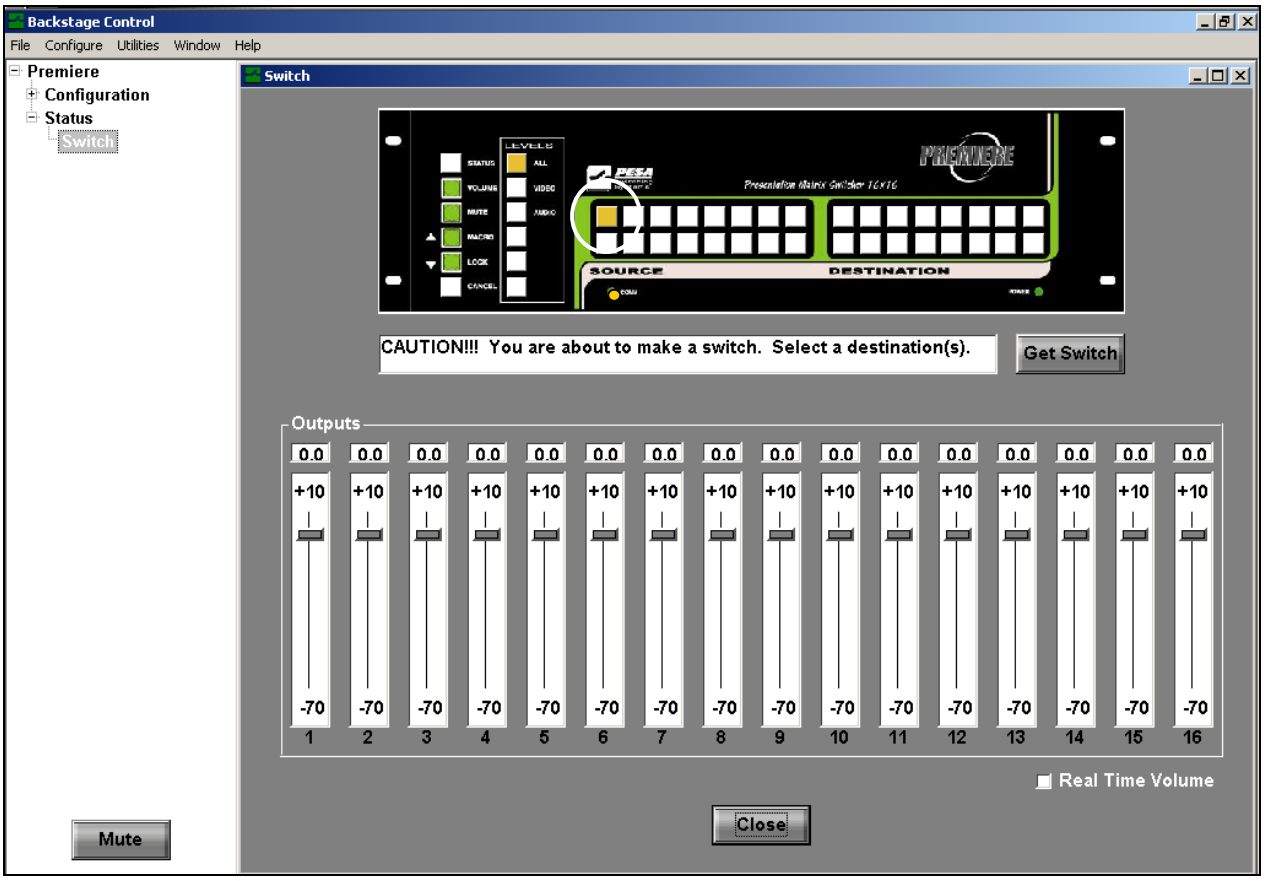



**FIGURE 78: Selecting a Source Example**

5. Select an output by clicking on the corresponding Destination button. This source can be switched to multiple destinations by pressing additional Destination buttons.

| | |
|---|---|
| NOTE | **The switch is taken each time a Destination is selected. Single or multiple destinations may be selected for each take-switch function.** |

*Result*: Each selected Destination button will illuminate amber in color (see Figure 79).

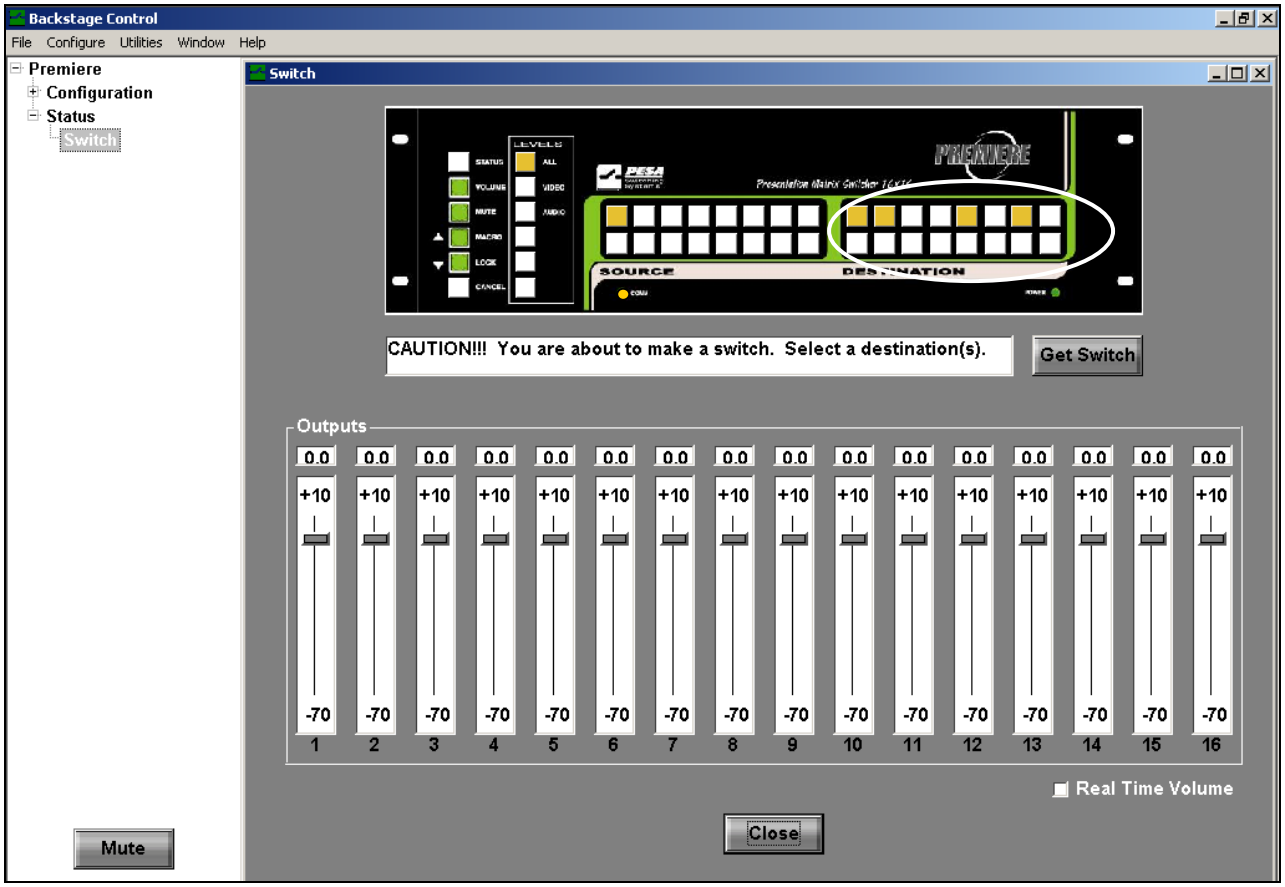



**FIGURE 79: Selecting Destinations Example**

6. To verify the switch status and/or to check the last take-switch function, perform the sequence as outlined in Section 5.3.9 (Verifying the Switch Status).

7. Click on the Close function button to exit the Switch display screen.

### 5.3.9 *Verifying The Switch Status*

After the system has been configured, the slot configurations have been verified, and you have performed a take-switch function, perform the following sequence to verify the switch status:

1) In the tree window, access the Switch directory by expanding the Premiere and Status root directories by clicking on the x-box (☒) adjacent to each directory (see Figure 80).

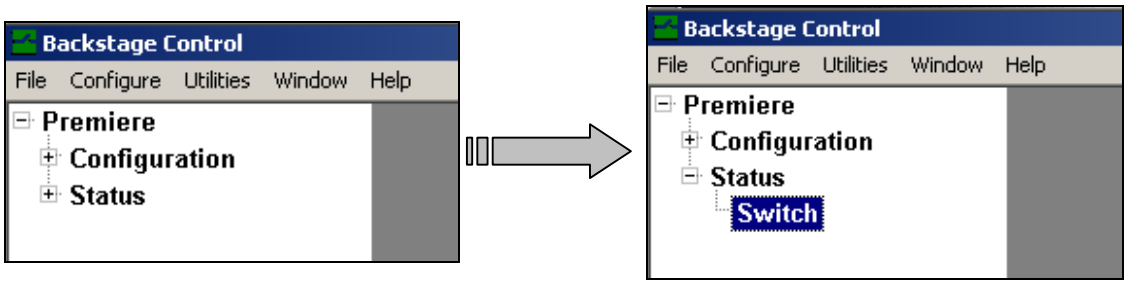



**FIGURE 80: Expanding The Root Directories**

2. Click on the Switch subdirectory to display the switch controls.

   *Result*: The following screen will be displayed (see Figure 81) along with a prompt display window.

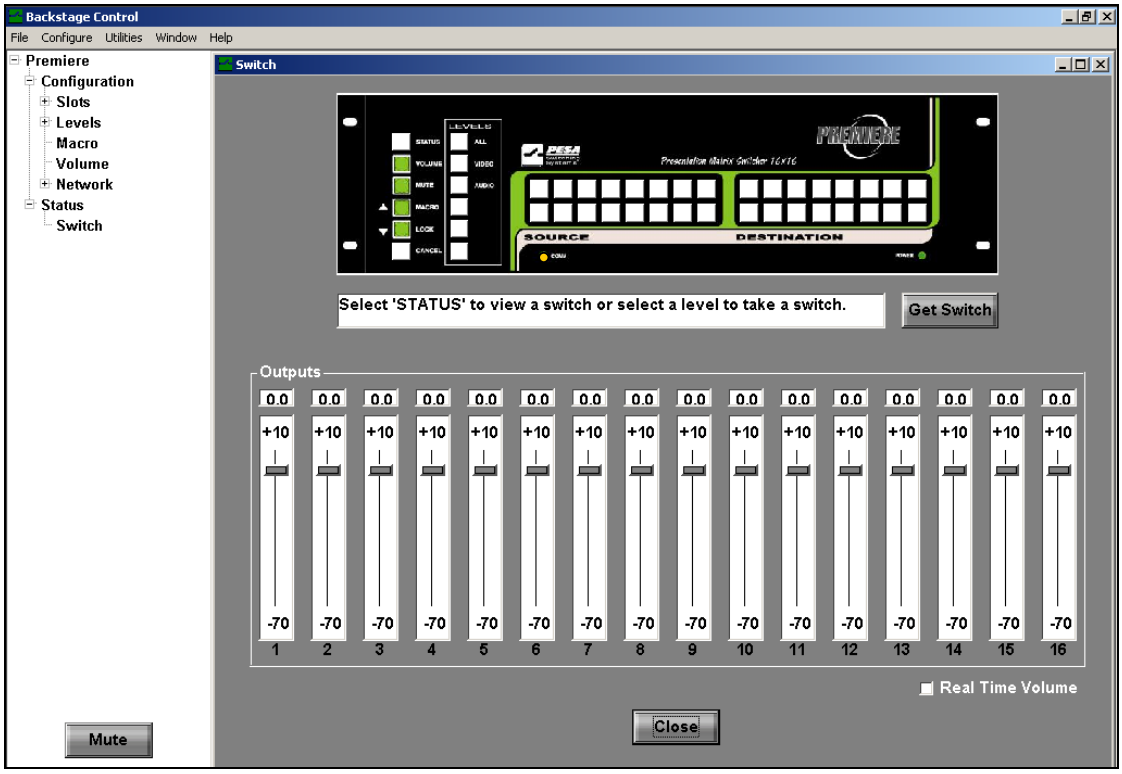



**FIGURE 81: Accessing the Switch Status Screen**

2) Click on the Status function button on the Premiere display.

*Result*: The Status function button will illuminate amber in color and a new prompt will be displayed in the prompt window (see Figure 82).

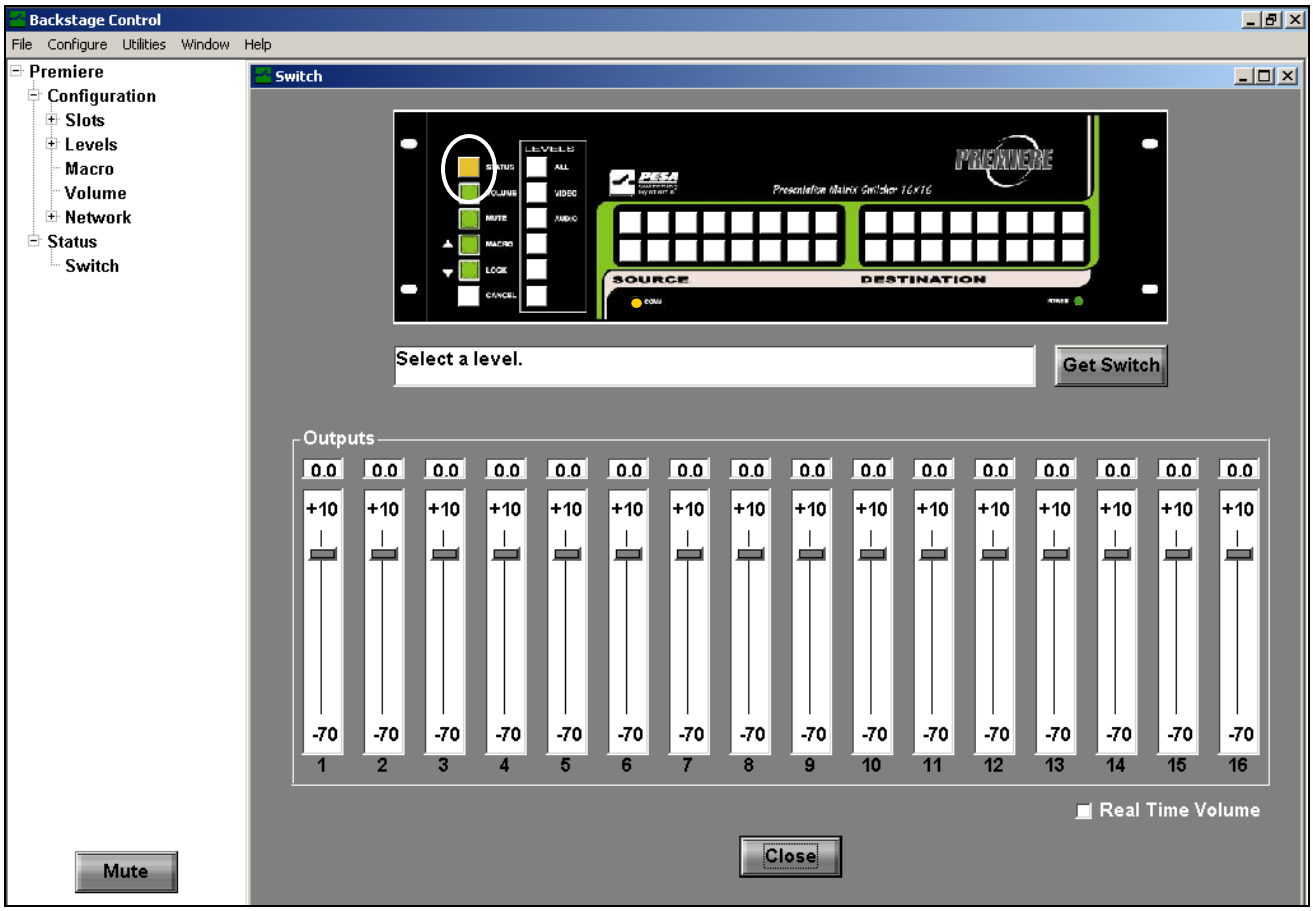



**FIGURE 82: Accessing the Switch Status Controls**

3) Click on a Level function button where your requested switch function is located.

*Result*: The Level function button will illuminate amber in color and a new prompt will be displayed in the prompt window (see Figure 83).

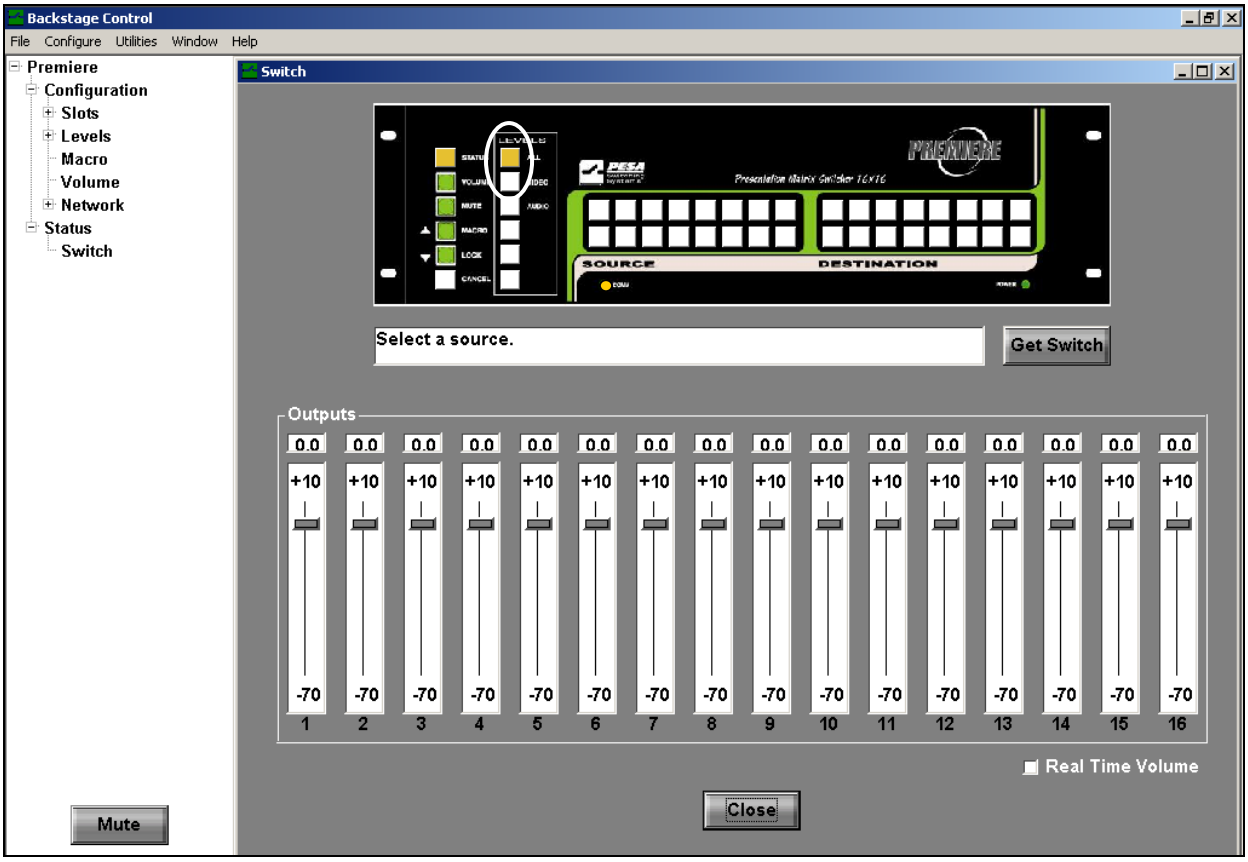



**FIGURE 83: Selecting a Level**

4) Click on the Source function button that is requested for the status.

*Result*: The Source function button will illuminate amber in color, the associated Destinations for the selected source will be illuminated amber, and a new prompt will be displayed in the prompt window (see Figure 84).

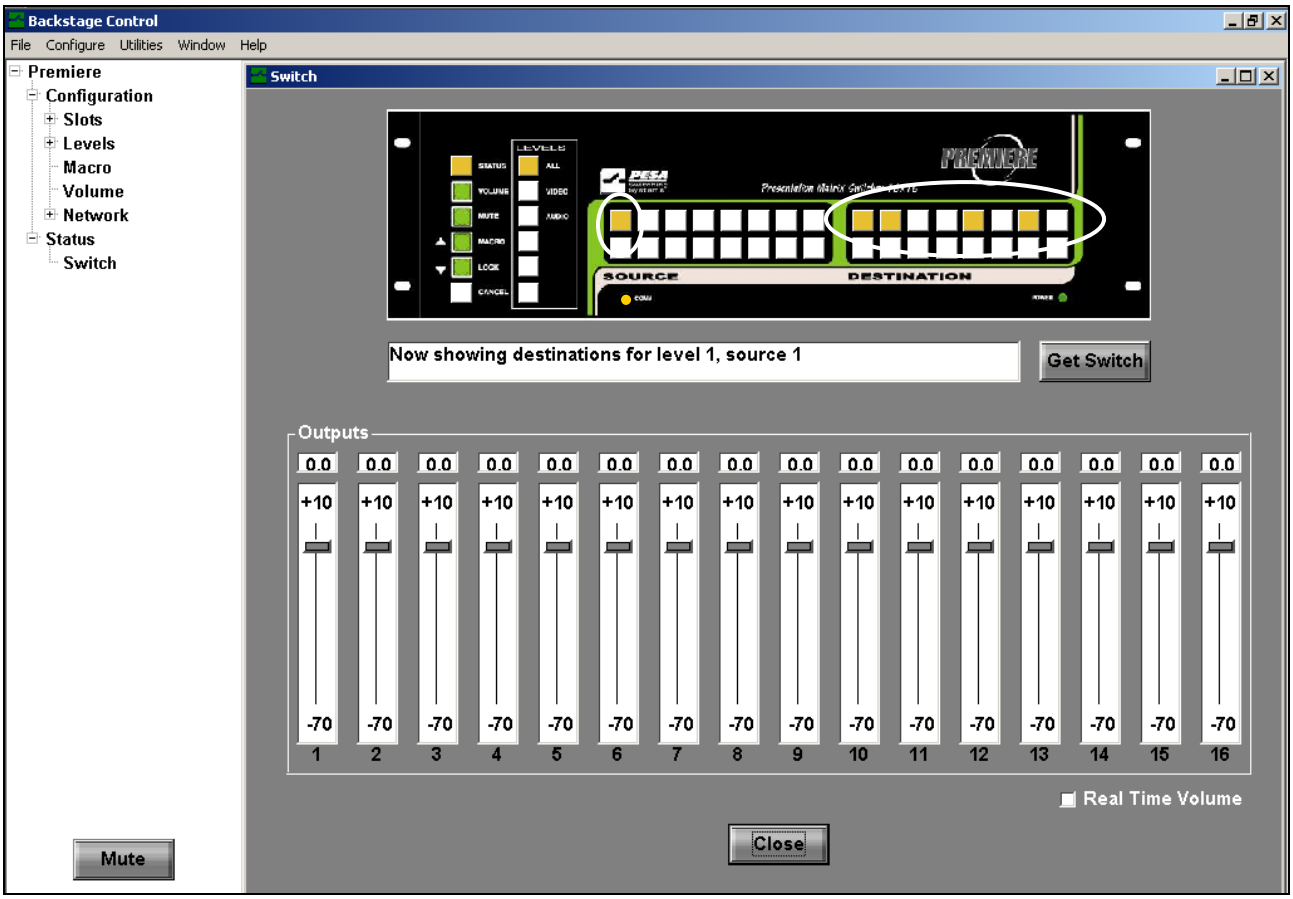



**FIGURE 84: Selecting a Source For Status**

5) For multiple requests, continue to click on the Source function button that is associated with the status request.

*Result*: Each request will be displayed individually when selected.

6) Click on the Close function button to exit the sequence and return to the main menu screen.

### *5.3.10 Adding Macros for User-Defined Preset Options*

| | |
|---|---|
| NOTE | **Macros (presets) can only be created through the use of the Premiere's Graphical User Interface. However, they can be initiated either from the Premiere front panel or through the GUI.**<br>**The absolute maximum amount of macros that you can create is 192 (i.e., equal to the number of sources and destinations that you have times six possible levels. Example: 16 sources + 16 destinations x 6 Levels).** |

| | |
|---|---|
| NOTE | **The number of populated slots controls the Level assignments. The maximum amount of levels is six. The standard factory setup includes only three levels that are configured, which are: All, Video, and Audio.** |

To define and configure a macro using the GUI, perform the following:

6) In the tree window, access the Macro directory by expanding the Premiere and Configuration root directories by clicking on the x-box (☒) adjacent to each directory (see Figure 85).

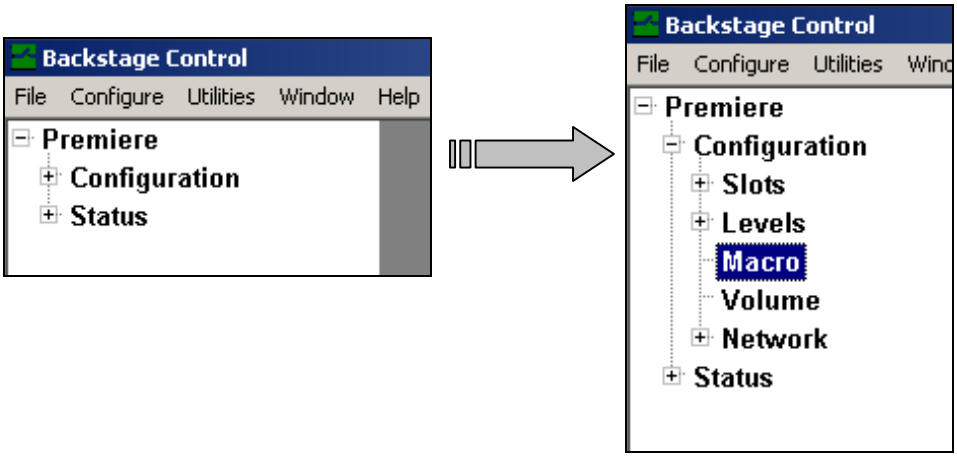



**FIGURE 85: Accessing the Macro Directory**

7) Click on the Macro directory.

*Result*: The Macros screen is being displayed (see Figure 86).

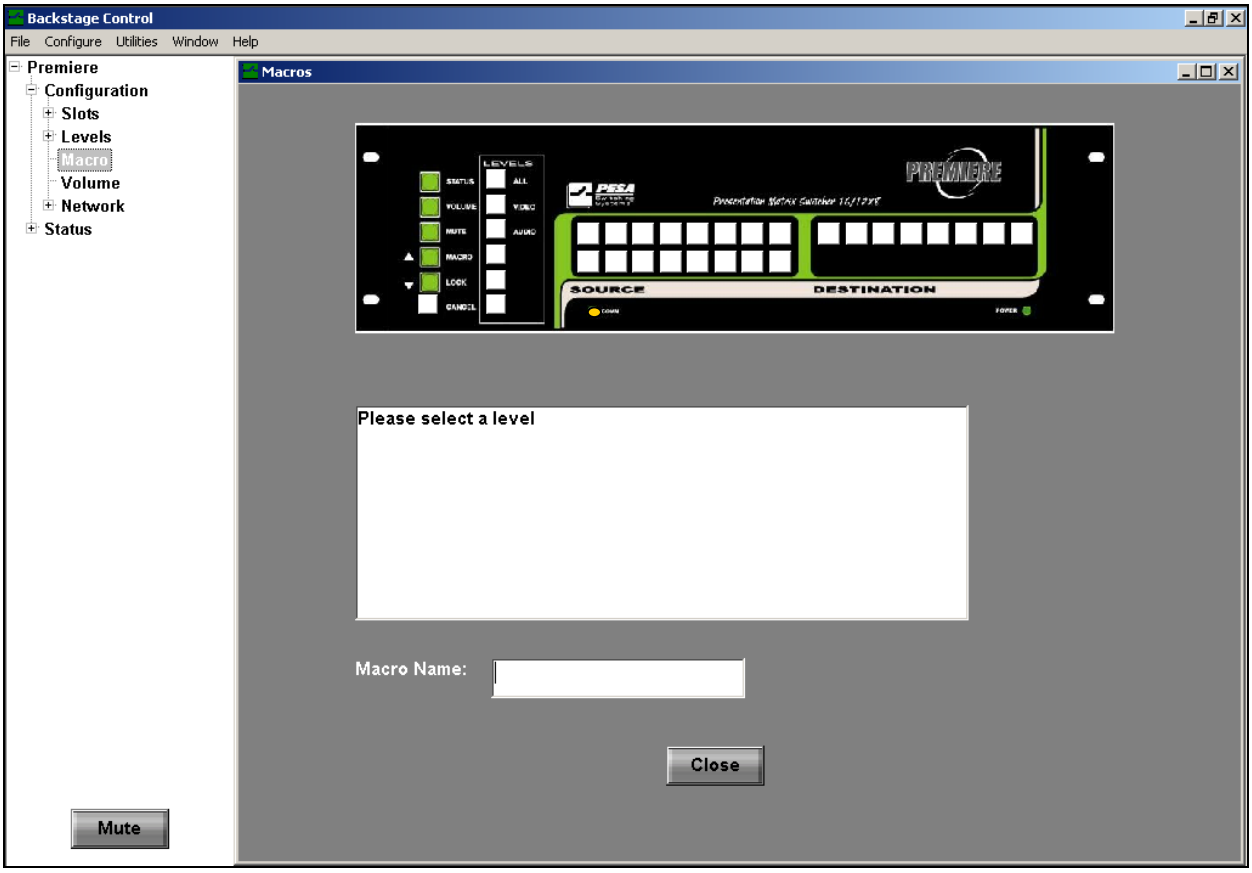


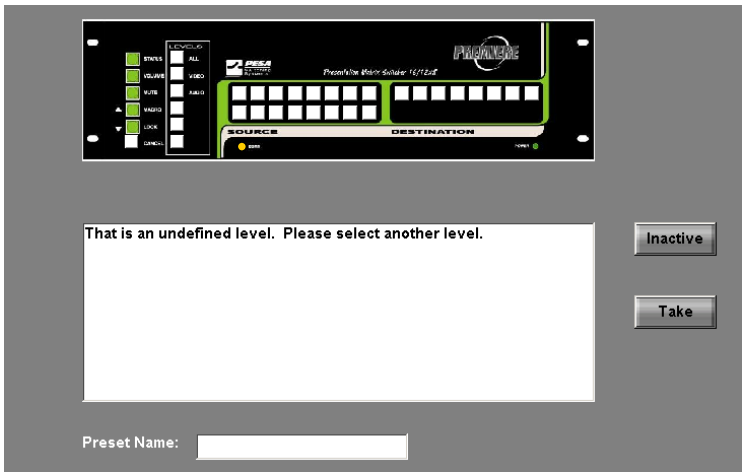

**FIGURE 86: Macros Screen**

8) Click on a Level selection of your choice.

*Result*: The Level function button will illuminate amber in color and a new prompt will be displayed in the prompt window (see Figure 87).

NOTE

**If an undefined Level is selected, a prompt will be displayed advising you to make another Level selection.**



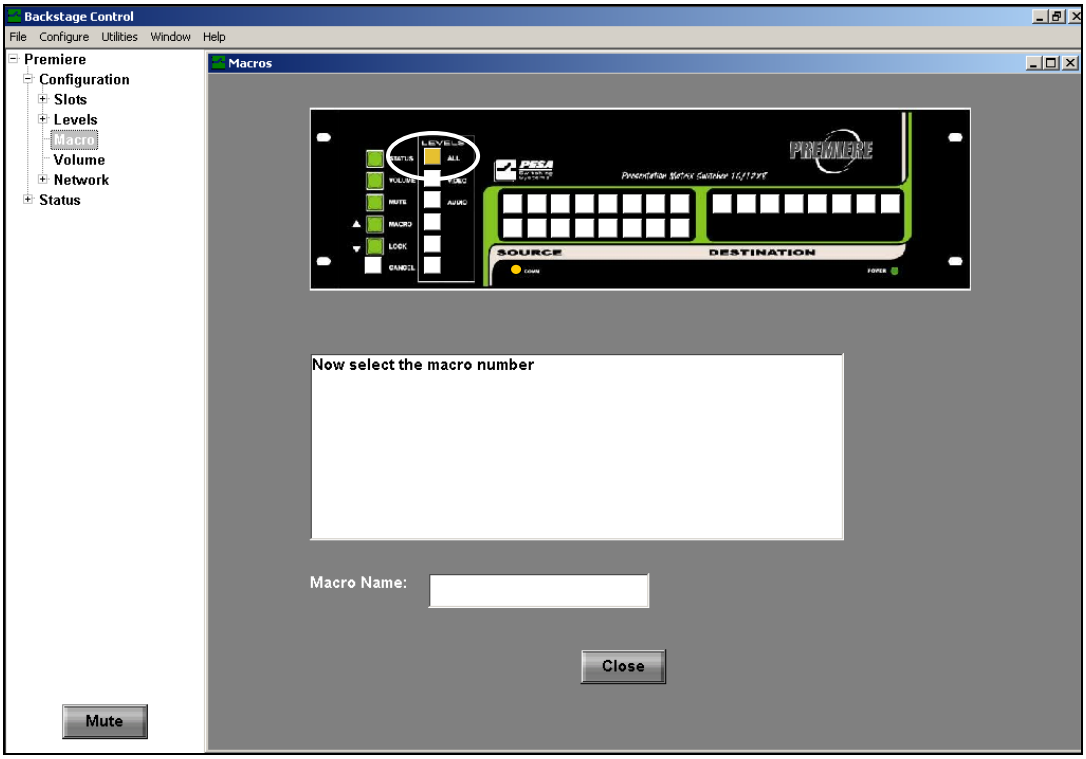




**FIGURE 87: Preset Level Selection Screen**

9) Click on a preset number of your choice.

| | |
|---|---|
| NOTE | **The preset numbers are defaulted to correspond with the Source and Destination buttons. That is, the Source buttons represent the initial count (i.e., 1-8, 1-12, or 1-16) and the Destination buttons represent the latter count (i.e., 9 and up, 13 and up, or 17 and up), which is totally dependent on your system configuration.** |

*Result*: The selected preset number button will illuminate amber in color and a new prompt will be displayed in the prompt window (see Figure 88).

| | |
|---|---|
| NOTE | **Typically during initial macro configuration sequences, all preset number selections should be inactive. A macro can be configured only when the status is active.** |

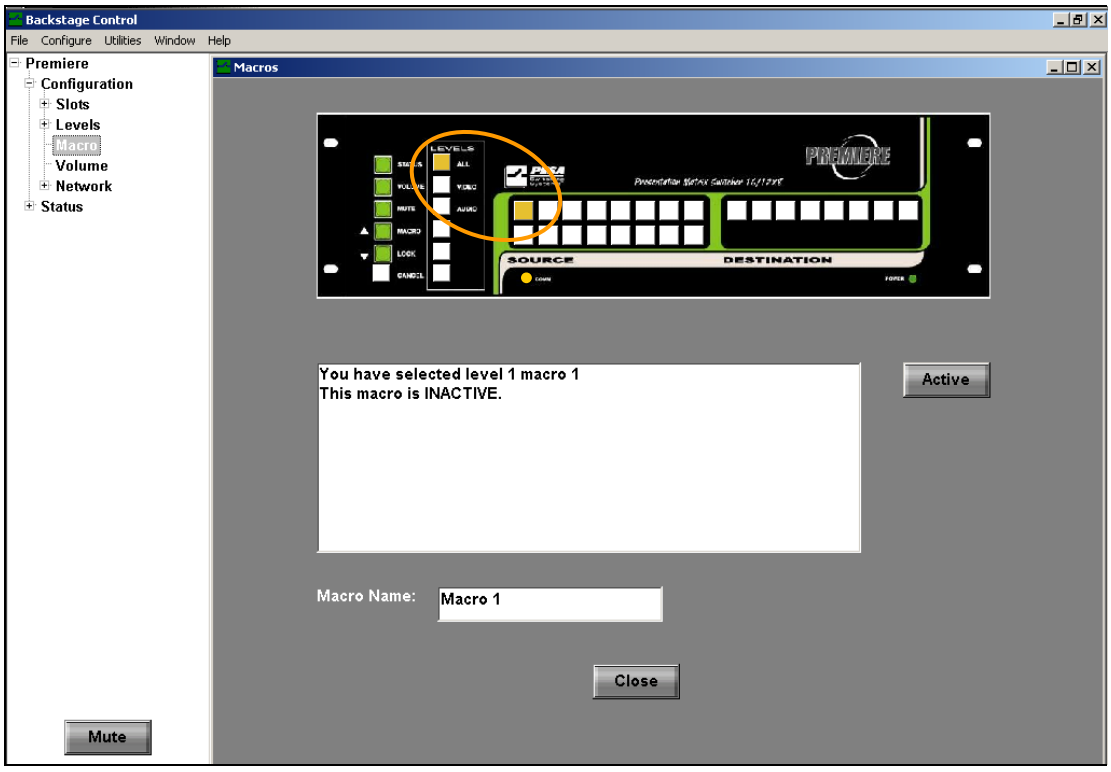



**FIGURE 88: Preset Number Selection for Macro Configuration**

10) If the selection is inactive (as indicated in the text display window), click on the Active function button to make the switch active for macro configuration.

*Result:* The text changes, the Active function button changes to Inactive, and the Take, Configuration, and Set Name function buttons appear (see Figure 89).

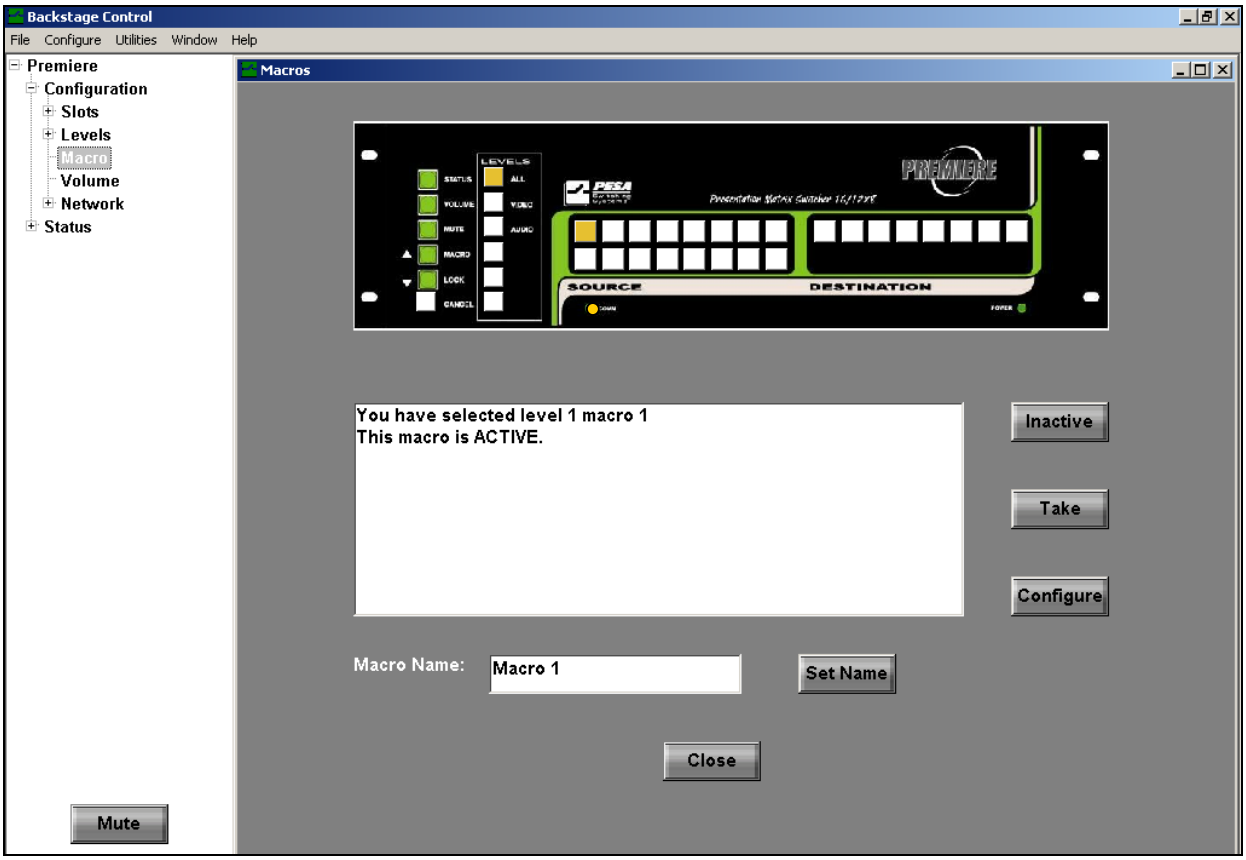



**FIGURE 89: Macro Pre-configuration Screen**

11) Click on the Configure function button.

*Result*: A Preset Configuration screen is displayed (see Figure 90).

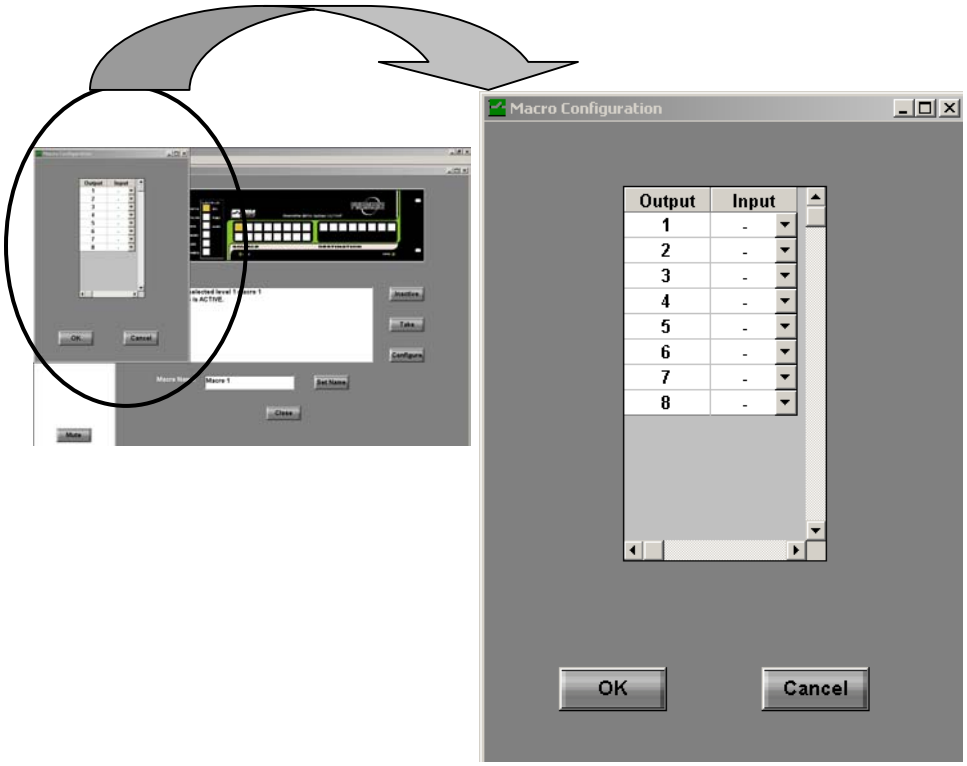



**FIGURE 90: Macro Configuration Screen**

| | |
|---|---|
| NOTE | **On the Macro Configuration display, the Output selection represents the Destination buttons and the Input selection represents the Source buttons. An Output can only have one selectable Input per selection.** |

10) On the Macro Configuration screen, select an Input for each Output by clicking on the down arrow and selecting a source. If no source is required for a specific Output, then click on the dash (-) selection.

11) When all assignments have been completed, click on the OK function button on the Macro Configuration screen.

*Result*: The system will exit the Macro Configuration screen and return to the main Macro screen. A commit changes and reboot screen will appear (see Figure 91).

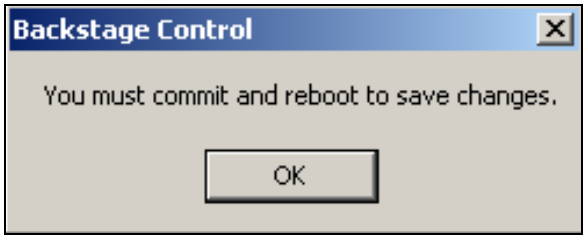



**FIGURE 91: Commit Changes and Reboot Screen**

12) Click on the OK function button to acknowledge the statement and then, click on the Close function button to exit the macro configuration screen.

13) On the main menu bar, click on Utilities and then, click on Commit Changes and Reboot selection.

*Result*: A prompt will be displayed (see Figure 92).

NOTE

**If a configuration window is open, the following prompt will be displayed:**


**You must close or cancel any open configuration window before committing (saving) the previous changes. To clear this prompt, click on the OK function button, close all open configurations, and repeat Step 9.**

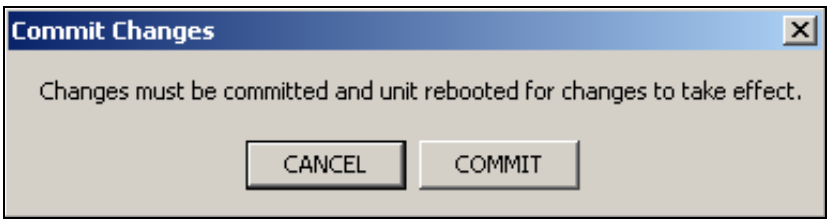



**FIGURE 92: Commit Changes Prompt**

14) Click on the Commit function button to save the changes and reboot the switcher.

*Result*: A verification prompt will be displayed (see Figure 93).

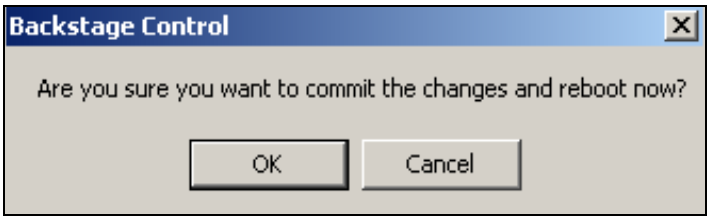



**FIGURE 93: Action Verification Prompt**

15) Click the OK function button.

*Result*: The changes will be downloaded to the switcher, the switcher will be reset, and the startup sequence will be initiated. The switcher will return to the last take-switch function that was performed.

16) If more macros are required, repeat Steps 1 through 14 for the remaining preset selections.

You may want to verify the switcher status by following the Status Verification sequence as outlined in Section 5.3.9 of this manual.

### *5.3.11 Initiating a Preset Macro*

#### 5.3.11.1 Initiating a Macro from the Switcher Front Panel

Perform the following sequence to initiate a macro from the Premiere Matrix Switcher's front panel:

1. Press the Macro function button.

   *Result*: The Macro function button will illuminate steady and within 10 seconds, the Cancel function button will illuminate flashing on and off.

| NOTE | **You may cancel and exit this function at anytime by pressing the Cancel function button.** |
|---|---|

2. Select and press the Level function button where the macro resides.

   *Result*: The Level function button will illuminate steady.

3. Select the Source or Destination function button that corresponds to the macro number that you are requesting.

   *Result*: All lamps will extinguish and the macro will be initiated.

You may want to verify the switcher status by following the Status Verification sequence as outlined in Section 5.3.9 of this manual.

#### 5.3.11.2 Initiating a Macro from the Graphical User Interface (GUI)

1) In the tree window, access the Macro directory by expanding the Premiere and Configuration root directories by clicking on the x-box (☒) adjacent to each directory (see Figure 94).

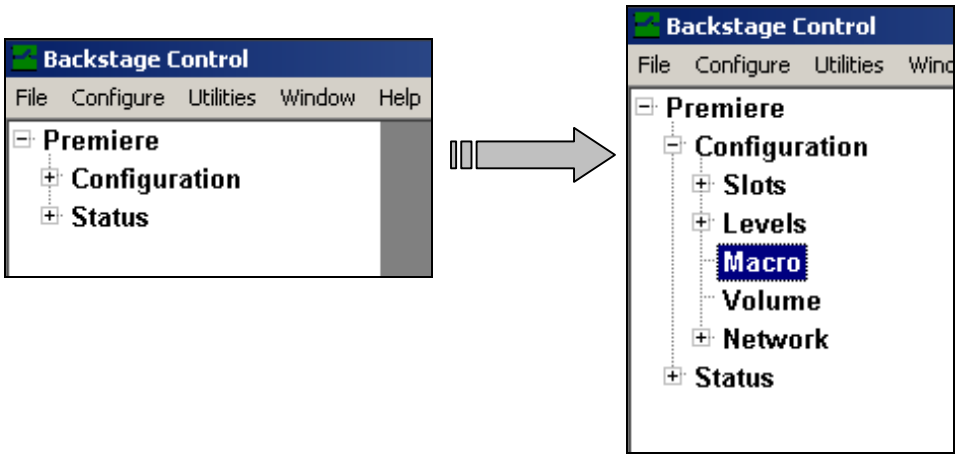



**FIGURE 94: Accessing the Macro Directory**

2) Click on the Macro directory.

*Result*: The Macros screen is being displayed (see Figure 95).

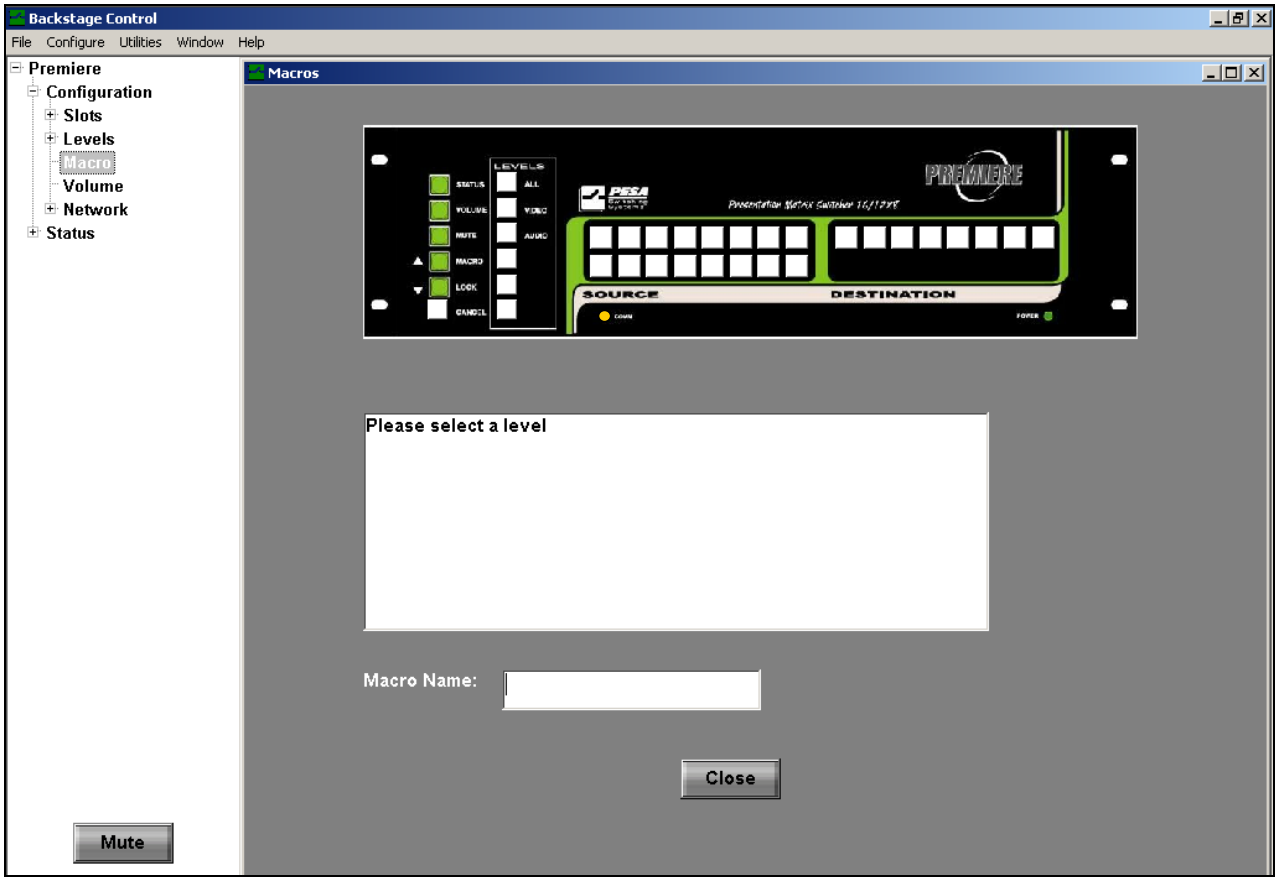


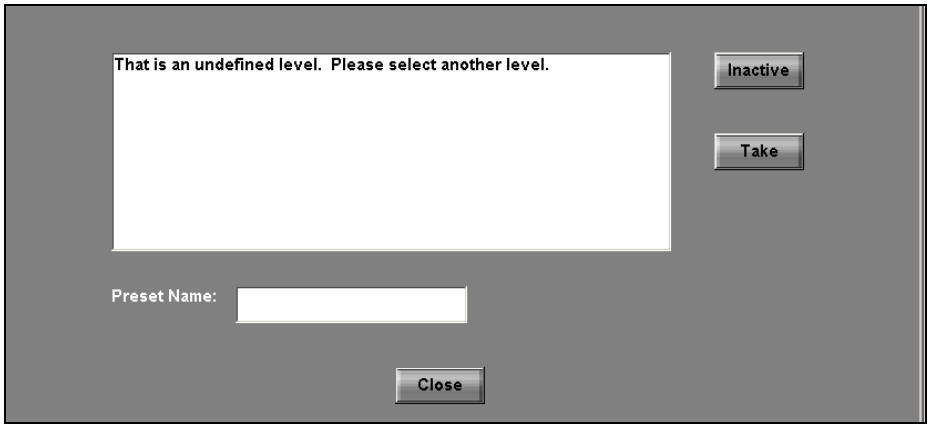

**FIGURE 95: Macros Screen**

3) Click on a Level selection of your choice.

*Result*: The Level function button will illuminate amber in color and a new prompt will be displayed in the prompt window (see Figure 96).

NOTE

**If an undefined Level is selected, a prompt will be displayed advising you to make another Level selection.**



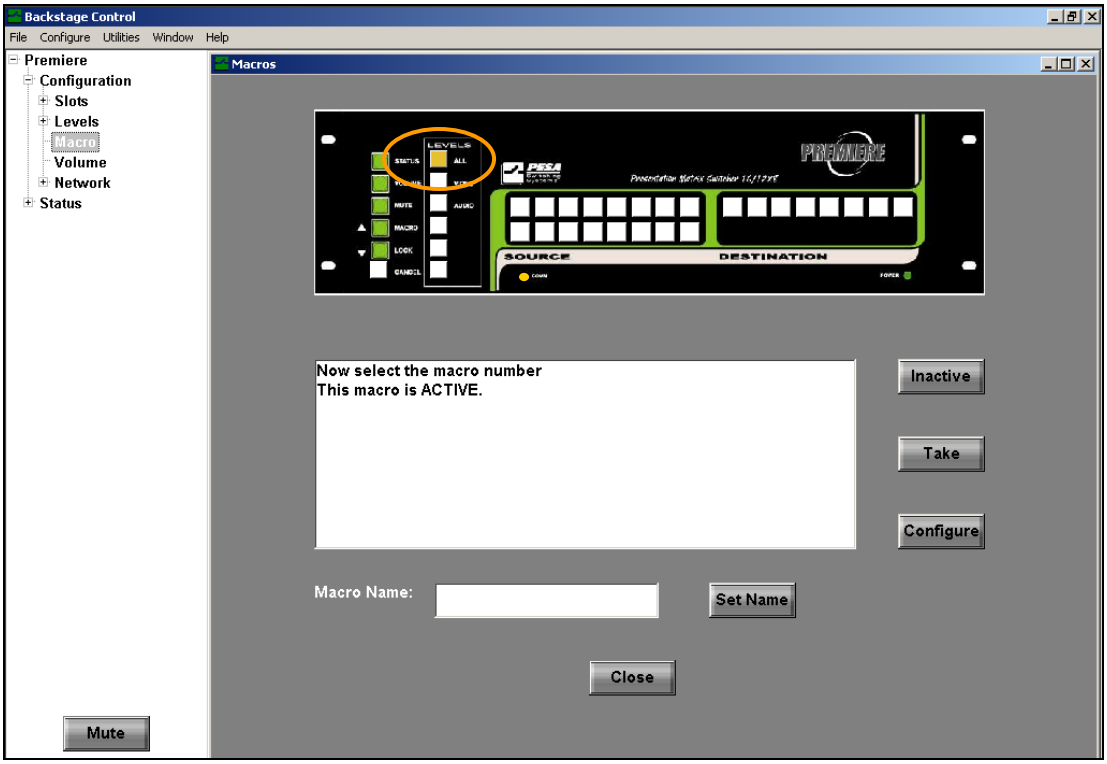




**FIGURE 96: Preset Level Selection Screen**

4) Click on the preset number assigned to the requested macro.

| | |
|---|---|
| NOTE | **The preset numbers are defaulted to correspond with the Source and Destination buttons. That is, the Source buttons represent the initial count (i.e., 1-8, 1-12, or 1-16) and the Destination buttons represent the latter count (i.e., 9 and up, 13 and up, or 17 and up), which is totally dependent on your system configuration.** |

*Result*: The selected preset number button will illuminate amber in color and a new prompt will be displayed in the prompt window (see Figure 97).

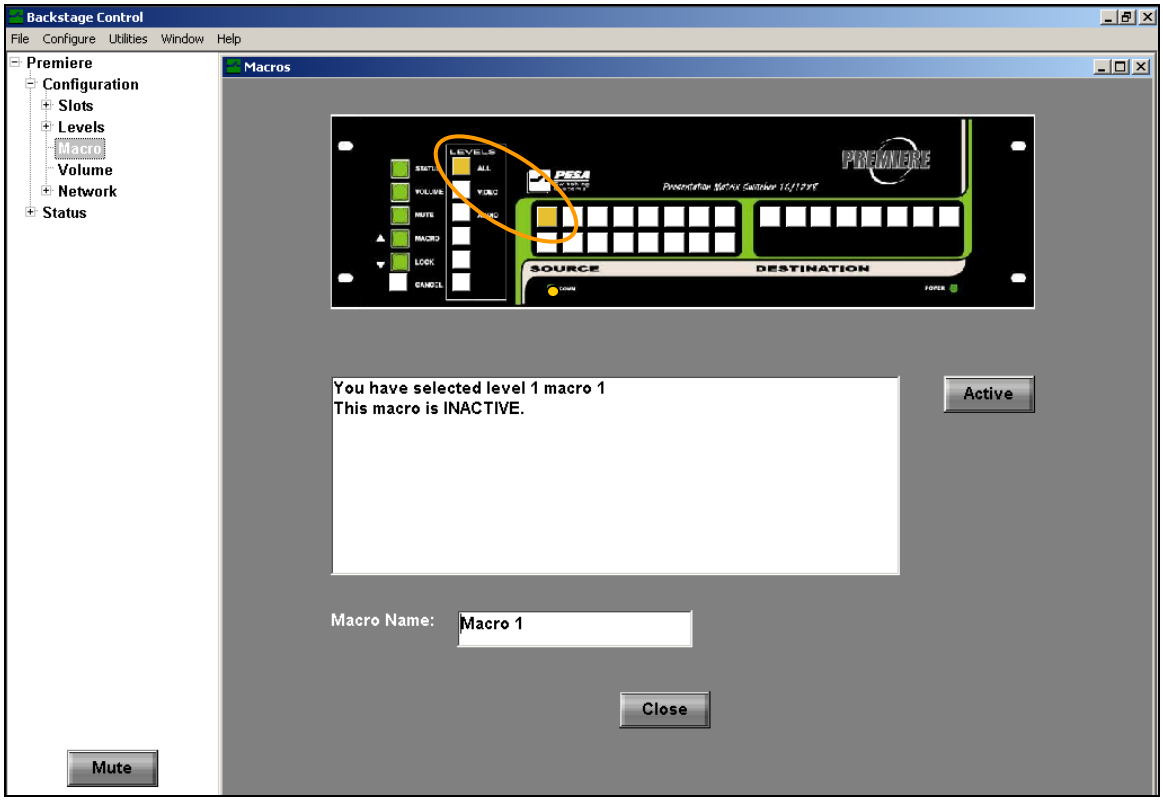



**FIGURE 97: Preset Number Selection for a Macro**

| | |
|---|---|
| NOTE | **The default status of a macro is the Inactive state. A macro must be selected as Active before a take-switch (initiate) function can be performed. You can change states at any time.** |

5) If the switch is indicated as being inactive (as the read in the prompt box), click on the Active function button. Otherwise, go to Step 6.

*Result*: The switch state changes to Active (as indicated in the prompt box) and new function buttons are displayed (see Figure 98).

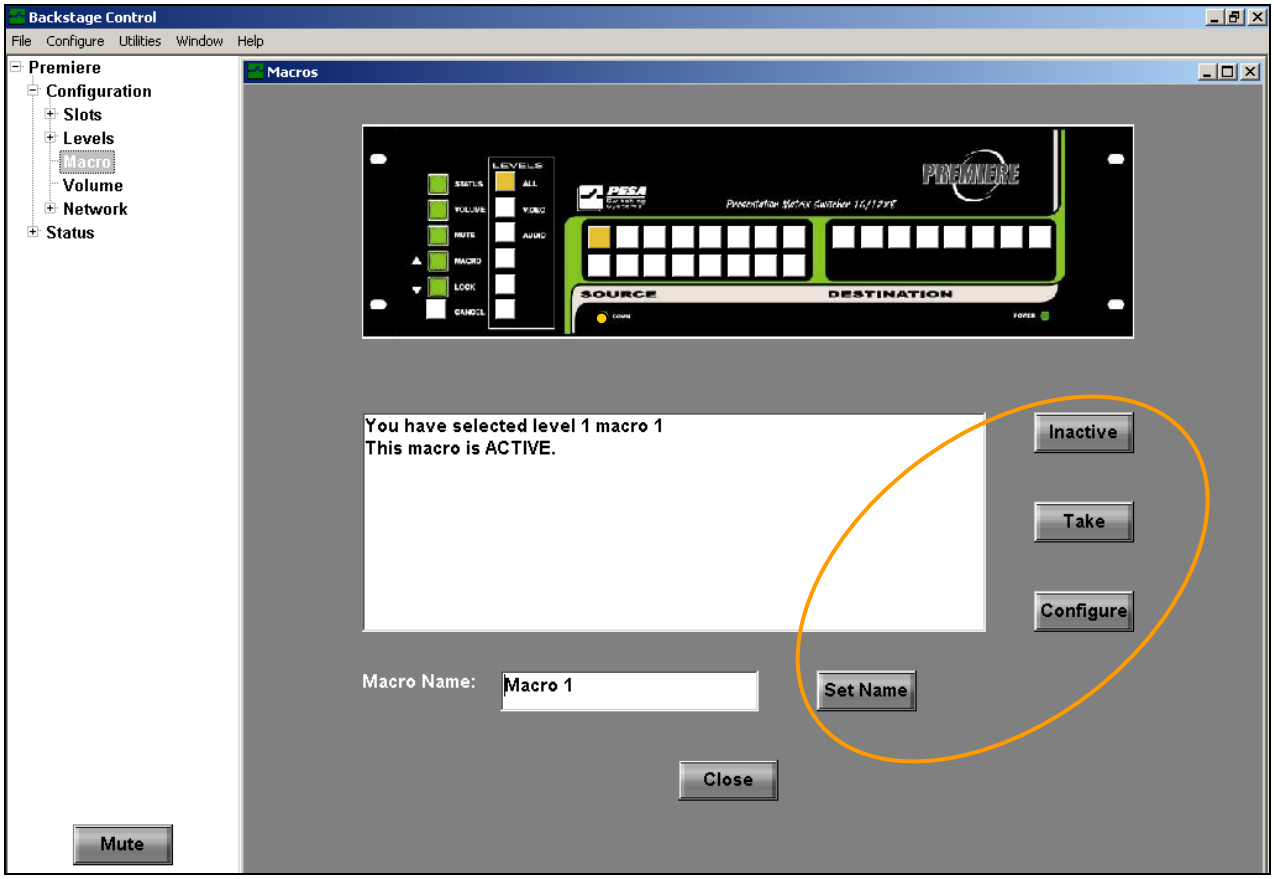



**FIGURE 98: Making a Macro Active**

6) To change the current Macro Name, delete the name in the Macro Name window and type the desired name. Click on the Set Name function button.

*Result:* The name is saved and when reselected, the new name will be displayed until it is deleted and reset (see Figure 99).

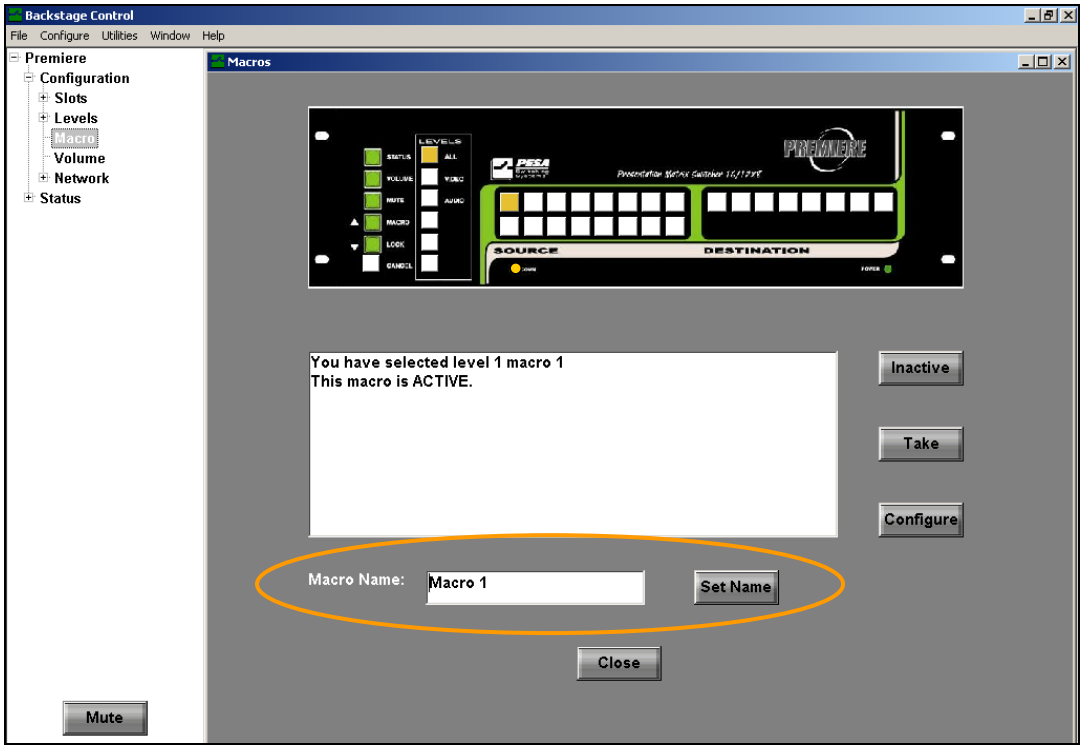



**FIGURE 99: Macro Name Window**

7) Click on the Take function button.

*Result*: The switcher automatically initiates the macro sequence until the user either performs another switching function or stops the system.

8) Click on the Close function button to exit the screen.

You may want to verify the switcher status by following the Status Verification sequence as outlined in Section 5.3.9 of this manual.

### *5.3.12 The Lock Function*

The Lock function is a password-operated sequence that allows the user to disable all system functions to prevent tampering or accidental changes from happening. The default password for the Lock function is five sequential buttons beginning at the All button and moving downward in the same column of buttons. This function can only be initiated from the front panel control buttons/keys.

#### 5.3.12.1 Locking/Unlocking The System From The Front Panel Controls

- To **Lock** the system, perform the following:
  1) Press the Lock function button on the front panel controls.

     *Result*: The Lock button will illuminate and flash off and on. You will have approximately 15 seconds to enter the password.
  2) In sequence, enter the password by pressing the associated buttons on the front panel controls.

     *Result*: The Lock button will remain illuminated (steady) indicating the system is locked.
- To **Unlock** the system, perform the following:
  1) Press the Lock function button on the front panel controls.

     *Result*: The Lock button will illuminate and flash off and on. You will have approximately 15 seconds to enter the password.
  2) In sequence, enter the password by pressing the associated buttons on the front panel controls.

     *Result*: The Lock button will extinguish indicating the system is unlocked.

#### 5.3.12.2 Locking/Unlocking The System From The Graphical User Interface (GUI)

| | |
|---|---|
| NOTE | **For this release, the Premiere Matrix Switcher Lock and Unlock sequence can ONLY be initiated from the front control panel. Future releases will allow users to change the default password and initiate the sequences from the GUI.** |

### *5.3.13 Changing The Lock Function Password*

| | |
|---|---|
| NOTE | **For this release, the Premiere Matrix Switcher Lock function's default password cannot be changed. Future releases will allow users to change the default password and initiate the associated sequences from the GUI.** |

### *5.3.14 Resetting The Premiere Switcher To The Factory Default Settings*

To reset all of the settings that have been completed to the factory default settings, perform the following sequence:

| | |
|---|---|
| CAUTION | **When performing this sequence, all previous settings that were performed will be lost and will be reset to the original factory settings.** |

To reset all of the settings that have been completed to the factory default settings, perform the following sequence:

1. Access the Reset to factory defaults screen (see Figure 100) by clicking on Utilities in the main menu bar.

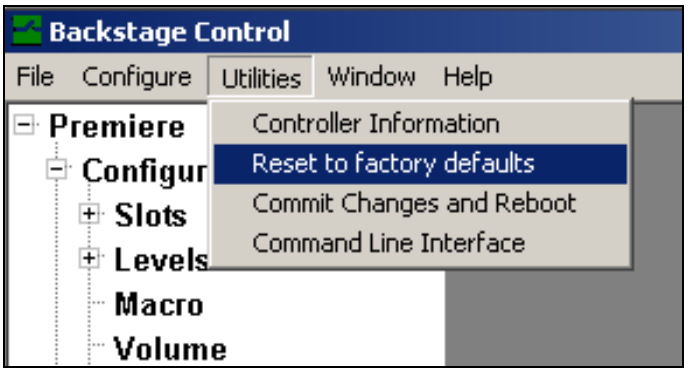



**FIGURE 100: Accessing the Reset to factory defaults Screen**

2. Click on Reset to Factory defaults.

*Result:* The following Caution screen will appear (see Figure 101).

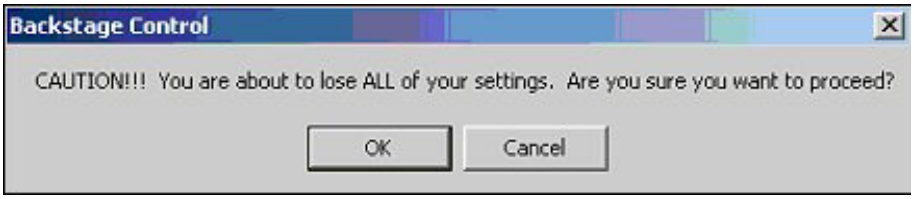



**FIGURE 101: Reset Caution Screen**

3. To continue, click on the OK function button.

   *Result:* All settings will be reset to the factory default settings, the settings downloaded into the switcher, and the switcher will be rebooted.

# Chapter 6: Input/Output Volume and Mute Controls

Users may adjust individual input or output audio volume levels as needed to control the system sound levels. In addition, an immediate Mute function can be initiated to silence all audio levels in the system. These functions can be initiated from either the Premiere front panel controls or through the Graphical User Interface (GUI). This section will address the audio control functions and will include a sequence for resetting all switcher settings to the factory default settings.

## 6.1 ADJUSTING VOLUME LEVELS FROM THE CONTROL PANEL

From the Premiere front panel controls, perform the following sequence:

| | |
|---|---|
| NOTE | **Volume adjustments from the front panel are accomplished by listening to the sound while the volume is adjusted.** |

1) Press the Volume control function button.

   *Result*: The lamp will illuminate and flash on and off.

2) Select a Source or Destination number and press the associated control function button.

   *Result*: The associated lamp will illuminate green and remain steady-on. The Macro and Lock (UP and Down adjustment arrows) will illuminate and remain steady-on (see Figure 102).


**FIGURE 102: Volume Up and Down Adjustment Control Buttons**

| | |
|---|---|
| NOTE | **You may have to verify that the selection that you made is an active switch in order to actually listen to the switched sound.** |

| | |
|---|---|
| NOTE | **Dependent upon your specific configuration, the Volume controls can be for more than one level.** |

3) While listening to the selection's corresponding destination, make an adjustment by either increasing the volume using the UP arrow or decreasing the volume using the DOWN arrow.

   *Result*: The volume will be adjusted incrementally at 0.5 dB each time the control button is pressed.

| | |
|---|---|
| NOTE | **Pressing and holding the button will perform only one increment adjustment. You must press and release for each incremental increase/decrease. That is, for a 1.5 dB adjustment, you must press the associated adjustment button three times.** |

4) Repeat Steps 1 through 3 for each subsequent adjustment.

5) To exit the volume adjustment, press the Cancel function button.

   *Result*: All lamps will extinguish, the new adjustments are saved, and the new adjustments are currently being used.

| | |
|---|---|
| NOTE | **These adjustments will remain valid until they are readjusted.** |

## 6.2 ADJUSTING VOLUME LEVELS FROM THE GRAPHICAL USER INTERFACE (GUI)

Volume adjustments from the GUI are accomplished by either listening to the sound while the volume is adjusted or by determining the amount of increase/decrease from decibel (dB) increment calculations.

### *6.2.1 Accessing The Volume Controls*

From the GUI, access the volume control screen by performing the following sequence:

| | |
|---|---|
| NOTE | **Dependent upon your specific configuration, the Volume controls can be for more than one level. Additionally, the volume controls can be accessed from the Switch screen.** |

1) In the tree window, access the Volume directory by expanding the Premiere and Configuration root directories by clicking on the x-box (☒) adjacent to each directory (see Figure 103).

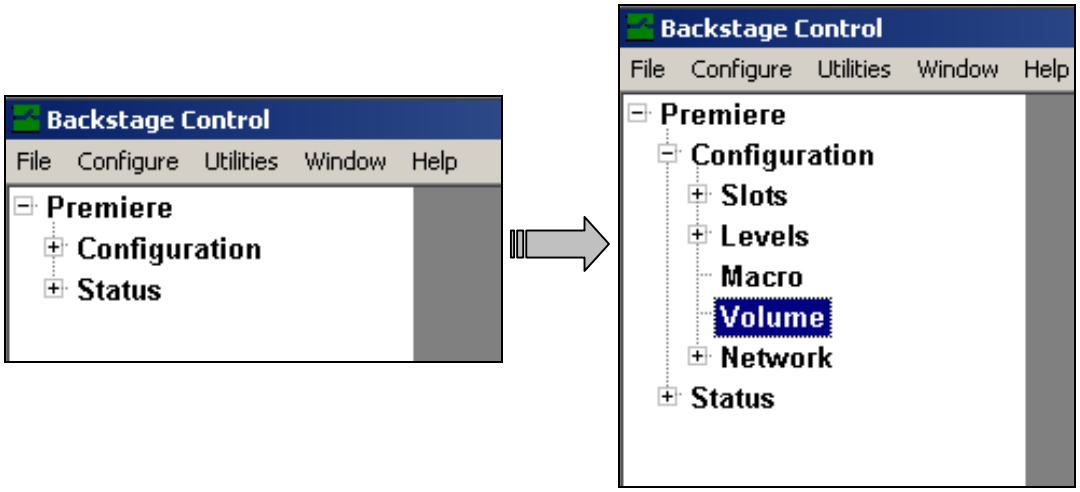



**FIGURE 103: Expanding The Root Directory For Volume (Audio)**

2) Click on the Volume subdirectory to access the Output Volume adjustment screen display.

*Result*: The Output Volume screen will be displayed (see Figure 104).

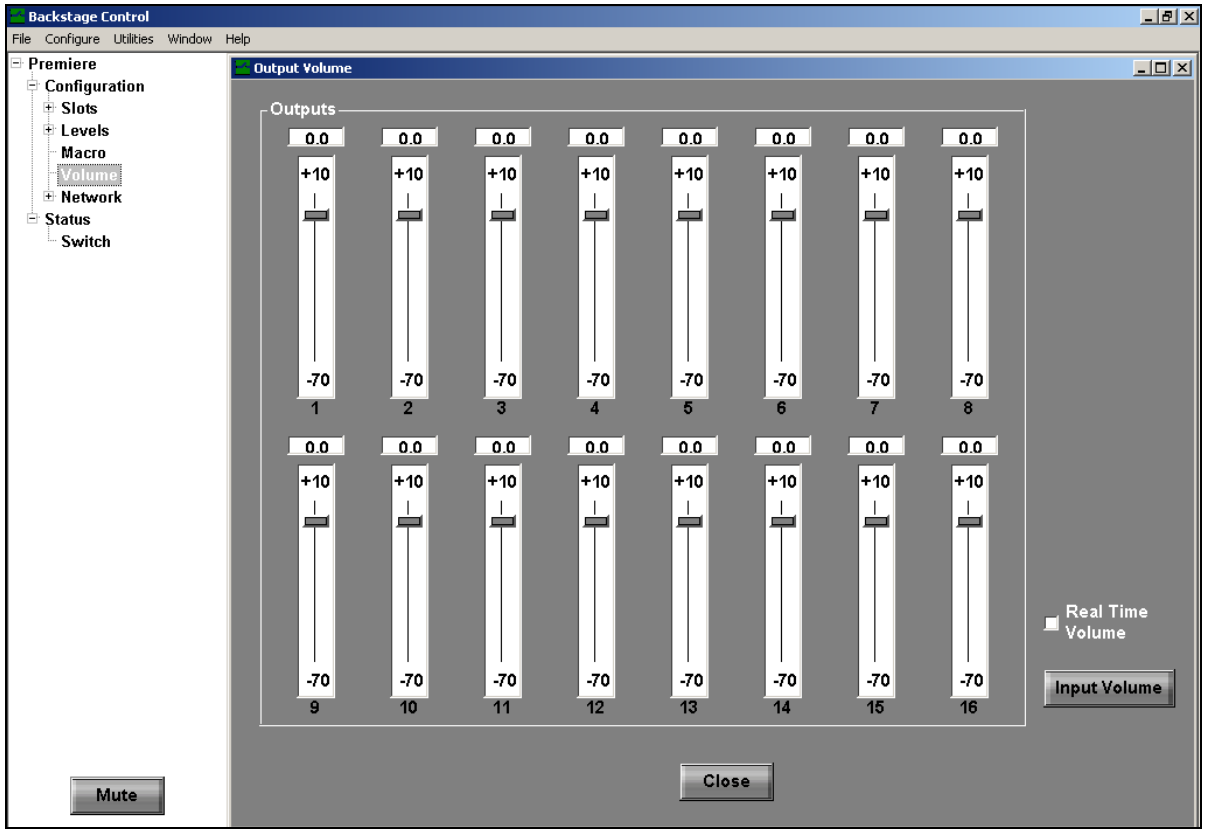



**FIGURE 104: The Output Volume Screen**

### *6.2.2 Volume Adjustment*

#### 6.2.2.1 Adjusting Output Volume

The Real Time Volume box can be selected at anytime to adjust the volume to the actual, active sound.

After accessing the Output Volume adjustment screen, perform the following sequence to adjust individual volume controls:

1) Select a specific Outputs volume control slider. Click and drag the slider to the desired adjustment level for the corresponding Destination volume.

   *Result*: The audible volume will be adjusted as the slider is being dragged and the decibel display changes proportionately at 0.5dB increments with the slider movement (see Figure 105).

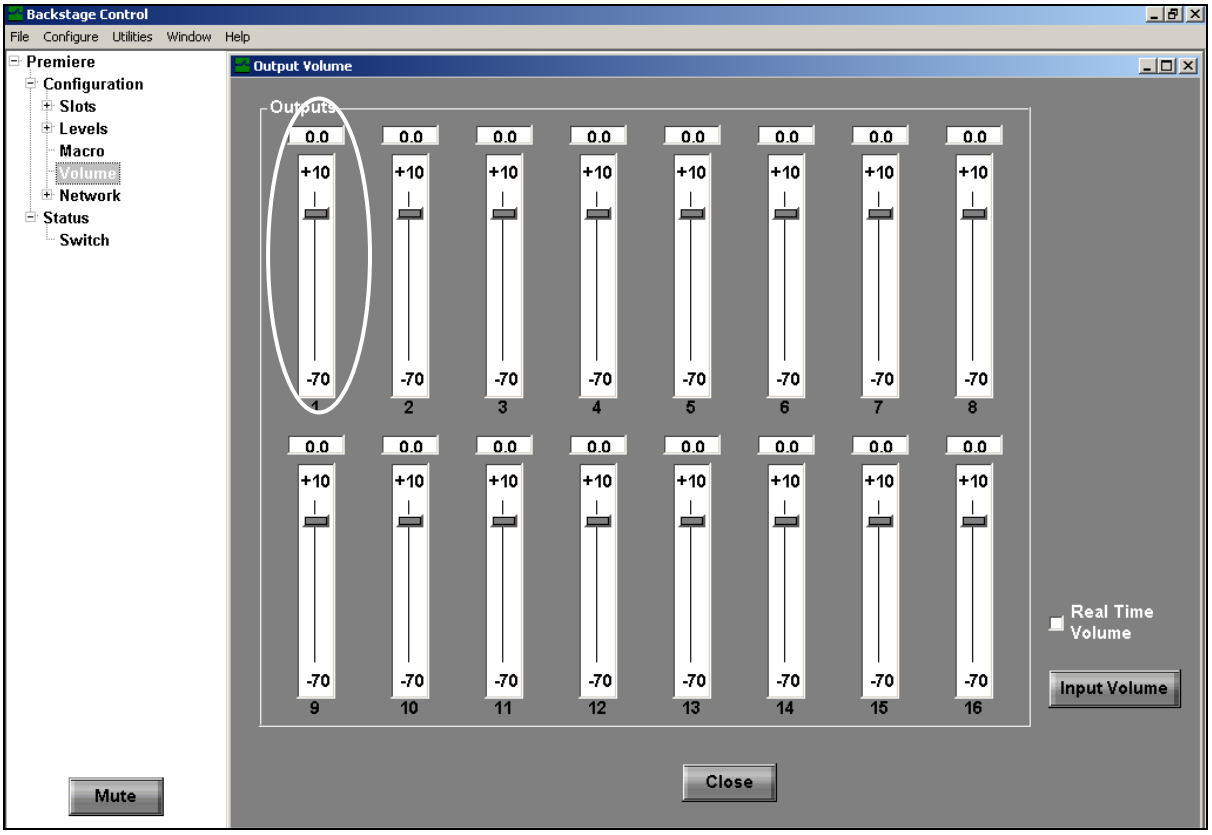



**FIGURE 105: Output Volume Controls**

2) Repeat Step 1 as necessary for the remaining output volume controls.

3) When complete, close the screen by clicking on the Close function button.

   *Result*: The output volume adjustments will remain active until manually readjusted.

### 6.2.2.2 Adjusting the Input Volume

This adjustment is accessed through the Output Volume adjustment screen.

1) Access the Output Volume screen as previously described in this section.

   *Result:* The Output Volume screen appears displaying the Input Volume function button (see Figure 106).

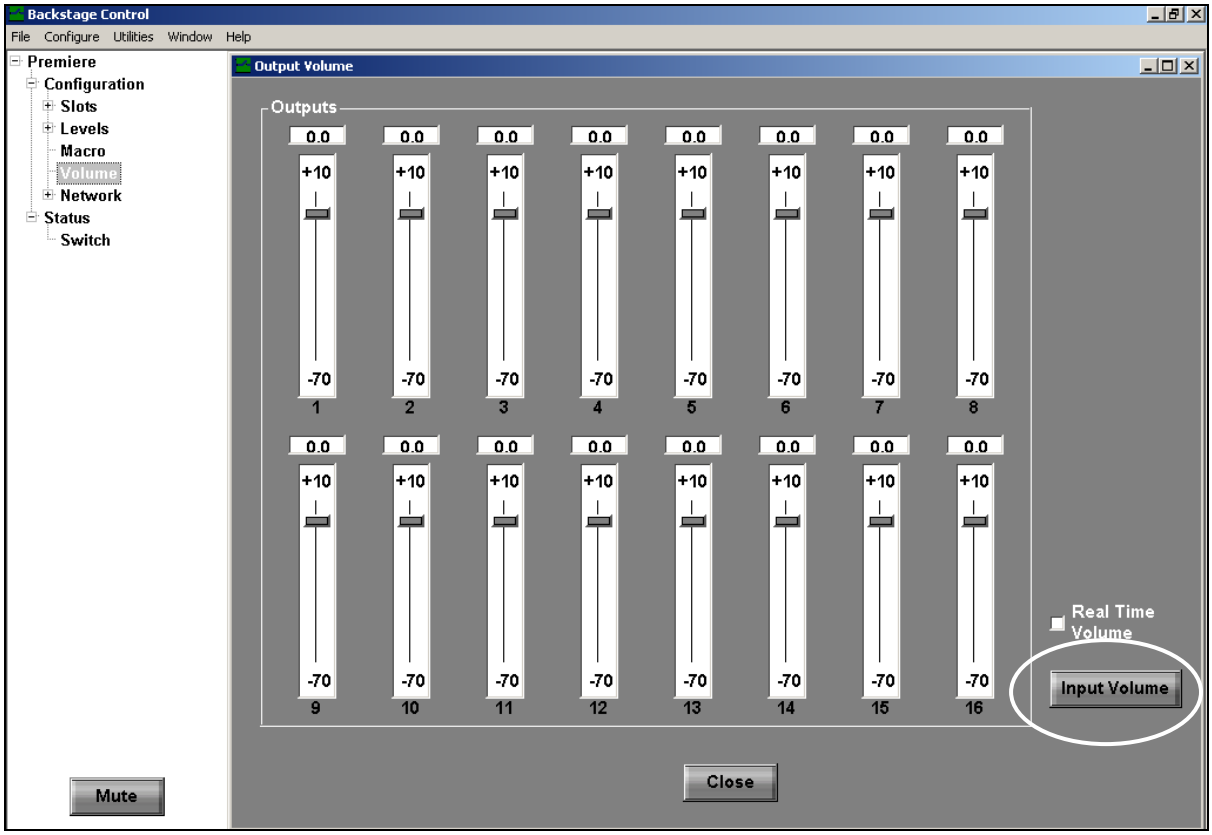



**FIGURE 106: Output Volume Adjustment Screen**

2) Click on the Input Volume function button to access the Input Volume adjustment screen.

   *Result:* The Input Volume adjustment screen is being displayed (see Figure 107).

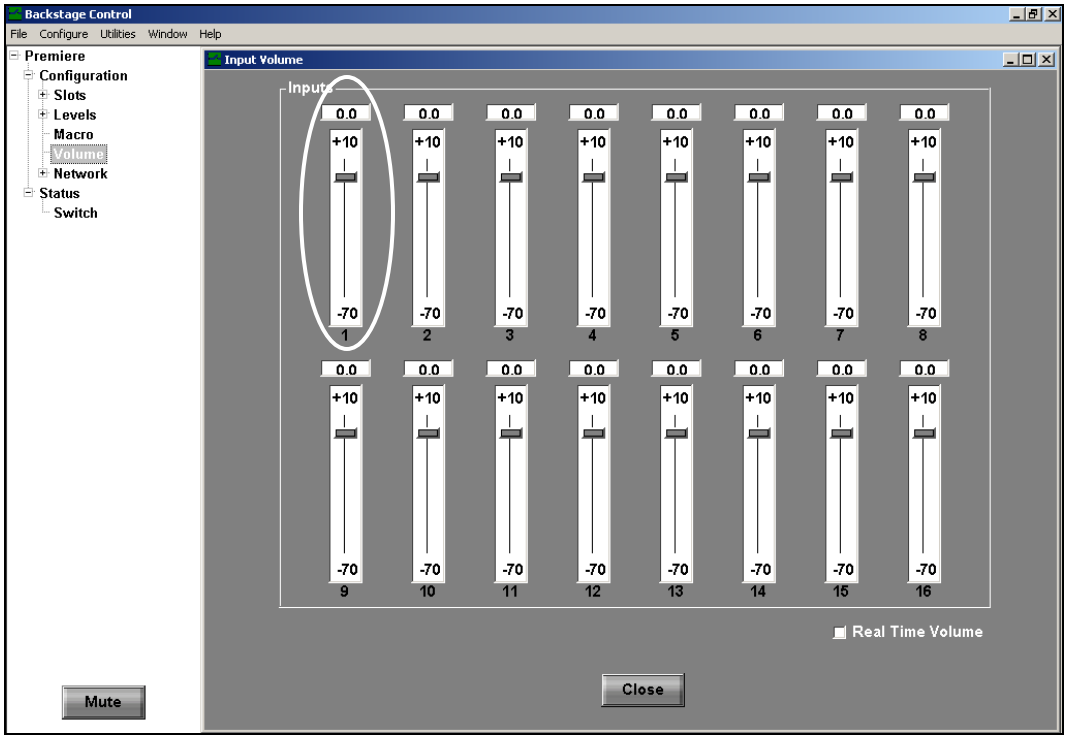



**FIGURE 107: Input Volume Adjustment Screen**

3) Select a specific Inputs volume control slider. Click and drag the slider to the desired adjustment level for the corresponding Source volume.

   *Result*: The audible volume will be adjusted as the slider is being dragged and the decibel display changes proportionately at 0.5dB increments with the slider movement (see Figure 107).

4) Repeat Step 3 as necessary for the remaining input volume controls.

5) When complete, close the screen by clicking on the Close function button.

   *Result*: The input volume adjustments will remain active until manually readjusted.

## 6.3 THE MUTE FUNCTION

The Mute function is a true interactive sequence that can be initiated and deactivated from either the Premiere front panel controls or from the Graphical User Interface (GUI). If initiated from the GUI, you can deactivate the function from the front panel controls or from the GUI and vice-versa. Once activated, all system volume controls are silenced and remain silenced until the Mute function has been deactivated (unmuted).

### *6.3.1 Muting From The Front Panel Controls*

To silence the audio for the entire system, press the Mute function button on the front panel controls.

*Result*: The Mute function button lamp illuminates and flashes on and off. All audio is silenced while the video is not affected.

To resume normal operation, press the Mute function button.

*Result*: The Mute function button lamp extinguishes and all audio is resumed with the last volume settings being utilized.

### *6.3.2 Muting From The GUI*

To silence the audio for the entire system, access the main GUI screen and click on the Mute function button, which is always displayed whenever Backstage Control is accessed.

*Result*: The Mute function button changes to read Unmute (see Figure 108). The Mute function button lamp on the Premiere front control panel controls illuminates and flashes on and off.

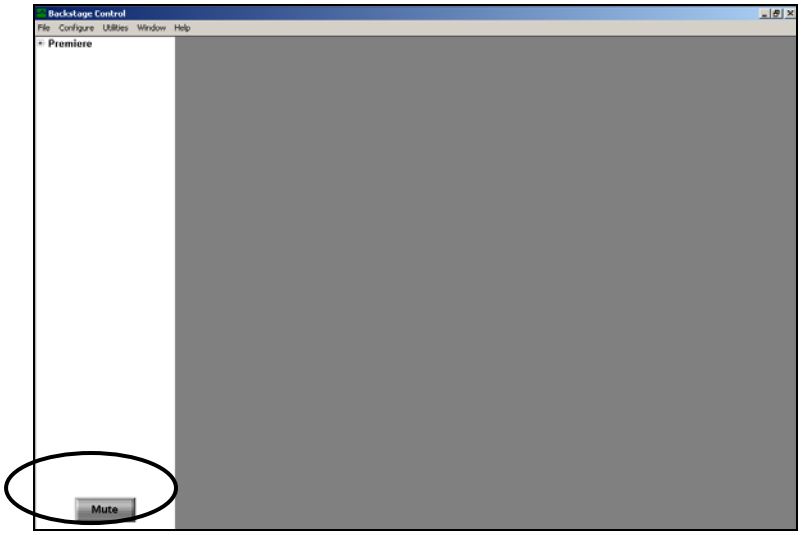



**FIGURE 108: The Mute Function**

To resume normal operation, click on the Mute function button.

*Result*: The Mute function button lamp on the front panel controls extinguishes and all audio is resumed with the last volume settings being utilized. The Unmute function button on the GUI screen changes to Mute.

# Chapter 7: Network Configurations

This Chapter will describe the Premiere Matrix Switcher configuration and setup for Network operations (typically, local intranet) and for accessing a remote, Premiere Matrix Switcher through PESA's Internet (Web) interface.

## 7.1 CONFIGURING THE NETWORK

The Premiere Matrix Switcher Network interface must be set up using the Premiere's Backstage Graphical User Interface (GUI). To be able to use the GUI, you must be connected to the switcher using either the serial or USB connector cabling. Additionally, the switcher and PC must be connected to the network using the Ethernet connections.

The Premiere Matrix Switcher uses a default IP of 192.168.1.1, a default netmask of 255.255.255.0, and a default gateway of 192.168.1.255. Also by default, the DHCP option is turned off with the telnet option turned on. Check with your network administrator if these settings are correct. If they are not, then follow these steps to configure the Ethernet parameters.

### *7.1.1 Ethernet Parameters Setup*

Once connected to the switcher and the GUI is accessed (if necessary, refer to Chapter 5), use the following sequence to set the Ethernet parameters for your specific Network configuration:

1) In the tree window, access the Ethernet directory by expanding the Premiere, Configuration, and Network root directories by clicking on the x-box (☒) adjacent to each directory (see Figure 109).

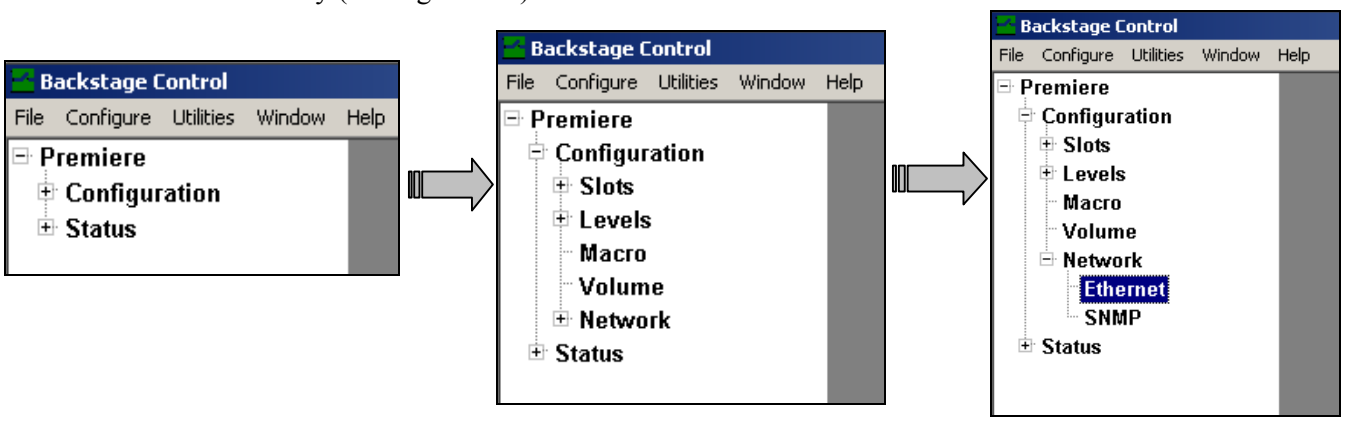



**FIGURE 109: Accessing The Ethernet Directory**

2) Click on Ethernet Directory.

*Result:* The Ethernet Parameters configuration screen is displayed (see Figure 110).

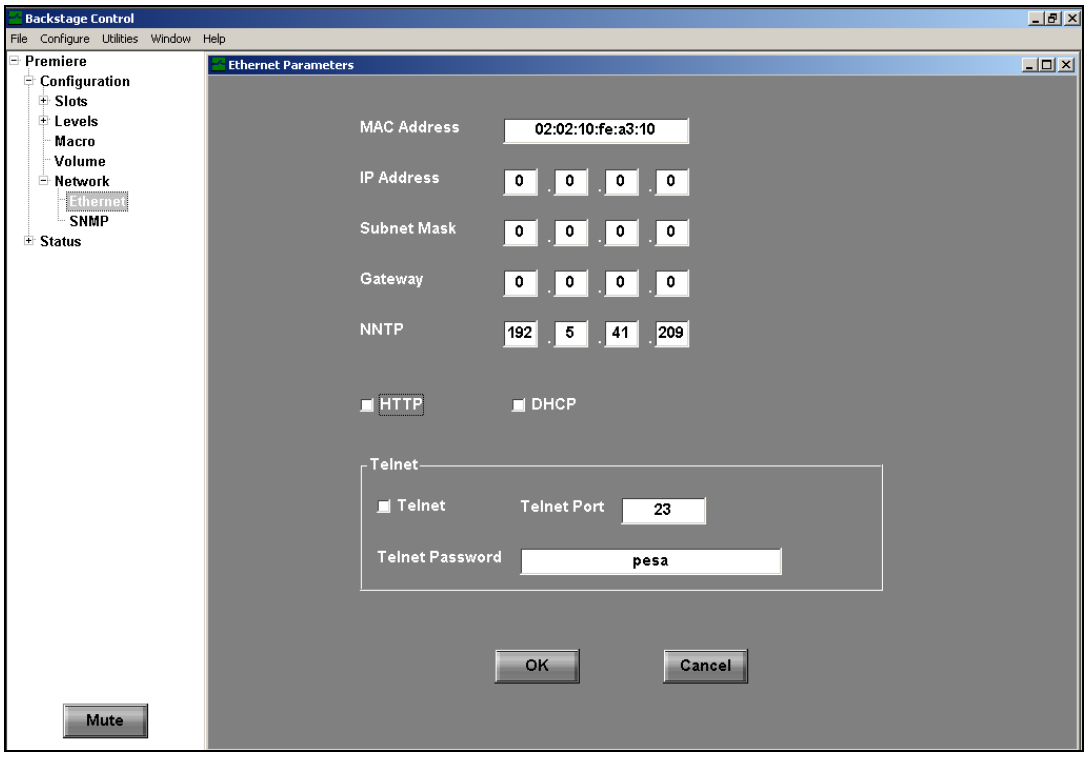



**FIGURE 110: Ethernet Parameters Configuration Screen**

| | |
|---|---|
| NOTE | **The MAC Address is defaulted at the factory and the field will be automatically populated and displayed when this screen is accessed.** |

3) Type the IP Address (Internet Protocol) by clicking in each window and typing the address. The specific address is obtained through your Information Technology personnel or through your Internet Provider.

*Result:* The fields are populated with your specific IP address (see Figure 111).

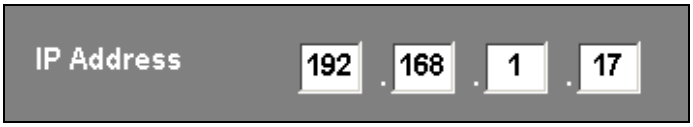



**FIGURE 111: IP Address Example**

4) Type the Subnet Mask address by clicking in each window and typing the address. The specific address is obtained through your Information Technology personnel or through your Internet Provider.

   *Result:* The fields are populated with your specific Subnet Mask address (see Figure 112).


**FIGURE 112: Subnet Mask Address Example**

5) Type the Gateway address by clicking in each window and typing the address. The specific address is obtained through your Information Technology personnel or through your Internet Provider.

   *Result:* The fields are populated with your specific Gateway address (see Figure 113).


**FIGURE 113: Gateway Address Example**

6) The NNTP address (Network News Transfer Protocol – used for retrieving the time) is defaulted at the factory and will populate the field automatically. If it is required to be changed, type the new NNTP address by clicking in each window and typing the address. The new specific address is obtained through your Information Technology personnel or through your Internet Provider.

   *Result:* If changed, the fields are populated with your specific NNTP address (see Figure 114).


**FIGURE 114: NNTP Address Example**

7) Select the type of protocol (see Figure 115) that you will be using: HTTP (HyperText Transfer Protocol) and/or DHCP (Dynamic Host Configuration Protocol). Click in the corresponding box to select the choice(s). For DHCP, your Internet must be capable of using this protocol.


**FIGURE 115: HTTP or DHCP Selection Example**

8) If you are using Telnet, click in the selection box corresponding to the Telnet selection and enter the Telnet Port (see Figure 116). The specific port assignment can be obtained from your IT personnel and the password enables users to access password-protected areas.

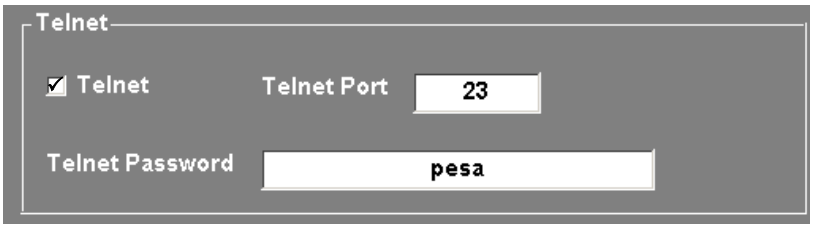


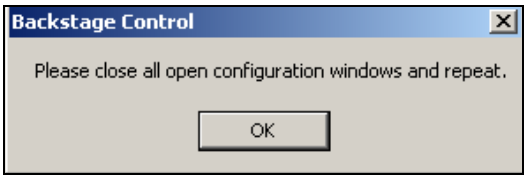

**FIGURE 116: Telnet Selection/Password Example**

| | |
|---|---|
| NOTE | **When the Telnet selection is enabled (checked), other users are allowed to access the unit via the Internet (WEB) and perform specific functions if they have the current IP address (refer to Section 7.2).** |

9) Click on the OK function button to exit the screen.

10) On the main menu bar, click on Utilities and then, click on Commit Changes and Reboot selection.

*Result*: A prompt will be displayed (see Figure 117).

| | |
|---|---|
| NOTE | **If a configuration window is open, the following prompt will be displayed:**<br>  <br>**You must close or cancel any open configuration window before committing (saving) the previous changes. To clear this prompt, click on the OK function button, close all open configurations, and repeat Step 10.** |



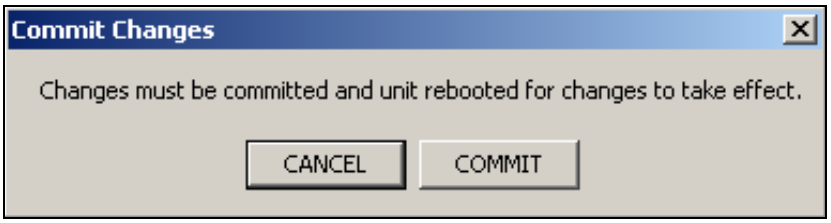



**FIGURE 117: Commit Changes Prompt**

11) Click on the Commit function button to save the changes and reboot the switcher.

*Result*: A verification prompt will be displayed (see Figure 118).

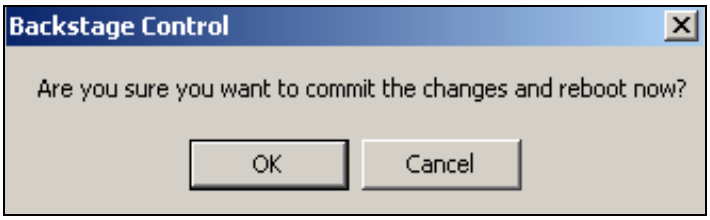



**FIGURE 118: Action Verification Prompt**

12) Click the OK function button.

*Result*: The changes will be downloaded to the switcher, the switcher will be reset, and the startup sequence will be initiated. The switcher will return to the last take-switch function that was performed.

### *7.1.2 SNMP (Simple Network Management Protocol) Parameters Setup*

Once connected to the switcher and the GUI is accessed (if necessary, refer to Chapter 5), use the following sequence to set the SNMP parameters for your specific Network configuration:

1) In the tree window, access the SNMP directory by expanding the Premiere, Configuration, and Network root directories by clicking on the x-box (☒) adjacent to each directory (see Figure 119).

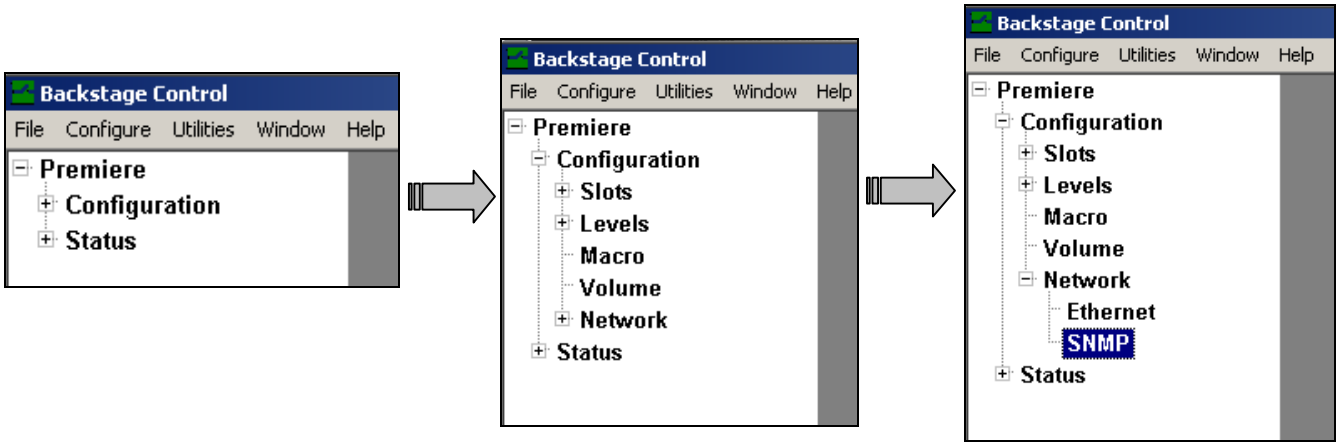



**FIGURE 119: Accessing The SNMP Directory**

2) Click on SNMP directory.

*Result:* The SNMP Parameters configuration screen appears (see Figure 120).

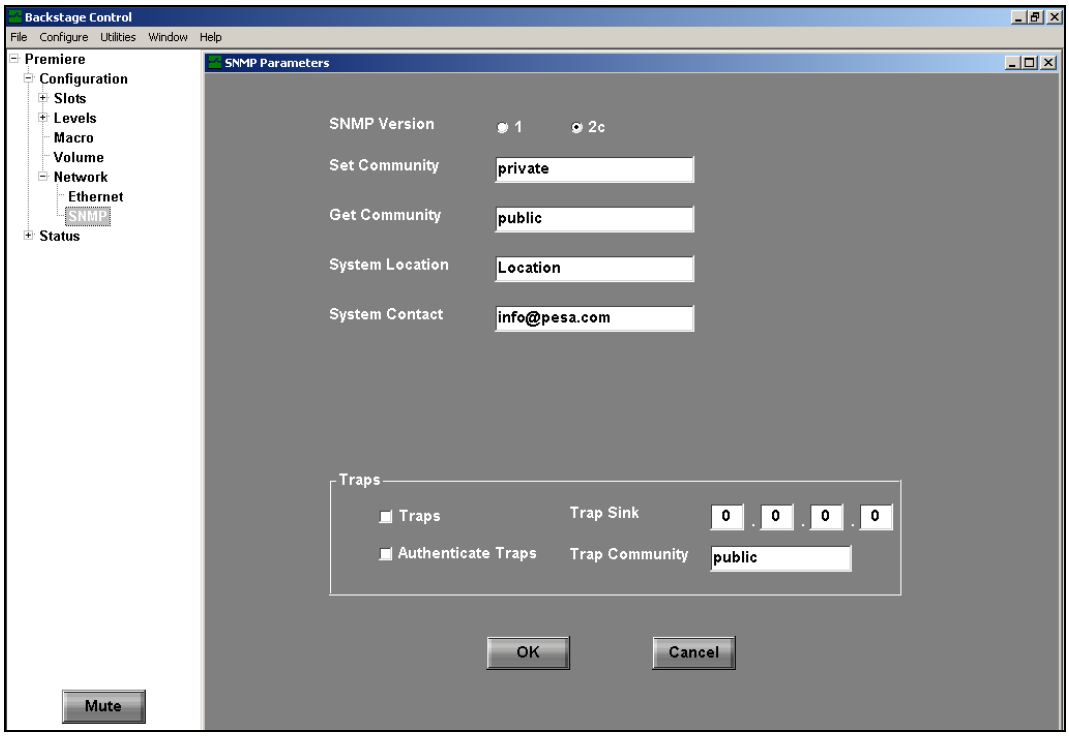



**FIGURE 120: SNMP Parameters Configuration Screen**

3) Set your SNMP Version by clicking on the radio button (see Figure 121) that corresponds with the current version of the SNMP client that is installed for your Internet operations (typically obtained from your Information Technology personnel).


**FIGURE 121: Typical SNMP Version Selection Example**

4) To reconfigure the Set Community function (default is private), click in the window (see Figure 122), delete the current entry, and type the desired community (typically obtained from your Information Technology (IT) department and it can be almost anything; however, this could be a password-protected entry controlled by IT).


**FIGURE 122: Set Community Configuration Example**

5) To reconfigure the Get Community function (default is public), click in the window (see Figure 123), delete the current entry, and type the desired community (typically obtained from your Information Technology (IT) department and it can be almost anything; however, this may be a password-protected entry controlled by IT).


**FIGURE 123: Get Community Configuration Example**

6) To reconfigure the System Location function (default is Location), click in the window (see Figure 124), delete the current entry, and type the desired System Location (typically obtained from your Information Technology department and it can be almost anything).


**FIGURE 124: System Location Configuration Example**

7) To reconfigure the System Contact function (default is info@pesa.com), click in the window (see Figure 125), delete the current entry, and type the desired System Contact (typically obtained from your Information Technology department).


**FIGURE 125: System Contact Example**

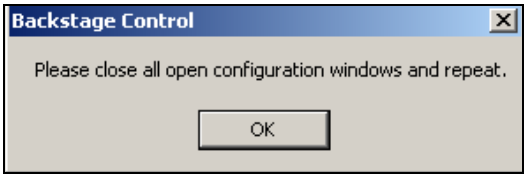
8) If it is desired to specify where error and system-related messages are to be logged, click in the Traps selection box and type an address in the Trap Sink entry windows. If required, click in the Authenticate Traps selection box and type the desired entry in the Trap Community window. (See Figure 126.)


**FIGURE 126: Traps Configuration Example**

9) Click on the OK function button to exit this screen.

10) On the main menu bar, click on Utilities and then, click on Commit Changes and Reboot selection.

*Result*: A prompt will be displayed (see Figure 127).

| | |
|---|---|
| NOTE | **If a configuration window is open, the following prompt will be displayed:**<br>  <br>**You must close or cancel any open configuration window before committing (saving) the previous changes. To clear this prompt, click on the OK function button, close all open configurations, and repeat Step 10.** |

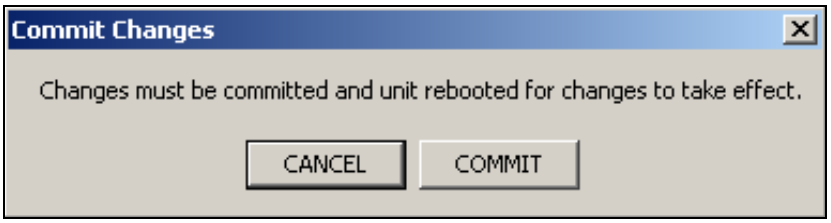



**FIGURE 127: Commit Changes Prompt**

11) Click on the Commit function button to save the changes and reboot the switcher.

*Result*: A verification prompt will be displayed (see Figure 128).

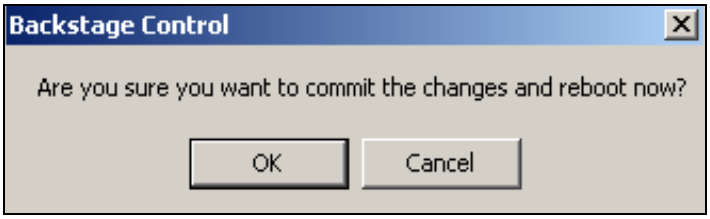



**FIGURE 128: Action Verification Prompt**

12) Click the OK function button.

*Result*: The changes will be downloaded to the switcher, the switcher will be reset, and the startup sequence will be initiated. The switcher will return to the last take-switch function that was performed.

## 7.2 ACCESSING A REMOTE PREMIERE MATRIX SWITCHER FROM THE INTERNET

Users can access a specific remote Premiere Matrix Switcher from the PESA Web interface and perform certain functions. From this remote interface, users can check the target Premiere Matrix Switcher's configuration, take a switch, or initiate a preset (macro). All functional sequences are similar to using the Premiere Backstage Graphical User Interface (GUI).

This subsection will describe the basic setup sequence and the allowable functions that can be performed over the Internet.

### *7.2.1 Web Interface Setup and Read-Only Screens*

Perform the following to access a specific Premiere Matrix Switcher from the Internet (Web):

1) Verify the switcher and the PC are connected to the network via the Ethernet. Perform the Network configuration as outlined in the previous section (Section 7.1).

2) Access the Internet from your Internet Provider or similar source (see Figure 129).

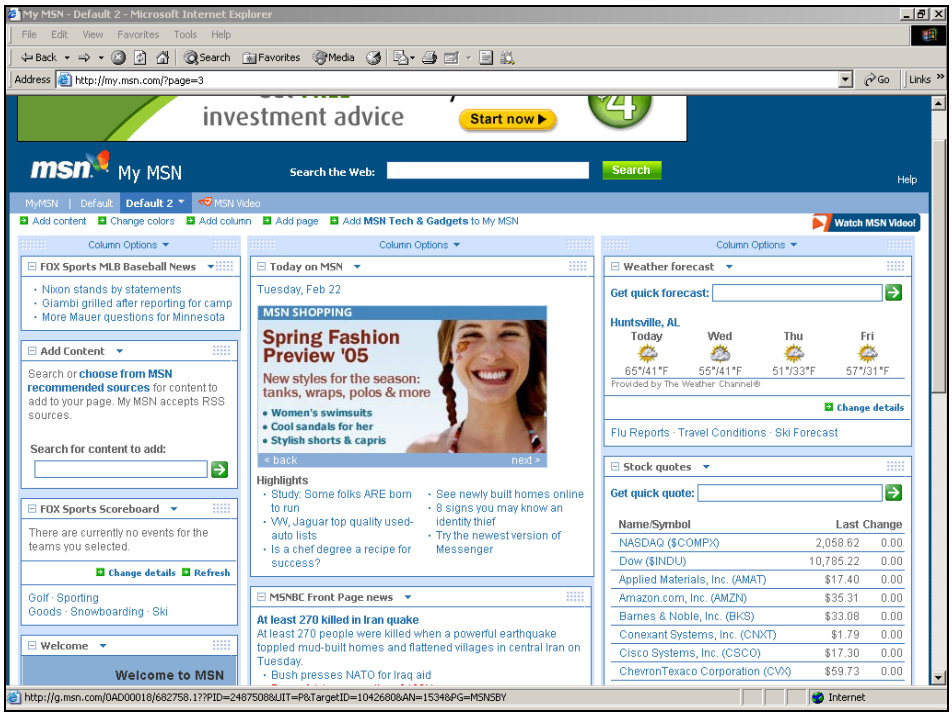



**FIGURE 129: Accessing The Internet Example**

3) In the address line, type the hypertext address for the remote unit that you desire to access (see Figure 130). The address can be obtained from your unit or your local Information Technology personnel.

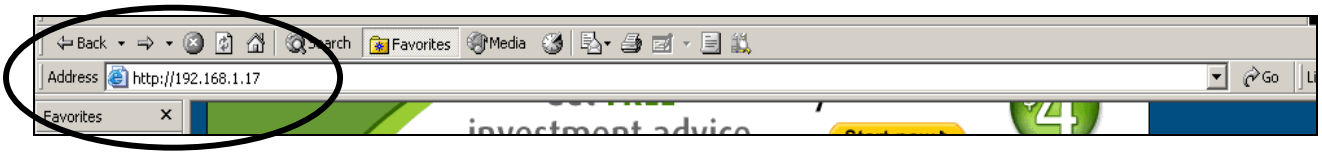



**FIGURE 130: Hypertext Address Example**

4) Click on the GO function button or press the Enter key on your keyboard.

*Result:* The PESA Premiere Web Command and Control Interface (CCI) screen appears (see Figure 131).

| NOTE | **Navigation through the web CCI is accomplished by simply clicking on another headline selection subject (see Figure 131).** |
|---|---|

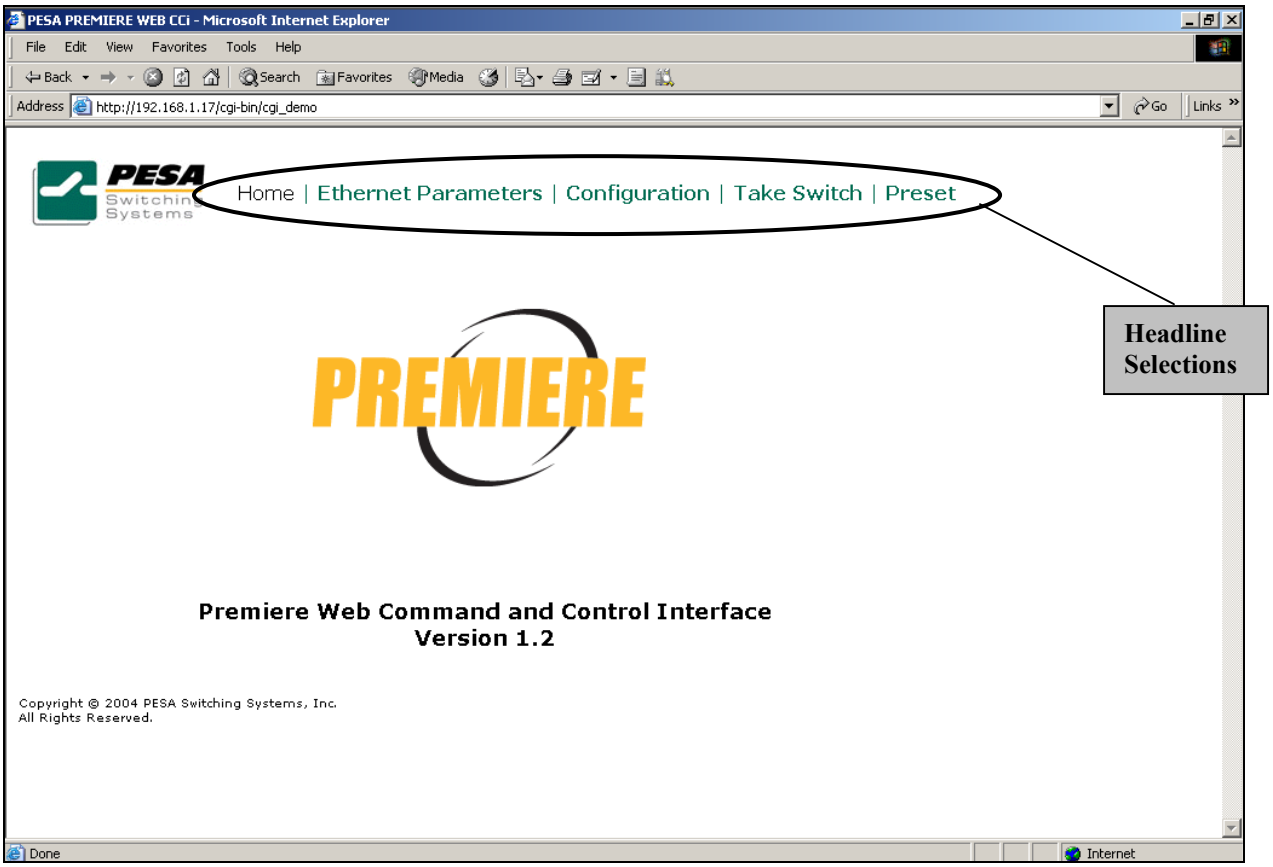



**FIGURE 131: PESA Premiere Web Interface Screen**

5) To verify the target switcher's Ethernet configuration parameters, click on the Ethernet Parameters headline subject.

*Result:* The target switcher's read-only Ethernet Configuration screen is displayed (see Figure 132).

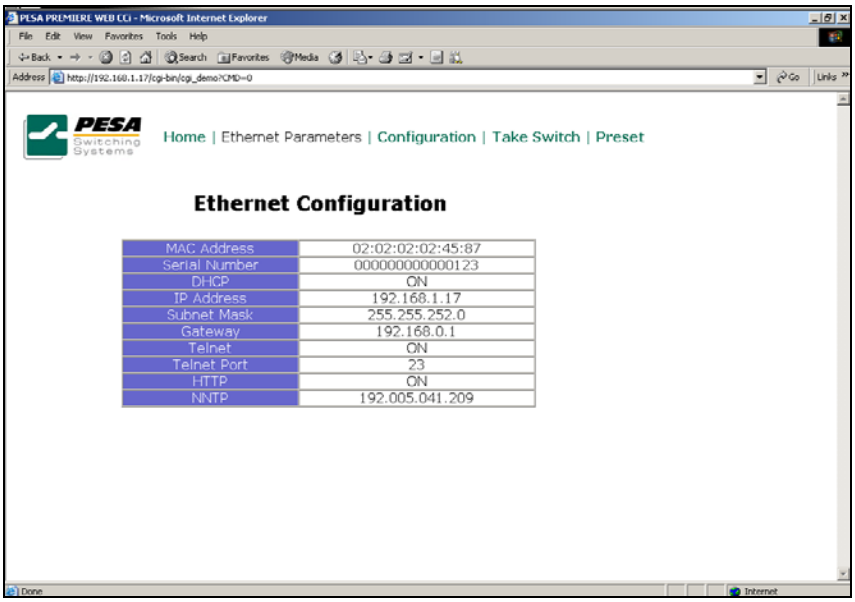



**FIGURE 132: The Ethernet Read-Only Configuration Screen**

6) To verify the target switcher's system configuration, click on the Configuration headline subject.

*Result:* The target switcher's read-only System Configuration screen is displayed (see Figure 133).

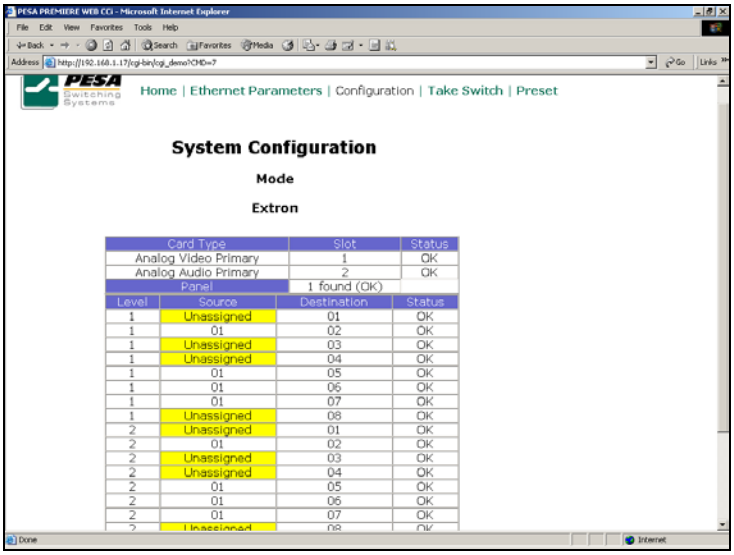



**FIGURE 133: System Configuration Read-Only Screen**

### *7.2.2 Performing Functions From the WEB Premiere Command and Control Interface (CCI)*

The active functions that can be performed from the Web CCI are as follows:

- Taking a Switch
- Initiating a preset (macro) that has been pre-configure using the Premiere Backstage Graphical Interface (GUI).

#### 7.2.2.1 Taking a Switch

To take a switch from the Web CCI, perform the following:

1) On the WEB Premiere CCI screen, click on the Take Switch headline subject.

   *Result:* The Level 1, Take Switch screen appears (see Figure 134).

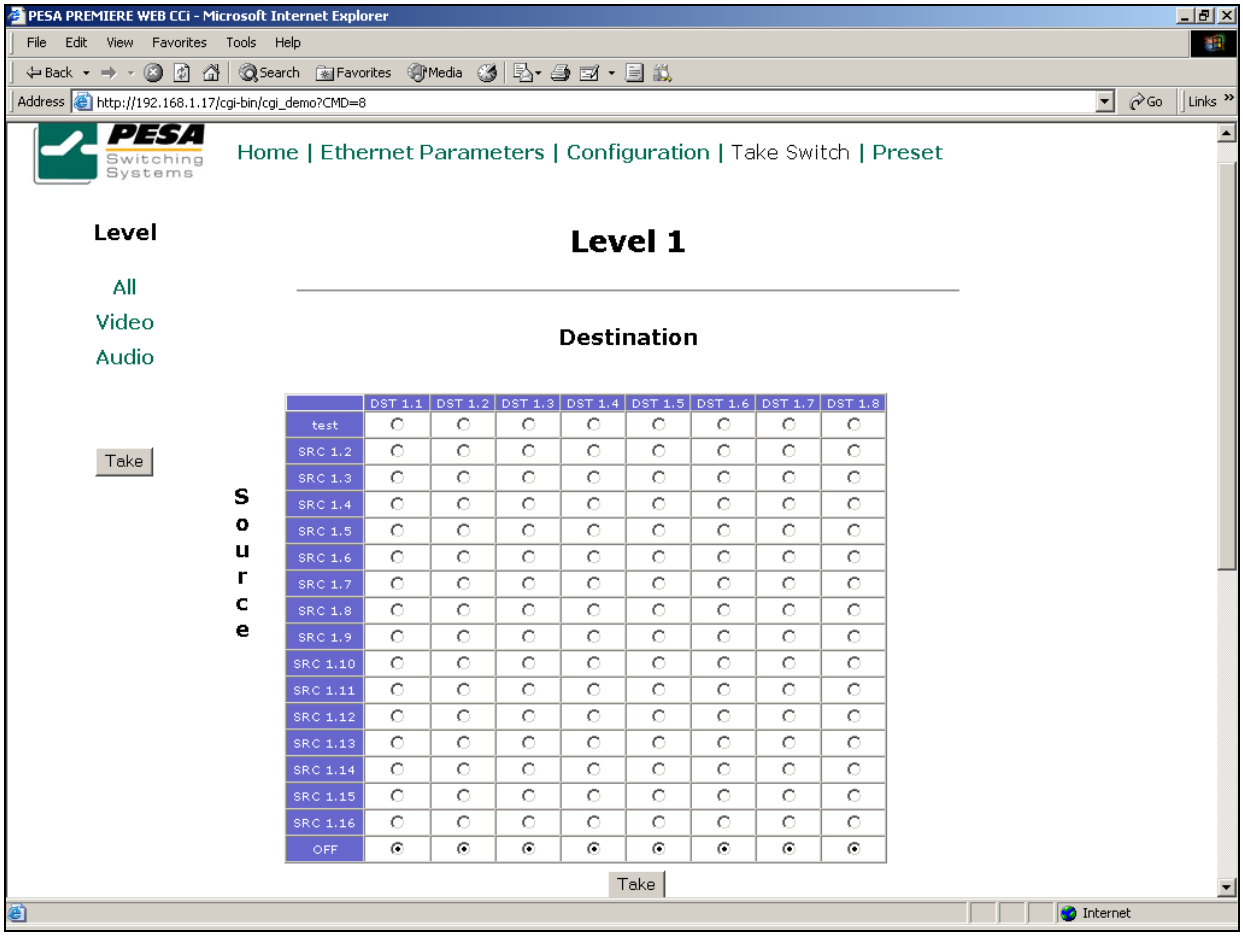



**FIGURE 134: Level 1 Take Switch Screen**

2) Click on the level (All, Video, or Audio: levels 1, 2, and 3 respectively) where you desire to take the switch from.

*Result:* The level selection changes (if different) and the screen are refreshed (see Figure 135).

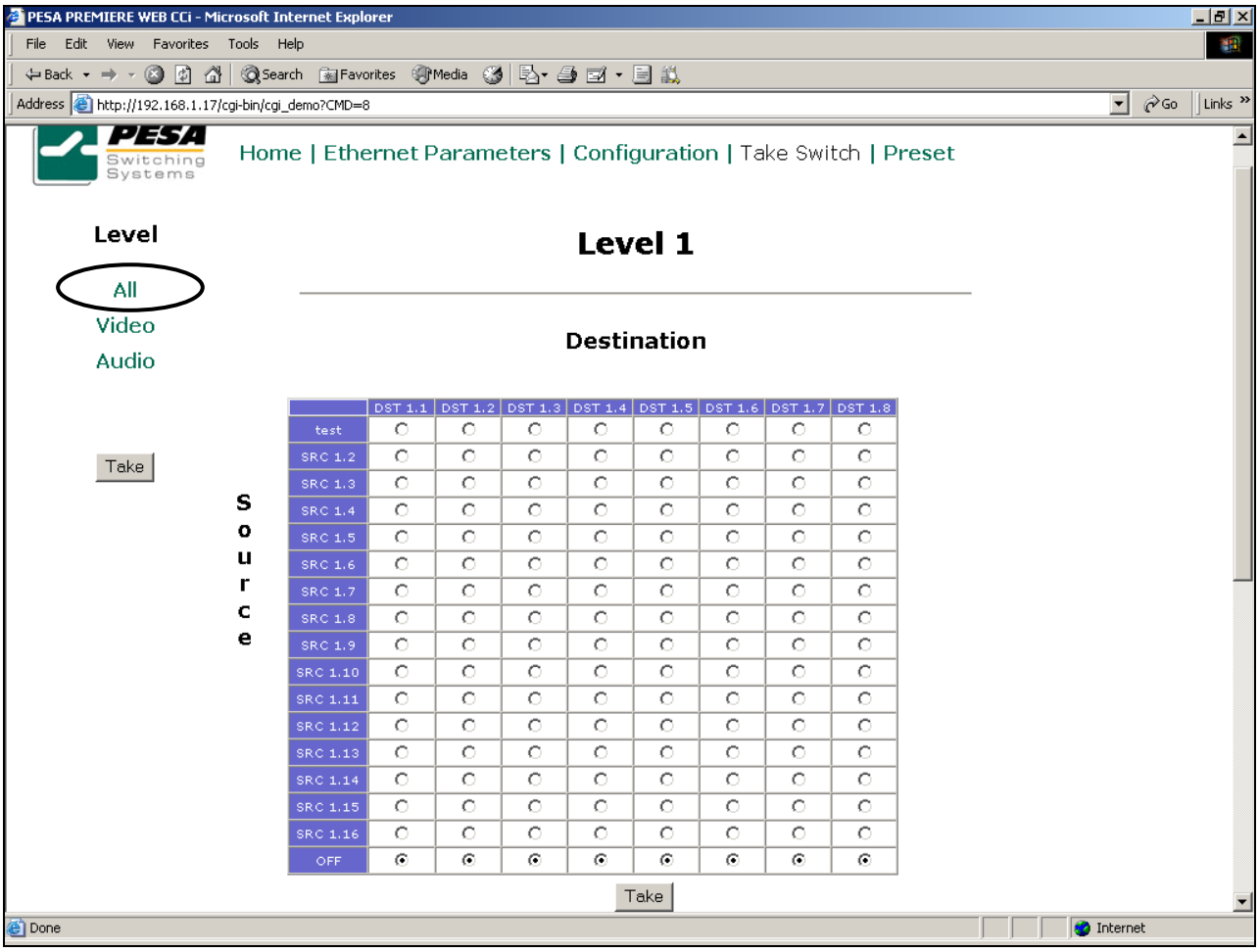



**FIGURE 135: Level Selection Screen**

3) Click on the desired Destination(s) radio button that is on the same row of the desired Source.

| | |
|---|---|
| NOTE | **Destination selections cannot exceed the amount of destinations for your specific configuration. To deselect a Destination, click on the corresponding radio button in the column of the OFF row at the bottom of the table.** |

*Result:* The selections are ready to be taken (see Figure 136).

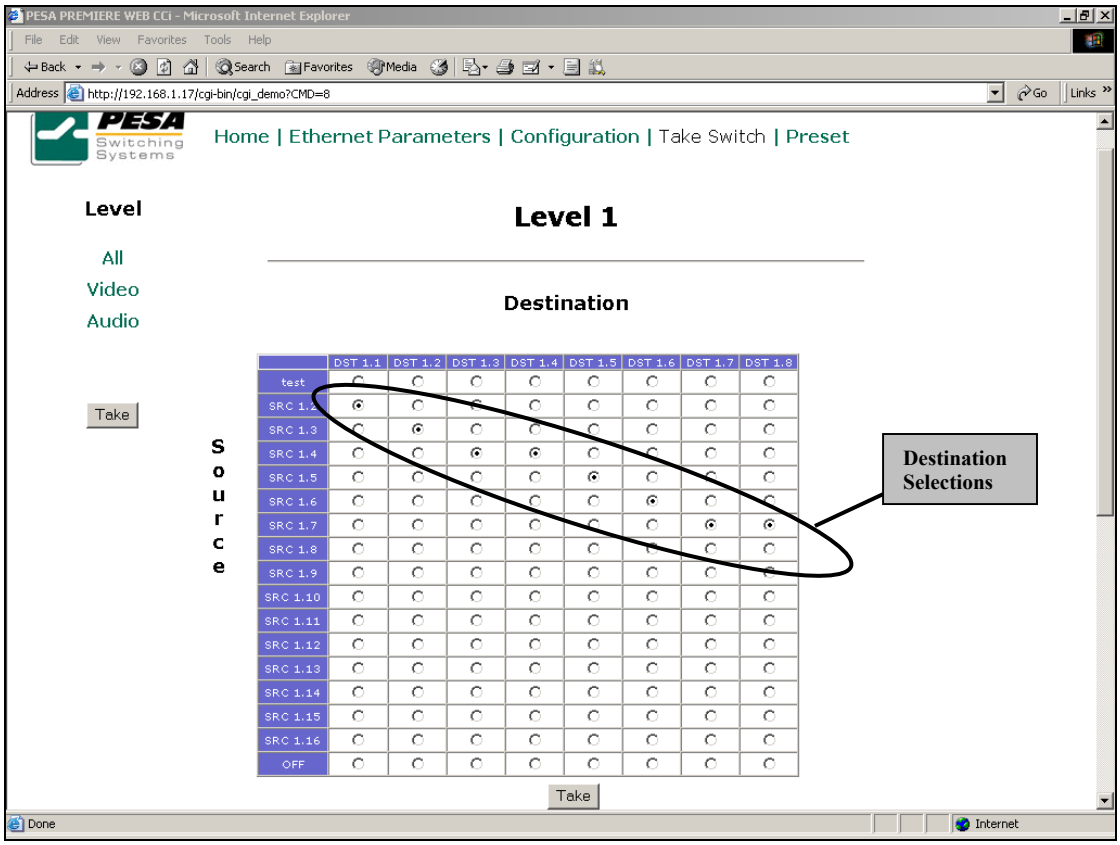



**FIGURE 136: Destination Selections**

4) To take the switch, click on either of the Take function buttons.

*Result:* The switch is taken and the destination selections are highlighted (see Figure 137).

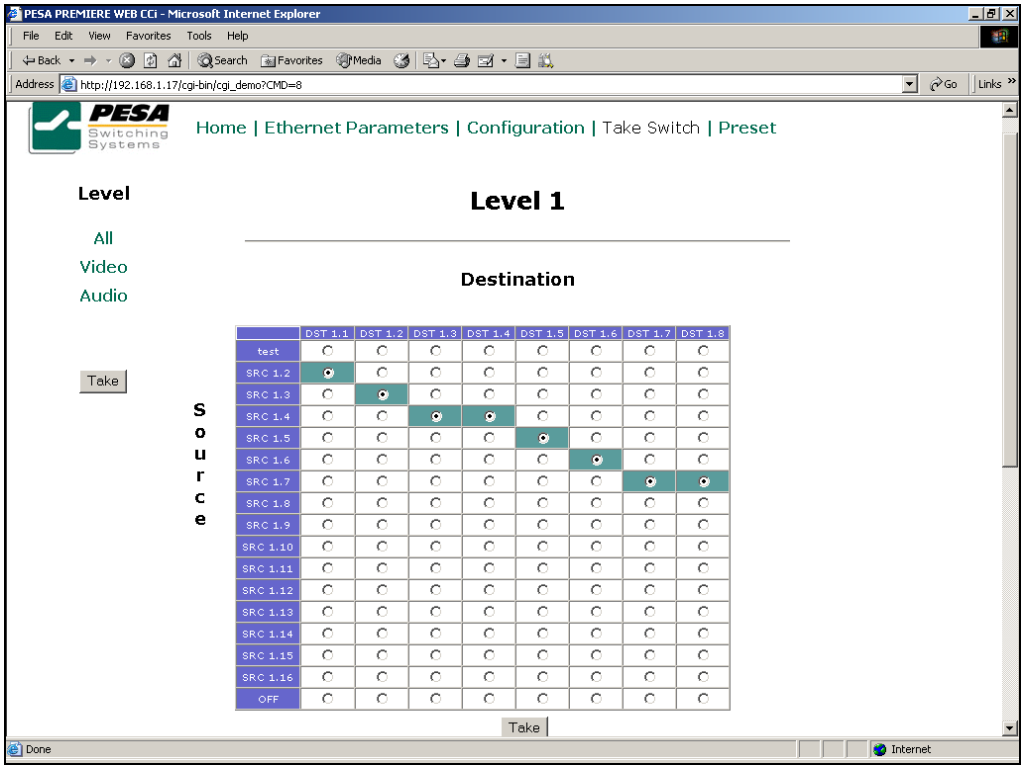
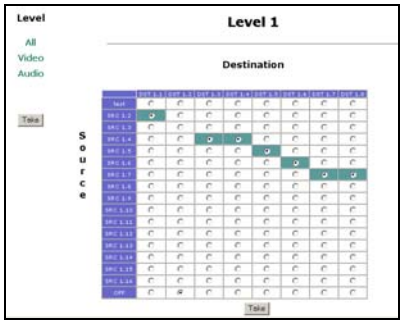


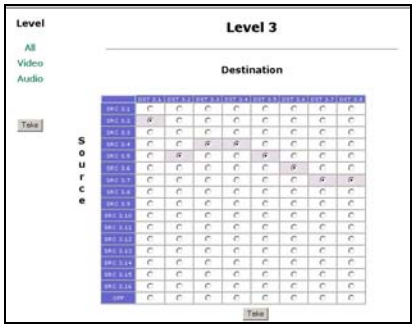

**FIGURE 137: Take Switch Verification Screen**

The three levels that switches can be taken are color-coded to differentiate the levels for the user as follows (see Figure 138):




**Level 1 (All): Green**


**Level 2 (Video): Yellow**




**Level 1 (Video): Purple**

**FIGURE 138: Take Switch Color Coding**

You may want to verify the switcher status by following the Status Verification sequence as outlined in Section 5.3.9 of this manual.

### 7.2.2.2 Initiating a Preset (Macro)

Presets can be initiated from the WEB Premiere CCI ***only*** if they have been properly preconfigured using the Premiere Backstage GUI. To initiate a preconfigured Preset, perform the following:

1) On the WEB Premiere CCI screen, click on the Preset headline subject.

   *Result:* The Preset screen appears (see Figure 139).

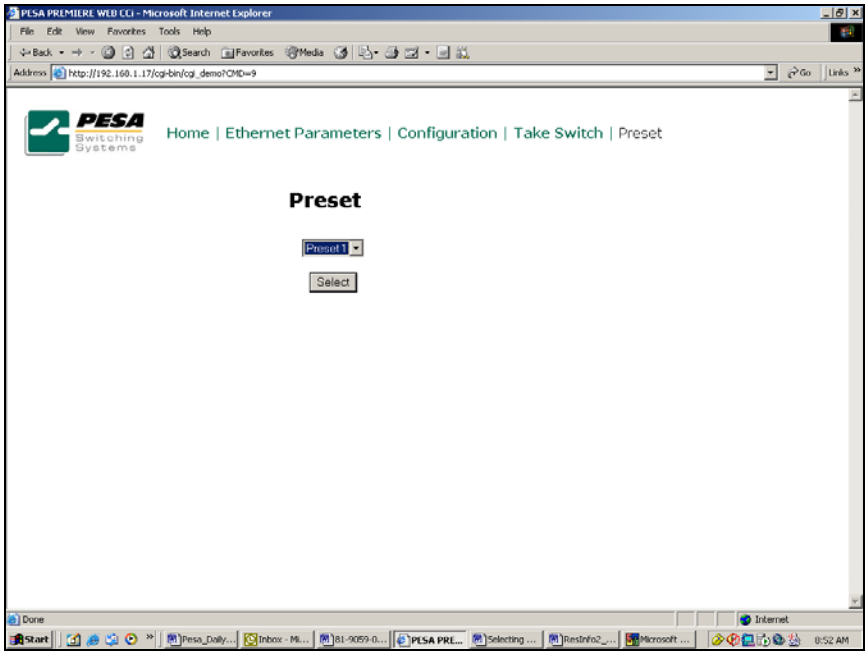



**FIGURE 139: Preset Screen**

2) Highlight a Preset (macro) from the list by clicking on the down arrow to display the current macro listing.

3) Click on the Select function button to initiate the preset selection.

You may want to verify the switcher status by following the Status Verification sequence as outlined in Section 5.3.9 of this manual.

# Chapter 8: Basic Control Structure (BCS) Commands

BCS commands are only available when using either the serial port or Telnet connections. All commands that can be initiated from either the Premiere Switcher's front panel or through the Premiere Backstage Graphical User Interface (GUI) can be manually typed and initiated (using the mouse or keystrokes) from either the GUI or from the Microsoft's® Hyperterminal function (refer to Microsoft® Hyperterminal documentation for access to that function). Connection parameters for the Hyperterminal connection are 9600-baud rate, 8 bits, no parity, and one stop bit.

This Chapter will describe the access sequence and how to initiate the specific BCS functions for the Premiere Series Matrix Switchers.

## 8.1 BCS COMMAND LINE ACCESS

Once connected to the switcher and the GUI is accessed (if necessary, refer to Chapter 5), use the following sequence to access the BCS Command Line Interface screen:

1) In the main menu bar, access the Command Line Interface directory by clicking on Utilities (see Figure 140).

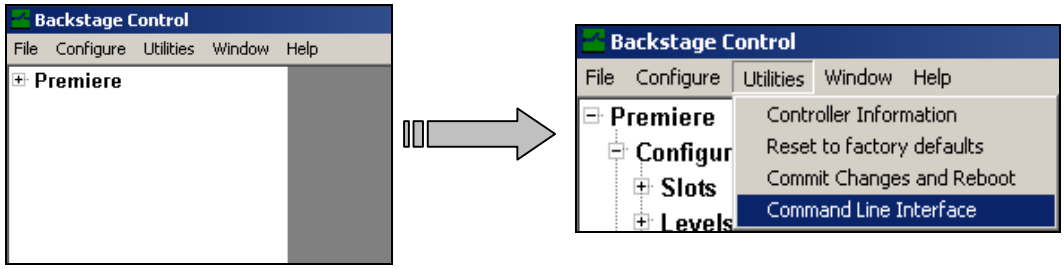



**FIGURE 140: Expanding The Tree Directories**

2) Click on Command Line Interface.

*Result:* The Command Line Interface screen is displayed (see Figure 141).

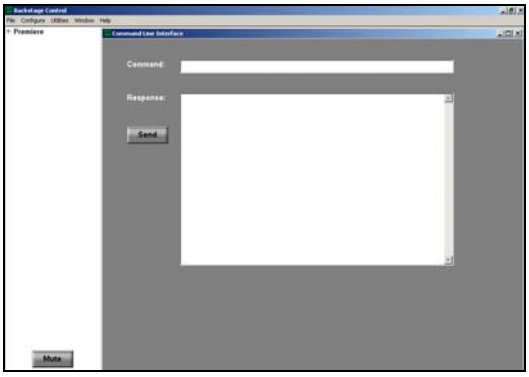


**FIGURE 141: Command Line Interface Screen**

3) To expose the Command list, either press the Enter key on the keyboard or click on the Send function button on the display.

*Result:* The command list is displayed in the Response window (see Figure 142).

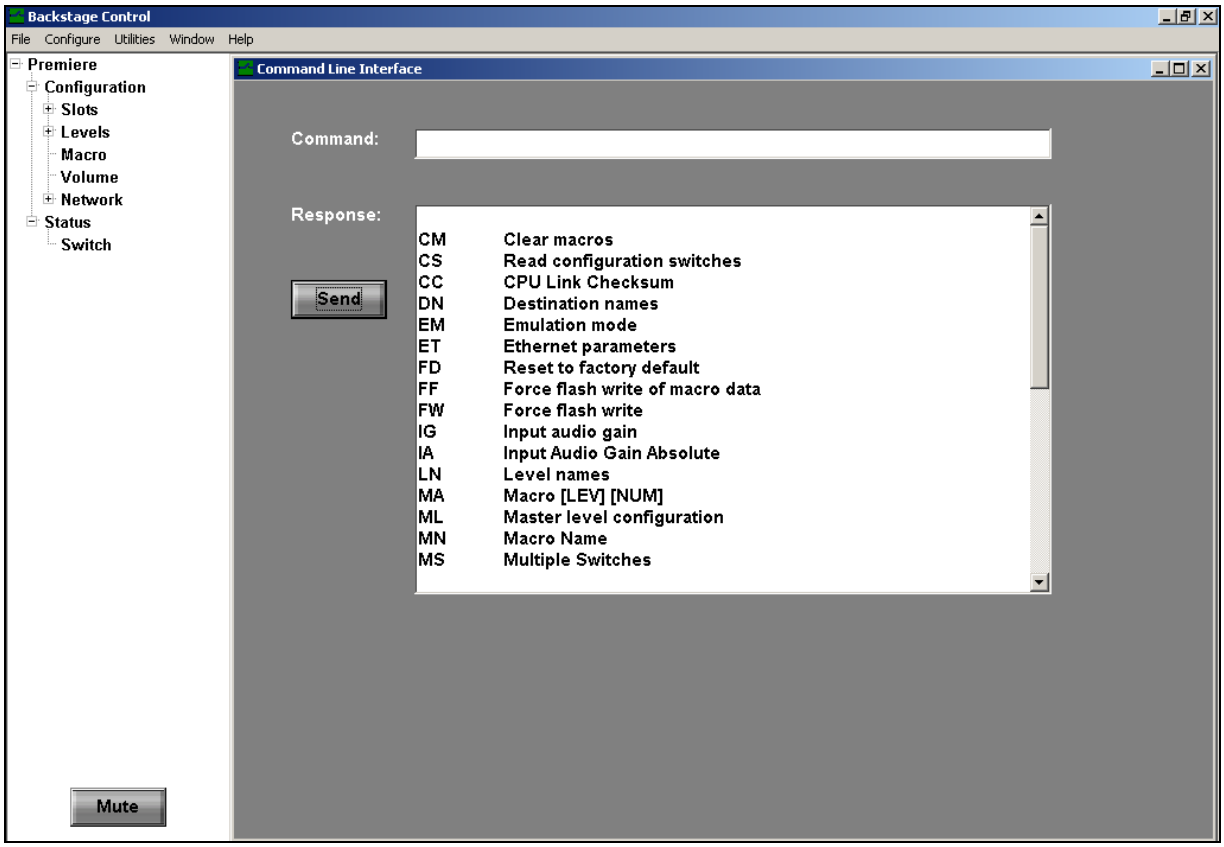



**FIGURE 142: BCS Command Listing**

## 8.2 BCS COMMAND CHARACTER TABLE

### *8.2.1 Single BCS Commands*

The following represents the available BCS commands:

Menu - **cmd [parameters]** where **cmd** is one of the following:

CM Clear macros
CS Read configuration switches
CC CPU Link Checksum
DN Destination names
EM Emulation mode
ET Ethernet parameters
FD Reset to factory default
FF Force flash-write of preset data
FW Force flash-write
IG Input audio gain
IA Input audio gain absolute
LN Level names
MA Macro [LEV] [NUM]
ML Master Level configuration
MN Macro Name
MS Multiple switches
MT Mute
OG Output audio gain
OA output audio gain absolute
PA Panel information
PD Predefined configuration
PL Physical Level configuration
PP Panel Password
PR PRC base level
RB Reboot
RN Source names
SD Sync delay
SM Sync mask configuration
SN Serial number
SP SNMP parameters
ST Slot information
SW Switch
VE Version of Controller software
HE Plus any command, shows help for that command

### *8.2.2 BCS Command Strings*

The following depicts the usage and describes the meanings of commands and/or command strings (the use of "/>" indicates "Prompt"):

**CM** Clear macros

/>cm

/>he cm

** *Clears the macros*.

**CS** Read configuration switches

/>cs

** *Config switch is set to RUN. Bottom switch is ignored.*

/>he cs

** *Displays the status of the hardware configuration switches. Currently, the lower switch is ignored. This parameter is read only.*

**CC** CPU Link Checksum

** *Syntax:* />cc <int>

*Where:* <int> is either 1 or 0. A 1 indicates CPU link Checksum ON and a 0 indicates CPU link Checksum OFF.

**DN** Destination names

/>dn

** *Displays the following:*

Level 1 Dst 1 - DST 1.1
Level 1 Dst 2 - DST 1.2
Level 1 Dst 3 - DST 1.3
Level 1 Dst 4 - DST 1.4
Level 1 Dst 5 - DST 1.5
Level 1 Dst 6 - DST 1.6
Level 1 Dst 7 - DST 1.7

*List continued on next page*

Level 1 Dst 8 - DST 1.8
Level 2 Dst 1 - DST 2.1
Level 2 Dst 2 - DST 2.2
Level 2 Dst 3 - DST 2.3
Level 2 Dst 4 - DST 2.4
Level 2 Dst 5 - DST 2.5
Level 2 Dst 6 - DST 2.6
Level 2 Dst 7 - DST 2.7
Level 2 Dst 8 - DST 2.8
Level 3 Dst 1 - DST 3.1
Level 3 Dst 2 - DST 3.2
Level 3 Dst 3 - DST 3.3
Level 3 Dst 4 - DST 3.4
Level 3 Dst 5 - DST 3.5
Level 3 Dst 6 - DST 3.6
Level 3 Dst 7 - DST 3.7
Level 3 Dst 8 - DST 3.8

/>he dn

** *Syntax:* DN < LEV [int] DST [int] [str] >

*Where*: LEV [int] is the level to get the name change.

*Where*: DST [int] is the output to get the name change.

*Where*: [int] is an integer between 1 and 6 levels and between 1 and number of destinations.

*Where* [str] is the output name string.

```
/>dn lev 1 dst 1 test
/>dn
```

** *Displays the following:*

Level 1 Dst 1 - test
Level 1 Dst 2 - DST 1.2
Level 1 Dst 3 - DST 1.3
Level 1 Dst 4 - DST 1.4
Level 1 Dst 5 - DST 1.5
Level 1 Dst 6 - DST 1.6
Level 1 Dst 7 - DST 1.7
Level 1 Dst 8 - DST 1.8
Level 2 Dst 1 - DST 2.1
Level 2 Dst 2 - DST 2.2
Level 2 Dst 3 - DST 2.3
Level 2 Dst 4 - DST 2.4
Level 2 Dst 5 - DST 2.5
Level 2 Dst 6 - DST 2.6
Level 2 Dst 7 - DST 2.7
Level 2 Dst 8 - DST 2.8
Level 3 Dst 1 - DST 3.1
Level 3 Dst 2 - DST 3.2
Level 3 Dst 3 - DST 3.3
Level 3 Dst 4 - DST 3.4
Level 3 Dst 5 - DST 3.5
Level 3 Dst 6 - DST 3.6
Level 3 Dst 7 - DST 3.7
Level 3 Dst 8 - DST 3.8

**EM** Emulation mode

/>em

** *Emulation Mode: PESA*

/>he em

** *Syntax:* EM < PESA | MODE1 | MODE2 | CPULINK >

*Where:* PESA uses the PESA emulation mode.

*Where:* MODE1 uses emulation mode 1.

*Where:* MODE2 uses emulation mode 2.

*Where:* CPULINK uses the PESA CPU Link protocol.

/>em mode1
/>em

** Emulation Mode: Mode 1

**ET** Ethernet parameters

/>et

** *Displays the following:*

MAC Address: 02:02:02:02:45:87
Ethernet Address: 192.168.1.17
Subnet Mask Address: 255.255.252.0
Gateway Address: 192.168.0.1
NNTP Address: 192.5.41.209
DHCP Enable: ON
HTTP Enable: OFF
Telnet Enable: ON
Telnet Port: 23
Telnet Password: pesa

/>he et

** *Syntax:* ET < DHCP [ON|OFF] | IP [addr] | GW [addr] | SN [addr] | TN [ON|OFF] | TP [tport] | TPASS [str] | NNTP [addr] | HTTP [ON|OFF] >

*Where:* DHCP ON enables client automatic IP address negotiation.

*Where:* IP [addr] allows you to set the IP address of the PMFC.

*Where:* GW [addr] allows you to set the gateway address.

*Where:* SN [addr] allows you to set the subnet mask.

*Where:* TN ON enables the on-board telnet server.

*Where:* TP [port] allows you to set the telnet port.

*Where:* TPASS [str] sets the telnet password.

*Where:* NNTP [addr] allows you to set the NNTP address.

*Where:* HTTP ON enables HTTP.

*Where:* addr is in dotted notation (ex. 192.168.1.1}.

*Where:* tport is in the range [1...32767].

/>et http on

/>et

** *Displays the following:*

MAC Address: 02:02:02:02:45:87
Ethernet Address: 192.168.1.17
Subnet Mask Address: 255.255.252.0
Gateway Address: 192.168.0.1
NNTP Address: 192.5.41.209
DHCP Enable: ON
HTTP Enable: ON
Telnet Enable: ON
Telnet Port: 23
Telnet Password: pesa

**FD** Reset to factory default

/>fd

/>he fd

** *Resets the unit to factory default.*

**FF** Force flash write of macro data

/>ff

/>he ff

** *Forces preset data and level, source and destination names to be written to flash.*

**FW** Force flash write

/>fw

/>he fw

** *Forces data to be written to flash.*

**IG** Input audio gain

/>ig

** *Displays the following:*

Input 1: -26.0
Input 2: 0.0
Input 3: 0.0
Input 4: 0.0
Input 5: 0.0
Input 6: 0.0
Input 7: 0.0
Input 8: 0.0
Input 9: 0.0
Input 10: 0.0
Input 11: 0.0
Input 12: 0.0
Input 13: 0.0
Input 14: 0.0
Input 15: 3.5
Input 16: 0.0

/>he ig

** Syntax: IG < [NUM] + | - >

*Where*: [NUM] is the input to change.

*Where*: + | - means to increment or decrement.

*Example:* IG 1 +.

/>ig 3 +

/>ig

** Displays the following

Input 1: -26.0
Input 2: 0.0
Input 3: 0.5
Input 4: 0.0
Input 5: 0.0
Input 6: 0.0
Input 7: 0.0
Input 8: 0.0
Input 9: 0.0
Input 10: 0.0
Input 11: 0.0
Input 12: 0.0
Input 13: 0.0
Input 14: 0.0
Input 15: 3.5
Input 16: 0.0

**IA** Input Audio Gain Absolute

** *Syntax:* IA [IN] [GAIN]

*Where:* [IN] is the input to change.

*Where:* [GAIN] is a db value from -140 to 20.

*Where:* Gain value represents half db making the db range from -70 to 10.

*Example*: IA 1 10.

*Where: This sets the gain to 5db.*

**LN** Level names

/>ln

** *Displays the following:*

Level 1 - All
Level 2 - Video
Level 3 - Audio
Level 4 - Level 4
Level 5 - Level 5
Level 6 - Level 6

/>he ln

** *Syntax*: LN < LEV [int] [str] >

*Where:* LEV [int] is the level to get the name change.
*Where:* int is an integer between 1 and 6.
*Where:* str is the level name string.

/>ln lev 4 test

/>ln

** *Displays the following:*

Level 1 - All
Level 2 - Video
Level 3 - Audio
Level 4 - test
Level 5 - Level 5
Level 6 - Level 6

**MA** Macro [LEV] [NUM]

```
/>ma 1 1
```

** *Macro on level 1 number 1 (Macro 1) is INACTIVE*

```
    Out   1 - In   0
    Out   2 - In   0
    Out   3 - In   0
    Out   4 - In   0
    Out   5 - In   0
    Out   6 - In   0
    Out   7 - In   0
    Out   8 - In   0
    Out   9 - In   0
    Out  10 - In   0
    Out  11 - In   0
    Out  12 - In   0
    Out  13 - In   0
    Out  14 - In   0
    Out  15 - In   0
    Out  16 - In   0
```

```
/>he ma
```

** *Syntax:* MA [lev] [num] < [Action] | OUT [int] IN [int] >

*Where:* [lev] is the level for the macro.

*Where:* [num] is the number of the macro.

*Where:* [Action] is the action to take.

*Where:* ACT means make the macro active

*Where:* INA means make the macro inactive

*Where:* TAKE means take the current macro

*Where:* OUT [int] is the output for the macro.

*Where:* IN [int] is the input for the macro.

*Where:* int is an integer between 1 and 16 for inputs and 1 and 16 for outputs.

/>ma 1 1 out 2 in 2

/>ma 1 1 act

/>ma 1 1

** *Macro on level 1 number 1 (Macro 1) is ACTIVE*

Out 1 - In 0
Out 2 - In 2
Out 3 - In 0
Out 4 - In 0
Out 5 - In 0
Out 6 - In 0
Out 7 - In 0
Out 8 - In 0
Out 9 - In 0
Out 10 - In 0
Out 11 - In 0
Out 12 - In 0
Out 13 - In 0
Out 14 - In 0
Out 15 - In 0
Out 16 - In 0

**ML** Master level configuration

/>ml

** *Displayed as follows:*

Level 1: 1 2
Level 2: 1
Level 3: 2
Level 4:
Level 5:
Level 6:

/>he ml

** *Displays and changes the control levels.*

*Syntax:* ML < LEV [int] ADD/DEL [int] >

*Where:* LEV [int] is the level to change.

*Where:* ADD/DEL [int] is the slot to add or delete.

*Where:* int is an integer between 1 and number of levels.

Example: ML LEV 1 ADD 1 2.

Example: ML LEV 2 DEL 4 5.

☛ **NOTE:** ***Only add or delete to one level at a time.***

/>ml lev 3 add 1
/>ml

** *Displayed as follows:*

Level 1: 1 2
Level 2: 1
Level 3: 1 2
Level 4:
Level 5:
Level 6:

**MN** Macro Name

/>mn 1 1

** *Macro on level 1 number 1 (Macro 1)*

/>he mn

** *Syntax* MN < LEV [int] NUM [int] name >

*Where:* LEV [int] is the level for the macro.

*Where:* NUM [int] is the number of the macro.

/>mn 1 1 test

/>mn 1 1

** *Macro on level 1 number 1 (test)*

**MS** Multiple Switches

*(Displays and takes an input to more than one output.)*

**Syntax: MS < LEV [int] OUT [int] [int] [int] ... IN [int] >

*Where:* LEV [int] is the level to take the switch.

*Where:* OUT [int] [int] .. are the outputs for the switch.

*Where:* IN [int] is the input for the switch.

*Where:* where int is an integer between 1 and 16 for inputs and 1 and 16 for outputs.

*EXAMPLE*: MS LEV 1 OUT 1 2 3 IN 2.

***NOTE***: *This switches input 2 to outputs 1,2, and 3 for level 1.*

**MT** Mute

```
/>mt
** Mute: OFF

/>he mt

** Syntax: MT < ON | OFF >
    Where: Turns mute on and off.

/>mt on
/>mt

** Mute: ON
```

**OG** Output audio gain

```
/>og
```

** *Displayed as follows:*

```
Output 1: -7.0
Output 2: 7.5
Output 3: 0.0
Output 4: 0.0
Output 5: 0.0
Output 6: 5.0
Output 7: 0.0
Output 8: 0.5
Output 9: 0.0
Output 10: 0.0
Output 11: 0.0
Output 12: 0.0
Output 13: 0.0
Output 14: 0.0
Output 15: 0.0
Output 16: 0.0
```

```
/>he og
```

** *Syntax:* OG < [NUM] + | - >

*Where:* [NUM] is the output to change.

*Where:* + | - means to increment or decrement.

Example: OG 1 +.

/>og 1 +

/>og

** *Displayed as follows:*

Output 1: 0.5
Output 2: 0.0
Output 3: 0.0
Output 4: 0.0
Output 5: 0.0
Output 6: 0.0
Output 7: 0.0
Output 8: 0.0
Output 9: 0.0
Output 10: 0.0
Output 11: 0.0
Output 12: 0.0
Output 13: 0.0
Output 14: 0.0
Output 15: 0.0
Output 16: 0.0

**OA** Output audio gain absolute

***Syntax:* OA [OUT] [GAIN]

*Where:* [OUT] is the output to change.

*Where:* [GAIN] is a value from -140 to 20.

*Where:* Gain value represents half db, making the db range from -70 to 10.

Example: OA 1 10.

*This sets the gain to 5db.*

**PA** Panel information

/>pa

** *Displays the following information:*

Number Of Panels: 1
Button 1: Level(s): 1 2
Button 2: Level(s): 1
Button 3: Level(s): 2
Button 4: No levels assigned to this button.
Button 5: No levels assigned to this button.
Button 6: No levels assigned to this button.

/>he pa

** *Displays the panel buttons mappings.*

**PD** Predefined configuration

/>pd

** *Predefined Configuration: Composite Video with Stereo Audio*

/>he pd

** *Displays the predefined configuration. This parameter is read only.*

**PL** Physical level configuration

/>pl

** *Displays the following:*

Level 1: 1
Level 2: 2
Level 3:
Level 4:
Level 5:
Level 6:

/>he pl

** *Displays and changes the slots a level controls.*

*Syntax:* PL < LEV [int] ADD/DEL [int] >

*Where:* LEV [int] is the level to change.

*Where:* ADD/DEL [int] is the slot to add or delete.

*Where:* int is an integer between 1 and number of levels and between 1 and number of slots, respectively

Example: PL LEV 1 ADD 1 2.

Example: PL LEV 2 DEL 4 5.

☛ **NOTE:** ***Only add or delete to one level at a time.***

/>pl lev 1 add 2
/>pl

** *Displays the following:*

Level 1: 1 2
Level 2: 2
Level 3:
Level 4:
Level 5:
Level 6:

**PP** Panel Password

/>pp

** *Panel Password : 12345*

/>he pp

** *Syntax*: PP < password >

*Where:* password consists of 5 digits in the range 1 to 6, which correspond to the panel level buttons.

/>pp 23456

/>pp

** *Panel Password : 23456*

**PR** PRC base level

/>pr

** *PRC Base Level: 0*

>he pr

** *Syntax:* PR <int>
*Where:* int is the PRC base level in the range 1 to 62

/>pr 3

/>pr

** *PRC Base Level: 3*

**RB** Reboot

/>rb

/>he rb

** *Reboots the switcher unit.*

**RN** Source names

/>rn

** *Displays the following:*

Level 1 Src 1 - SRC 1.1
Level 1 Src 2 - SRC 1.2
Level 1 Src 3 - SRC 1.3
Level 1 Src 4 - SRC 1.4
Level 1 Src 5 - SRC 1.5
Level 1 Src 6 - SRC 1.6
Level 1 Src 7 - SRC 1.7
Level 1 Src 8 - SRC 1.8
Level 1 Src 9 - SRC 1.9
Level 1 Src 10 - SRC 1.10
Level 1 Src 11 - SRC 1.11
Level 1 Src 12 - SRC 1.12
Level 1 Src 13 - SRC 1.13
Level 1 Src 14 - SRC 1.14
Level 1 Src 15 - SRC 1.15
Level 1 Src 16 - SRC 1.16
Level 2 Src 1 – SRC 2.1
Level 2 Src 2 - SRC 2.2
Level 2 Src 3 - SRC 2.3
Level 2 Src 4 - SRC 2.4
Level 2 Src 5 - SRC 2.5
Level 2 Src 6 - SRC 2.6
Level 2 Src 7 - SRC 2.7
Level 2 Src 8 - SRC 2.8
Level 2 Src 9 - SRC 2.9
Level 2 Scr 10 – SRC 2.10
Level 2 Src 11 - SRC 2.11
Level 2 Src 12 - SRC 2.12
Level 2 Src 13 - SRC 2.13
Level 2 Src 14 - SRC 2.14

*Continued on next page*

Level 2 Src 15 - SRC 2.15
Level 2 Src 16 - SRC 2.16
Level 3 Src 1 - SRC 3.1
Level 3 Src 2 - SRC 3.2
Level 3 Src 3 - SRC 3.3
Level 3 Src 4 - SRC 3.4
Level 3 Src 5 - SRC 3.5
Level 3 Src 6 - SRC 3.6
Level 3 Src 7 - SRC 3.7
Level 3 Src 8 - SRC 3.8
Level 3 Src 9 - SRC 3.9
Level 3 Src 10 - SRC 3.10
Level 3 Src 11 - SRC 3.11
Level 3 Src 12 - SRC 3.12
Level 3 Src 13 - SRC 3.13
Level 3 Src 14 - SRC 3.14
Level 3 Src 15 - SRC 3.15
Level 3 Src 16 - SRC 3.16

/>he rn

** *Syntax:* RN < LEV [int] SRC [int] [str] >

*Where:* LEV [int] is the level to get the name change.

*Where:* SRC [int] is the input to get the name change.

*Where:* int is an integer between 1 and 6 levels and between 1 and number of sources.

*Where:* str is the input name string.

/>rn lev 1 src 1 test

/>rn

** *Displays the following:*

Level 1 Src 1 - test
Level 1 Src 2 - SRC 1.2
Level 1 Src 3 - SRC 1.3
Level 1 Src 4 - SRC 1.4
Level 1 Src 5 - SRC 1.5

*Continued on next page*

Level 1 Src 6 - SRC 1.6
Level 1 Src 7 - SRC 1.7
Level 1 Src 8 - SRC 1.8
Level 1 Src 9 - SRC 1.9
Level 1 Src 10 - SRC 1.10
Level 1 Src 11 - SRC 1.11
Level 1 Src 12 - SRC 1.12
Level 1 Src 13 - SRC 1.13
Level 1 Src 14 - SRC 1.14
Level 1 Src 15 - SRC 1.15
Level 1 Src 16 - SRC 1.16
Level 2 Src 1 - SRC 2.1
Level 2 Src 2 - SRC 2.2
Level 2 Src 3 - SRC 2.3
Level 2 Src 4 - SRC 2.4
Level 2 Src 5 - SRC 2.5
Level 2 Src 6 - SRC 2.6
Level 2 Src 7 - SRC 2.7
Level 2 Src 8 - SRC 2.8
Level 2 Src 9 - SRC 2.9
Level 2 Scr 10 – SRC 2.10
Level 2 Src 11 - SRC 2.11
Level 2 Src 12 - SRC 2.12
Level 2 Src 13 - SRC 2.13
Level 2 Src 14 - SRC 2.14
Level 2 Src 15 - SRC 2.15
Level 2 Src 16 - SRC 2.16
Level 3 Src 1 - SRC 3.1
Level 3 Src 2 - SRC 3.2
Level 3 Src 3 - SRC 3.3
Level 3 Src 4 - SRC 3.4
Level 3 Src 5 - SRC 3.5
Level 3 Src 6 - SRC 3.6
Level 3 Src 7 - SRC 3.7
Level 3 Src 8 - SRC 3.8

*Continued on next page*

Level 3 Src 9 - SRC 3.9
Level 3 Src 10 - SRC 3.10
Level 3 Src 11 - SRC 3.11
Level 3 Src 12 - SRC 3.12
Level 3 Src 13 - SRC 3.13
Level 3 Src 14 - SRC 3.14
Level 3 Src 15 - SRC 3.15
Level 3 Src 16 - SRC 3.16

**SD** Sync delay

/>sd

** *Sync Delay : 16*

/>he sd

** *Syntax:* SD < delay >
*Where:* delay is the count of 0.125 second per delay interval and is in the range 0 to 127

/>sd 18
/>sd

** *Sync Delay: 18*

**SM** Sync mask configuration

/>sm

** *Sync Mask: 0000 0000 0000 0000 0000 0000*

/>he sm

** *Syntax:* SM < [lev] [mask] >
*Where:* lev is the level.
*Where:* mask is a hexadecimal mask for the level.

/>sm 1 3
/>sm

** *Sync Mask: 0003 0000 0000 0000 0000 0000*

**SN** Serial number

/>sn

** *Serial Number: 000000000000123*

/>he sn

** Displays the unit serial number. This parameter is read only.

**SP** SNMP parameters

/>sp

** *Displays the following:*

| | |
|---|---|
| SNMP Version: | 2 |
| Set Community: | private |
| Get Community: | public |
| System Location: | Location |
| System Contact: | info@pesa.com |
| Md5 Password: | pesa1234 |
| DES Password: | pesa1234 |
| Trap Enable: | OFF |
| Auth Trap Enable: | OFF |
| Trapsink: | 0.0.0.0 |
| Trap Community: | public |

/>he sp

** *Syntax:* SP < GCOMM [str] | SCOMM [str] | TCOMM [str] | SLOCA [str] | SCONT [str] | TRAP [ON|OFF] |AUTH [ON|OFF] | TSINK [addr] | VE [ver] >

*Where:* GCOMM [str] allows you to set the SNMP get community string.

*Where:* SCOMM [str] allows you to set the SNMP set community string.

*Where:* TCOMM [str] allows you to set the SNMP trap community string.

*Where:* SLOCA [str] allows you to set the SNMP system location.

*Where:* SCONT [str] allows you to set the SNMP system contact.

*Where:* TRAP ON enables SNMP traps.

*Where:* AUTH ON enables authentication traps.

*Where:* TSINK [addr] allows you to set the trap target IP address.

*Where:* VE [ver] allows you to set the SNMP version.

*Where:* where ver is '1' or '2'.

*Where:* where addr is in dotted notation (ex. 192.168.1.1}.

/>sp sloca office

/>sp

** *Displays the following:*

| | |
|---|---|
| SNMP Version: | 2 |
| Set Community: | private |
| Get Community: | public |
| System Location: | office |
| System Contact: | info@pesa.com |
| Md5 Password: | pesa1234 |
| DES Password: | pesa1234 |
| Trap Enable: | OFF |
| Auth Trap Enable: | OFF |
| Trapsink: | 0.0.0.0 |
| Trap Community: | public |

**ST** Slot information

/>st

** *Displays the following information:*

```
Slot Number:        1
Card Type:          Analog Video Primary
Status:             OK
Software Revision:  1
Number of Inputs:   16
Number of Outputs:  8
Serial Number:      SERIAL NUMBER

Slot Number:        2
Card Type:          Analog Audio Primary
Status:             OK
Software Revision:  1
Number of Inputs:   16
Number of Outputs:  8
Serial Number:      SERIAL NUMBER
```

/>he st

** *Displays slot information. These parameters are read only.*

**SW** Switch

/>sw

** *Displays the following:*

Level: 1 Output: 1 Input: 0
Level: 1 Output: 2 Input: 6
Level: 1 Output: 3 Input: 0
Level: 1 Output: 4 Input: 0
Level: 1 Output: 5 Input: 0
Level: 1 Output: 6 Input: 0
Level: 1 Output: 7 Input: 0
Level: 1 Output: 8 Input: 0
Level: 2 Output: 1 Input: 0
Level: 2 Output: 2 Input: 6
Level: 2 Output: 3 Input: 0
Level: 2 Output: 4 Input: 0
Level: 2 Output: 5 Input: 0
Level: 2 Output: 6 Input: 0
Level: 2 Output: 7 Input: 0
Level: 2 Output: 8 Input: 0
Level: 3 Output: 1 Input: 0
Level: 3 Output: 2 Input: 6
Level: 3 Output: 3 Input: 0
Level: 3 Output: 4 Input: 0
Level: 3 Output: 5 Input: 0
Level: 3 Output: 6 Input: 0
Level: 3 Output: 7 Input: 0
Level: 3 Output: 8 Input: 0

/>he sw

** *Displays and takes a switch.*

*Syntax:* SW < LEV [int] OUT [int] IN [int] >

*Where:* LEV [int] is the level to take the switch.

*Where:* OUT [int] is the output for the switch.

*Where:* IN [int] is the input for the switch.

*Where:* int is an integer between 1 and 16 for inputs and 1 and 8 for outputs.

Example: SW LEV 1 OUT 3 IN 2.

☛ **NOTE:** ***Only take one switch per level at a time.***

/>sw lev 1 out 2 in 4
/>sw

** *Displays the following:*

Level: 1 Output: 1 Input: 6
Level: 1 Output: 2 Input: 4
Level: 1 Output: 3 Input: 0
Level: 1 Output: 4 Input: 0
Level: 1 Output: 5 Input: 0
Level: 1 Output: 6 Input: 0
Level: 1 Output: 7 Input: 0
Level: 1 Output: 8 Input: 0
Level: 2 Output: 1 Input: 6
Level: 2 Output: 2 Input: 4
Level: 2 Output: 3 Input: 0
Level: 2 Output: 4 Input: 0
Level: 2 Output: 5 Input: 0
Level: 2 Output: 6 Input: 0
Level: 2 Output: 7 Input: 0
Level: 2 Output: 8 Input: 0
Level: 3 Output: 1 Input: 6
Level: 3 Output: 2 Input: 4
Level: 3 Output: 3 Input: 0
Level: 3 Output: 4 Input: 0
Level: 3 Output: 5 Input: 0
Level: 3 Output: 6 Input: 0
Level: 3 Output: 7 Input: 0
Level: 3 Output: 8 Input: 0

**VE** Version of controller software

```
/>ve

** Version: 1.2

/>he ve

** Displays the version of software in the controller.  This parameter is read only.
```

## 8.3 INITIATING A BCS COMMAND

Once the Command Line Interface has been accessed, perform the following to initiate a command:

1) Select a desired command from the list (you may have to use the scroll function to access the remaining commands) and type the command in the Command window (see Figure 143).

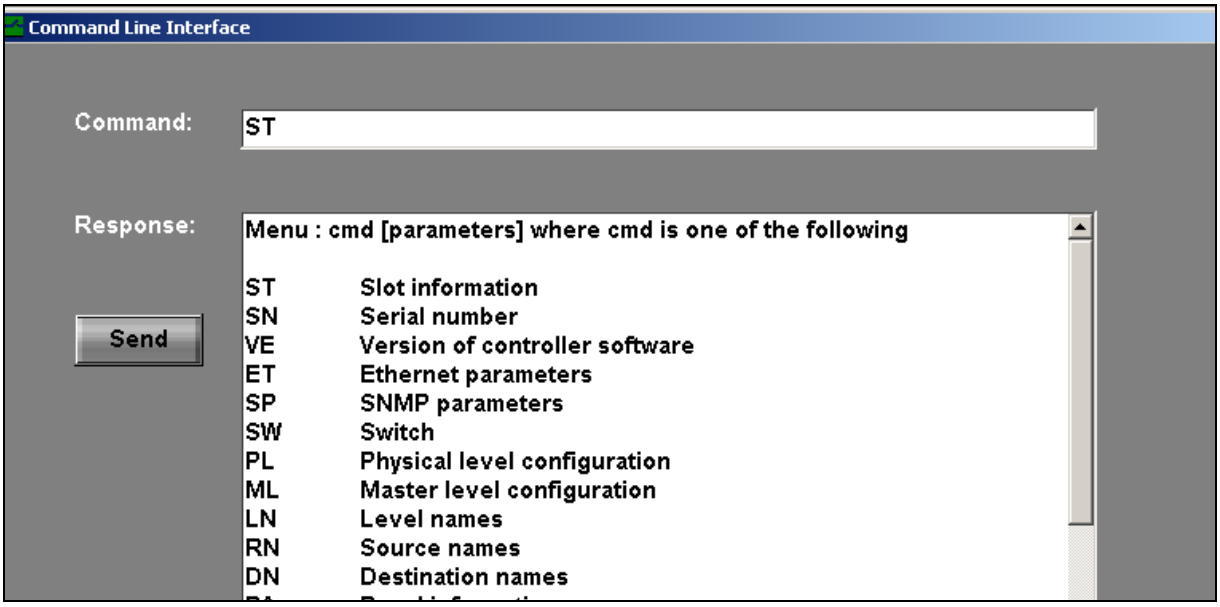



**FIGURE 143: Command Window Entry**

| | |
|---|---|
| NOTE | **In most cases, you may have to use the scroll function to access the remaining commands.** |

2) Click on the Send function button.

*Result:* In this example, the slot configuration for the target switcher is displayed in the Response window (see Figure 144).

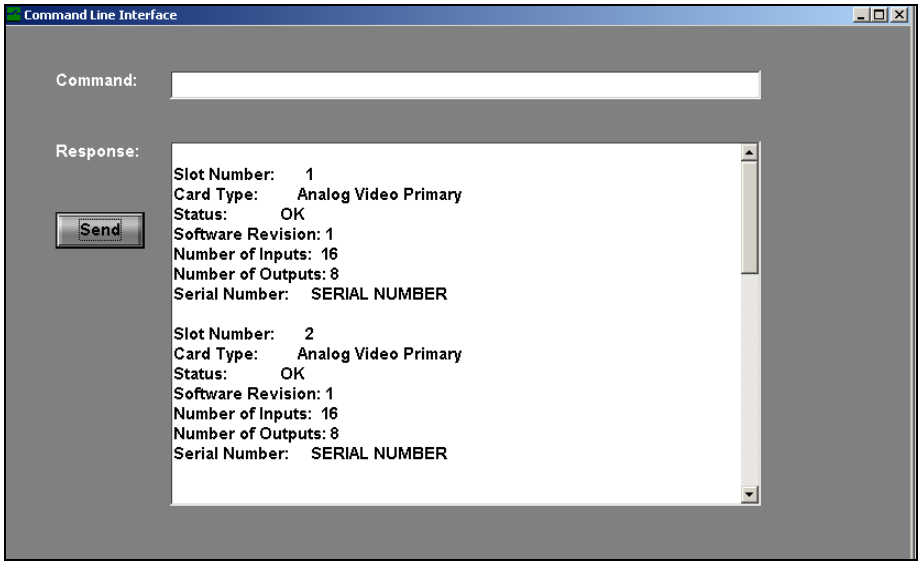



**FIGURE 144: Response Display Example**

| | |
|---|---|
| NOTE | **In most cases, you may have to use the scroll function to access the remaining commands.** |

3) If desired, repeat Steps 1 and 2 for other commands.

4) To exit this screen, click on the ☒ in the upper right corner of the Command Line Interface screen.

# Chapter 9: Premiere Service Policy

## 9.1 PREMIERE MATRIX SWITCHER SERVICING

There are no User-Serviceable parts in the Switcher enclosure. Do not open the chassis or the warranty may be voided. Contact your local dealer for all servicing needs.

## 9.2 RETURN MATERIAL AUTHORIZATION (RMA) POLICY

All items to be returned to PESA for warranty repair must have an RMA number assigned and ***must be visible*** on the return-shipping label. Any goods returned without an RMA number **will be refused**. You may obtain the RMA number by calling the PESA technical support department at (256) 726-9222.

## 9.3 PESA SWITCHING SYSTEMS, INC., WARRANTY STATEMENT

**PESA warrants the Premiere Series Matrix Switchers (hereafter referred to as "PRODUCTS") against defective workmanship or materials for a period of three (3) years from the shipping date of the item by PESA.**

During this warranty period, defective parts will be replaced at no charge. Factory labor to repair or replace defective parts will be performed at PESA Switching Systems, Inc. factory only at no charge during the warranty period.

This warranty includes factory labor and parts and does not include provisions for reimbursement for removal, inbound shipment, and reinstallation of the "products". During the warranty period, PESA will provide outbound warranty shipping via UPS GROUND for all defective Premiere units returned. All inbound freight charges must be prepaid and the product must be insured for its full value.

This warranty does not cover abuse, shipping damage, neglect, tampering by unauthorized personnel, acts of nature, damage inadvertently caused by the user, preventive maintenance, or any product in which the serial number is removed or defaced.

The sole responsibility of PESA shall be to repair or replace in accordance with this warranty. The seller's and manufacturer's only obligation shall be to repair or replace such quantity of the product proven to be defective.

| | |
|---|---|
| NOTE | **Pack the equipment securely and label with the correct address. Proper packaging saves money. The small amount of extra care and time it takes to cushion a part or unit correctly may prevent costly damage while in transit. Make certain that the address is both legible and complete. Failure to do so often results in delay or even loss.** |

PESA shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, the user shall determine the suitability of the product for his/her intended use, and user assumes all risk and liability whatsoever in connection therewith.

The warranty and the obligations and liabilities hereunder shall replace all warranties, express or implied.

If service is required, please contact the PESA technical support department via telephone (256) 726-9222 or FAX (256) 726-9268 with the following information at hand:

1. The product model number
2. The product serial number
3. The date of purchase (warranty service only)
4. System information
5. A detailed description of the problem

## 9.4 NON-WARRANTY SUPPORT- ALL PRODUCTS

If an item is determined to be out of the defined warranty period, the item can be repaired as a non-warranty repair. If specifically requested, an estimate will be made on the repair cost of a non-warranty repair unit. This requirement should be clearly stated on the packing material included with the return unit. If an estimate is not requested, the returned device will be repaired and updated without further approval from the customer.

If an estimate is requested, a PESA service representative will contact the customer with the estimated cost for repair. If the customer approves the estimate, the unit will then be repaired and returned. If the customer does not approve the estimate, the unit will be returned.

### *9.4.1 Prepaid*

After an estimate is given, a check or money order can be sent for the estimated amount plus the cost of return shipping. The PESA customer service representative will provide both repair and shipping cost.

### *9.4.2 On Account*

A purchase notification must be issued by the customer in order for PESA to return the unit on account if an account has been established and is in good standing. All invoices are payable at NET 30. We reserve the right to add 1.5% per month (annual rate 18%) to any unpaid balance over 30 days old.

***All repair shipments are to be addressed to:***

***PESA Switching Systems, Inc.***
***Attn: Customer Service***
***330A Wynn Drive***
***Huntsville, AL 35805***
***Phone: (256) 726-9222***
***Fax: (256) 726-9268***

### *9.4.3 Telephone Support*

Due to the technical nature of the Premiere control system and the acknowledgment that, at times, telephone support will be required, PESA provides the following telephone support policy:

- Technical support includes troubleshooting a suspected system problem, and troubleshooting a known system problem.
- Technical support does not include on-site or off-site system configuration changes, software modifications, hardware modifications, software installation, hardware installation, report generation, report modification, or over-the-telephone system operation training.
- Telephone support is available weekdays, from 8:00 AM to 5:00 PM CST.
- An optional support program that includes toll-free telephone support as well as a dedicated 24-hour pager access is available.

# Chapter 10: Premiere Specifications and Appendices

This Chapter contains all of the specifications for the Premiere Matrix Switcher configurations.

## 10.1 GENERAL SWITCHER

| REQUIREMENT | DESCRIPTION |
|---|---|
| AC Power | 100-240 VAC single phase 47-63Hz |
| Humidity | 0-90% non-condensing |
| Dimensions | • 10.4" D<br>• 19" W<br>• 5.25 H (3 RU) |
| Weight | Approximately 12 pounds nominal per enclosure |
| Input/Output Range | 8 x 4, 12 x 8, 16 x 8, and 16x16 |
| Communications | RS232, TCP/IP, USB |
| Signal Types | Composite Video (NTSC, PAL, SECAM), Stereo Audio, RGB, RGBS, RGBHV, Y/C, YUV, HDTV |
| Regulatory Approvals | FCC, UL, CE |

## 10.2 WIDEBAND VIDEO (≥500 MHZ)

| REQUIREMENT | DESCRIPTION |
|---|---|
| ***Wideband Video Input*** | |
| Number of Inputs | 8, 12, or 16 |
| Impedance | 75 Ohm |
| Connector Type | BNC |
| Nominal Level | 1.0V p-p, 2.0V p-p max |
| Return loss | -44dB @ 5MHz |
| Gain | Unity ± 1% |
| ***Wideband Video Throughput*** | |
| Frequency Response | ± 3.00dB to 500 MHz |
| Crosstalk (adjacent channel) | < -60dB @ 5MHz |
| Propagation Delay | < 22ns (Vin = 2V p-p, 1MHz square wave) |
| Signal to Noise Ratio | < -65dB (Vin = 0.7V, 100 IRE) |
| ***Wideband Video Output*** | |
| Number of Outputs | 4, 8, or 16 |
| Impedance | 75 Ohm |
| Connector Type | BNC |
| Gain | Unity ± 1% |
| Maximum Level | 2.0V p-p max |

## 10.3 STEREO AUDIO

| REQUIREMENT | DESCRIPTION |
|---|---|
| ***Audio Input*** | |
| Number of Inputs | 8, 12, or 16 |
| Level | Unbalanced: +24dBu max; Balanced: +27dBu max |
| Impedance | 18K Ohm |
| Type | Balanced or Unbalanced |
| CMRR | -90dB |
| Gain | Unity |
| Connector Type | Removable, 5-position screw terminal (Phoenix® type) |
| ***Volume-Control Audio Throughput*** | |
| Frequency Response | ± 0.1dB (20 to 20kKz) |
| THD + Noise | <0.1% (20 to 20kHz, Vin = -10 to +20.0dBu) |
| Crosstalk | <-90dB (1kHz, Vin = +14dBu) |
| Signal to Noise Ratio | <-88dB (20 to 20kHz, Vin = +20dBu) |
| Input Level Adjustment Range | -10dB to +10dB |
| Output Volume Adjustment Range | -70dB to +10dB |
| Combined Level Adjustment Range, Referenced to Source | -70dB to +10dB |
| ***Audio Output*** | |
| Level | ±27dBu max, Unbalanced |
| Impedance | 50 Ohms |
| Type | Balanced or unbalanced |
| Gain | Unity |
| Connector Type | Removable, 5-position screw terminal (Phoenix® type) |

## 10.4 CONTROL

| REQUIREMENT | DESCRIPTION |
|---|---|
| Serial Control Port | RS-232, 9 pin female D connector |
| Baud Rate | 9600, 8 bit, 1 stop bit, no parity |
| Remote Control | RJ45 |
| Ethernet 10/100 Base T | RJ45 |
| Program Control | Windows® Series (98, NT, 2000, XP) |

## 10.5 APPENDICES

This Section contains the following Appendices:

- **Appendix A** - PESA Switching Systems, Inc., Contacts
- **Appendix B** - Premiere Series Matrix Switcher Factory Pre-Configurations
- **Appendix C** - Abbreviations, Acronyms, and Definitions (AA&D)

### *10.5.1 Appendix A - PESA Switching Systems, Inc., Contacts*

**SERVICE AND ORDERING ASSISTANCE**

***PESA Switching Systems, Inc***.
330-A Wynn Drive Northwest
Huntsville, AL 35805-1961
USA
Internet: ***www.pesa.com***

**MAIN OFFICE**

Tel: (256) 726-9200
Fax: (256) 726-9271

**SERVICE DEPARTMENT**

Tel: (256) 726-9222 (answered 24/7)
Toll Free: (800) 323-7372
Fax: (256) 726-9268
Email: ***service@pesa.com***

**NATIONAL SALES OFFICE**

***PESA Switching Systems, Inc.***
24 Woodbine Avenue, Suite 16
Newport, NY 11768
USA
Tel: (631) 912-1301
Toll-Free: (800) 328-1008
Fax: (631) 912-1302

### *10.5.2 Appendix B – Premiere Series Matrix Switcher Factory Pre-Configurations*

10.5.2.1 Predefined 8x4, 12x8 or 16x8 Product Configurations

Composite Video Only

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | | |
| 1 | 3 | | |
| 1 | 4 | | |
| 1 | 5 | | |
| 1 | 6 | | |

Composite Video with Stereo Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Audio | 2 |
| 1 | 3 | | |
| 1 | 4 | | |
| 1 | 5 | | |
| 1 | 6 | | |

Composite Video with 4 Channel Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Audio | 2 |
| 1 | 3 | Primary Audio | 3 |
| 1 | 4 | | |
| 1 | 5 | | |
| 1 | 6 | | |

Y/C Video Only

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Video | 1 |
| 1 | 3 | | |
| 1 | 4 | | |
| 1 | 5 | | |
| 1 | 6 | | |

Y/C with Stereo Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Video | 1 |
| 1 | 3 | Primary Audio | 2 |
| 1 | 4 | | |
| 1 | 5 | | |
| 1 | 6 | | |

Y/C with 4 Channel Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Video | 1 |
| 1 | 3 | Primary Audio | 2 |
| 1 | 4 | Primary Audio | 3 |
| 1 | 5 | | |
| 1 | 6 | | |

RGB Video Only

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Video | 1 |
| 1 | 3 | Primary Video | 1 |
| 1 | 4 | | |
| 1 | 5 | | |
| 1 | 6 | | |

RGB Video with Stereo Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Video | 1 |
| 1 | 3 | Primary Video | 1 |
| 1 | 4 | Primary Audio | 2 |
| 1 | 5 | | |
| 1 | 6 | | |

RGB Video with 4 Channel Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Video | 1 |
| 1 | 3 | Primary Video | 1 |
| 1 | 4 | Primary Audio | 2 |
| 1 | 5 | Primary Audio | 3 |
| 1 | 6 | | |

RGBS Video Only

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Video | 1 |
| 1 | 3 | Primary Video | 1 |
| 1 | 4 | Primary Sync | 1 |
| 1 | 5 | | |
| 1 | 6 | | |

RGBS Video with Stereo Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Video | 1 |
| 1 | 3 | Primary Video | 1 |
| 1 | 4 | Primary Sync | 1 |
| 1 | 5 | Primary Audio | 2 |
| 1 | 6 | | |

RGBS Video with 4 Channel Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Video | 1 |
| 1 | 3 | Primary Video | 1 |
| 1 | 4 | Primary Sync | 1 |
| 1 | 5 | Primary Audio | 2 |
| 1 | 6 | Primary Audio | 3 |

RGBHV Video Only

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Video | 1 |
| 1 | 3 | Primary Video | 1 |
| 1 | 4 | Primary Sync | 1 |
| 1 | 5 | Primary Sync | 1 |
| 1 | 6 | | |

RGBHV Video with Stereo Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary Video | 1 |
| 1 | 2 | Primary Video | 1 |
| 1 | 3 | Primary Video | 1 |
| 1 | 4 | Primary Sync | 1 |
| 1 | 5 | Primary Sync | 1 |
| 1 | 6 | Primary Audio | 2 |

#### 10.5.2.2 Predefined 16x16 Product Configurations

Composite Video Only

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | | |
| 1 | 4 | | |
| 1 | 5 | | |
| 1 | 6 | | |

Composite Video with Stereo Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | Primary 16x8 Audio | 2 |
| 1 | 4 | Expansion 16x8 Audio | 2 |
| 1 | 5 | | |
| 1 | 6 | | |

Composite Video with 4 Channel Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | Primary 16x8 Audio | 2 |
| 1 | 4 | Expansion 16x8 Audio | 2 |
| 1 | 5 | Primary 16x8 Audio | 3 |
| 1 | 6 | Expansion 16x8 Audio | 3 |

Y/C Video Only

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | Primary 16x8 Video | 1 |
| 1 | 4 | Expansion 16x8 Video | 1 |
| 1 | 5 | | |
| 1 | 6 | | |

Y/C with Stereo Audio

| Slot | Board Type | Control Level |
|---|---|---|
| 1 | Primary 16x8 Video | 1 |
| 2 | Expansion 16x8 Video | 1 |
| 3 | Primary 16x8 Video | 1 |
| 4 | Expansion 16x8 Video | 1 |
| 5 | Primary 16x8 Audio | 2 |
| 6 | Expansion 16x8 Audio | 2 |

Y/C with 4 Channel Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | Primary 16x8 Video | 1 |
| 1 | 4 | Expansion 16x8 Video | 1 |
| 1 | 5 | Primary 16x8 Audio | 2 |
| 1 | 6 | Expansion 16x8 Audio | 2 |
| 2 | 1 | Primary 16x8 Audio | 3 |
| 2 | 2 | Expansion 16x8 Audio | 3 |
| 2 | 3 | | |
| 2 | 4 | | |
| 2 | 5 | | |
| 2 | 6 | | |

RGB Video Only

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | Primary 16x8 Video | 1 |
| 1 | 4 | Expansion 16x8 Video | 1 |
| 1 | 5 | Primary 16x8 Video | 1 |
| 1 | 6 | Expansion 16x8 Video | 1 |

RGB Video with Stereo Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | Primary 16x8 Video | 1 |
| 1 | 4 | Expansion 16x8 Video | 1 |
| 1 | 5 | Primary 16x8 Video | 1 |
| 1 | 6 | Expansion 16x8 Video | 1 |
| 2 | 1 | Primary 16x8 Audio | 2 |
| 2 | 2 | Expansion 16x8 Audio | 2 |
| 2 | 3 | | |
| 2 | 4 | | |
| 2 | 5 | | |
| 2 | 6 | | |

RGB Video with 4 Channel Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | Primary 16x8 Video | 1 |
| 1 | 4 | Expansion 16x8 Video | 1 |
| 1 | 5 | Primary 16x8 Video | 1 |
| 1 | 6 | Expansion 16x8 Video | 1 |
| 2 | 1 | Primary 16x8 Audio | 2 |
| 2 | 2 | Expansion 16x8 Audio | 2 |
| 2 | 3 | Primary 16x8 Audio | 3 |
| 2 | 4 | Expansion 16x8 Audio | 3 |
| 2 | 5 | | |
| 2 | 6 | | |

RGBS Video Only

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | Primary 16x8 Video | 1 |
| 1 | 4 | Expansion 16x8 Video | 1 |
| 1 | 5 | Primary 16x8 Video | 1 |
| 1 | 6 | Expansion 16x8 Video | 1 |
| 2 | 1 | Primary 16x8 Sync | 1 |
| 2 | 2 | Expansion 16x8 Sync | 1 |
| 2 | 3 | | |
| 2 | 4 | | |
| 2 | 5 | | |
| 2 | 6 | | |

RGBS Video with Stereo Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | Primary 16x8 Video | 1 |
| 1 | 4 | Expansion 16x8 Video | 1 |
| 1 | 5 | Primary 16x8 Video | 1 |
| 1 | 6 | Expansion 16x8 Video | 1 |
| 2 | 1 | Primary 16x8 Sync | 1 |
| 2 | 2 | Expansion 16x8 Sync | 1 |
| 2 | 3 | Primary 16x8 Audio | 2 |
| 2 | 4 | Expansion 16x8 Audio | 2 |
| 2 | 5 | | |
| 2 | 6 | | |

RGBS Video with 4 Channel Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | Primary 16x8 Video | 1 |
| 1 | 4 | Expansion 16x8 Video | 1 |
| 1 | 5 | Primary 16x8 Video | 1 |
| 1 | 6 | Expansion 16x8 Video | 1 |
| 2 | 1 | Primary 16x8 Sync | 1 |
| 2 | 2 | Expansion 16x8 Sync | 1 |
| 2 | 3 | Primary 16x8 Audio | 2 |
| 2 | 4 | Expansion 16x8 Audio | 2 |
| 2 | 5 | Primary 16x8 Audio | 3 |
| 2 | 6 | Expansion 16x8 Audio | 3 |

RGBHV Video Only

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | Primary 16x8 Video | 1 |
| 1 | 4 | Expansion 16x8 Video | 1 |
| 1 | 5 | Primary 16x8 Video | 1 |
| 1 | 6 | Expansion 16x8 Video | 1 |
| 2 | 1 | Primary 16x8 Sync | 1 |
| 2 | 2 | Expansion 16x8 Sync | 1 |
| 2 | 3 | Primary 16x8 Sync | 1 |
| 2 | 4 | Expansion 16x8 Sync | 1 |
| 2 | 5 | | |
| 2 | 6 | | |

RGBHV Video with Stereo Audio

| Frame | Slot | Board Type | Control Level |
|---|---|---|---|
| 1 | 1 | Primary 16x8 Video | 1 |
| 1 | 2 | Expansion 16x8 Video | 1 |
| 1 | 3 | Primary 16x8 Video | 1 |
| 1 | 4 | Expansion 16x8 Video | 1 |
| 1 | 5 | Primary 16x8 Video | 1 |
| 1 | 6 | Expansion 16x8 Video | 1 |
| 2 | 1 | Primary 16x8 Sync | 1 |
| 2 | 2 | Expansion 16x8 Sync | 1 |
| 2 | 3 | Primary 16x8 Sync | 1 |
| 2 | 4 | Expansion 16x8 Sync | 1 |
| 2 | 5 | Primary 16x8 Audio | 2 |
| 2 | 6 | Expansion 16x8 Audio | 2 |

### *10.5.3 Appendix C – Abbreviations, Acronyms, and Definitions (AA&D)*

This Appendix includes a listing of some of the most common abbreviations, acronyms and associated definitions that are used in this manual and throughout the video industry.

| *AA&D* | *DESCRIPTION/DEFINITION* |
|---|---|
| **100BaseT** | A 100MB/s implementation of the Ethernet network topology that utilizes a Hub-based connection scheme. |
| **BNC** | Bayonet Neill-Concelman (connector used with coaxial cable that was invented by Mr. Neill-Concelman) |
| **Component Video** | A video signal, which is conveyed using separate signal components, typically comprising chrominance (C), luminance (Y), and sync information. S-Video (Y/C), RGB, YUV, RGBS, and RGBHV are some examples of component video signals. |
| **COMPOSITE VIDEO** | A video signal in which all the video components are conveyed as a single video signal. NTSC and PAL are typical examples of composite video signals. |
| **CPU** | Central Processing Unit |
| **CRC** | Cyclic Redundancy Check |
| **DAC** | Digital to Analog Converter |
| **DHCP** | Dynamic Host Configuration Protocol |
| **Ethernet** | A physical datalink layer of a local area network that physically connects hardware together. Ethernet is a collision-based network medium with non-deterministic behavior and has a data transfer rate of 10MB/s. |
| **ESD** | Electrostatic Sensitive Device |
| **FCC** | Federal Communications Commission |
| **FPGA** | Field Programmable Gate-Array |
| **Gbps** | Gigabits (1,024 megabits) per second; or one billion bits of information per second |
| **HD** | High Definition |

*AA&D continued on next page*

*AA&D (continued)*

| *AA&D* | *DESCRIPTION/DEFINITION* |
|---|---|
| **HDMR** | High Definition Multi-Rate |
| **HTTP** | HyperText Transfer Protocol |
| **IEC** | International Electrotechnical Commission |
| **IP** | Internet Protocol. The part of TCP/IP that handles routing of messages. |
| **IP Address** | A 32-bit identifier that is unique to each networking device. |
| **LAN** | Limited Access Network or Local Area Network |
| **LC** | Inductor-Capacitor circuit (L is the symbol for inductance); or Lucent Connector (fiber - optic connector) |
| **LED** | Light Emitting Diode |
| **LSB** | Least Significant Bit |
| **Mbps** | Megabits per second |
| **MFC** | Matrix Frame Controller |
| **MIB** | Management Information Base |
| **MSB** | Most Significant Bit |
| **NETPRC** | NETwork PESA® Routing Controller |
| **NTSC** | National Television Standards Committee |
| **PAL** | Phase Alternating Line |
| **PC** | Personal Computer (typically, IBM-compatible) |
| **PCB** | Printed Circuit Board; or Parts Component Board (when populated with components) |
| **P1E** | Protocol number 1 Extensions (PESA defined) |
| **PRC** | PESA Router Controller interface. This interface details control of routing matrices using an RS-422 communications link. PRC specifies the physical address of crosspoints. |
| **PRC Preset** | A whole or partial image of the routers in the PRC control space. |

*AA&D continued on next page*

*AA&D (continued)*

| *AA&D* | *DESCRIPTION/DEFINITION* |
|---|---|
| **RCP** | Remote Control Panel |
| **RMA** | Return Material Authorization |
| **SD** | Standard Definition |
| **SDI** | Serial Digital Interface. Typically refers to component serial digital operating at a data rate of 270Mbps. |
| **SFF** | Small-Form-Factor (fiber-optic connector) |
| **SNMP** | Simple Network Management Protocol |
| **SNR** | Signal-to-Noise Ratio |
| **SPDT** | Single Pole, Double Throw (switch) |
| **SPST** | Single Pole, Single Throw (switch) |
| **Sync** | Also, Synch. Accepted term for synchronize or forms of the word. |
| **Syntax** | The structural or grammatical rules that define how the symbols in a language are to be combined to form words, phrases, expressions, and other allowable constructs. |
| **TCP** | Transmission/Transport Control Protocol. A connection-oriented transport layer protocol employing data retransmission to ensure reliable communications. |
| **TCP/IP** | Transmission Control Protocol/Internet Protocol |
| **Telnet** | Telephone Network. A terminal emulation protocol that allows users to log in remotely to other computers on a network. |
| **UDP** | User Datagram Protocol. A connectionless transport layer protocol. It does not perform the retransmission of data. |
| **USB** | Universal Serial Bus (Intel®) |
| **Vertical Interval** | The portion of the video signal in which image information is absent to allow for the video device to prepare for the next frame of information. |
| **Vertical Trigger** | A signal input to a matrix and/or matrix control that indicates the presence of the vertical interval in a video signal. |

*AA&D continued on next page*

*AA&D (continued)*

| *AA&D* | *DESCRIPTION/DEFINITION* |
|---|---|
| **Video Timing Frame** | A package of information that contains all the information required to draw an image on a video device. Generally considered with respect to NTSC and PAL signals where the information is transmitted over a fixed time frame. A frame consists of two video fields denoted odd and even. |
| **Video Timing Field** | A package of information that contains information required to complete a full scan across a video monitor. There are two types of video fields denoted as odd and even. |

***USER NOTES:***

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PESA
Switching
Systems