GRASS VALLEY GROUP

Installation Guide

software release **4.1**

071-0718-01
NOVEMBER 2000

PROFILE XP PVS 2000
MEDIA PLATFORM FOR HIGH DEFINITION

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Revision Status

Rev Date	Description
July 21, 2000	Original issue of the PVS2000 Installation Guide
November 17, 2000	Upgraded to include additional feature support in Profile Software version 4.1

Before getting started

This installation guide provides step-by-step instructions for installing the PVS2000 Media Platform using factory default settings. After installing the PVS2000 using this installation guide, you can refer to the *Profile XP System Guide* to customize system settings for your installation.

For Grass Valley Group Customer Support information, refer to page 27 of this Installation Guide.

About channels and factory default configuration

Profile applications use channels to control disk recording and playback. A channel defines a grouping of Profile XP video, audio, and timecode resources and is identified by a unique name. Profile XP software supports three channel types: Recorder channel, Player channel, or Player/Recorder channel. For more information on channel types and creating or modifying channels, refer the *Profile XP System Guide*.

Your PVS2000 is shipped with default Recorder and Player channels. These default channels are named Vtr1, Vtr2, Vtr3 and so on. The following table describes the video and audio connections you'll make for the two channel types. On the pages that follow, you'll find specifics about the type and number of default channels in your system, and their video and audio I/O connections.

Default channel type	Video I/O connections	Audio connections[a]	Timecode I/O
Recorder	1 HD SDI video input	2, 4, or 8 audio I/Os	Uses the internal timecode generator.
Player	1 HD SDI video output	2, 4, or 8 audio I/Os	Recorded timecode is used to generate VITC on the HD SDI video output

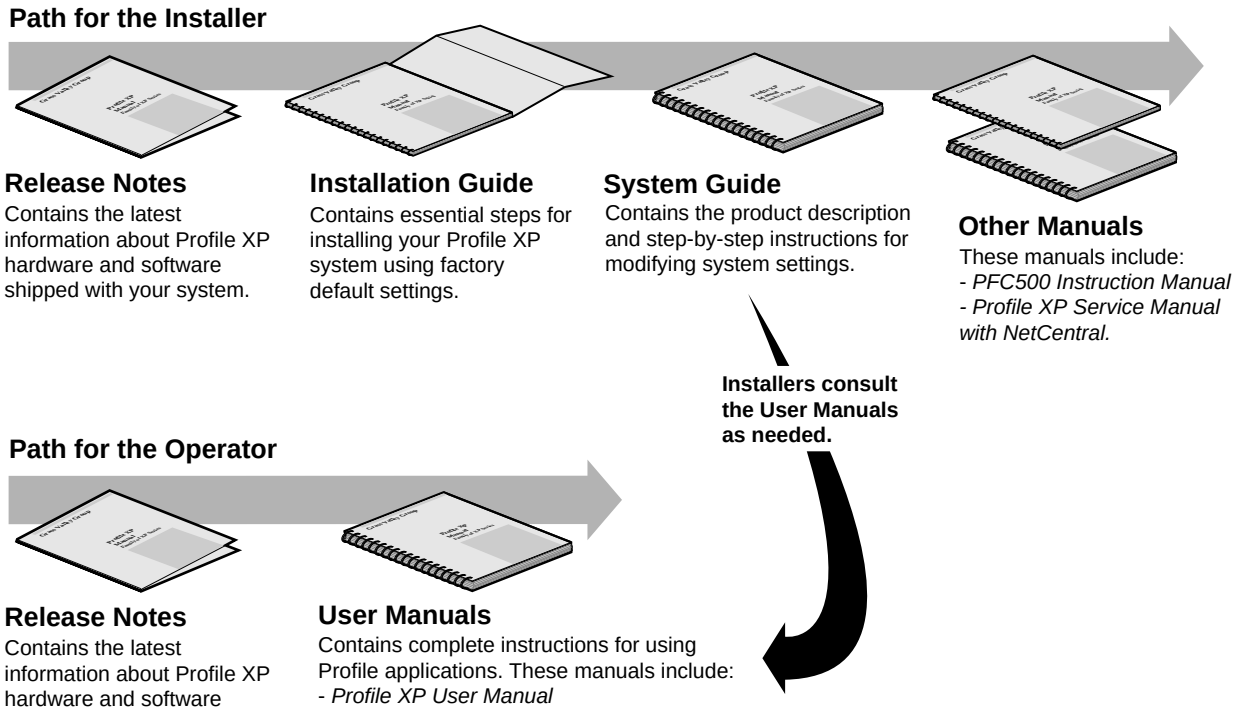
a. The number of audio I/Os is determined by your PVS2000 Series model and the number of Audio boards installed.

Rack-mounting the PVS2000 Series Chassis

This procedure assumes you have already rack-mounted the PVS2000, PFC500 Fibre Channel RAID Chassis, I/O Panel, and audio interface option as required. For rack-mounting information, see Appendix C, "Rack Mounting Information and Rear Panel Drawings" in the *Profile XP System Guide*.

Referring to Related Documentation

This manual is part of a full set of support documentation for the Profile XP Media Platform. The following illustrates how to use the Profile XP documentation depending on the task you are performing.



Referring to Safety Summaries

WARNING: Be sure to review all safety precautions listed in the** Profile XP System Guide **in order to avoid personal injury and prevent damage to this product and its peripheral products.

Checking standard PVS2000 Series accessories

Your PVS2000 Series Media Platform is shipped with several standard accessories as shown in the table. Locate the accessories you need for your installation and proceed.

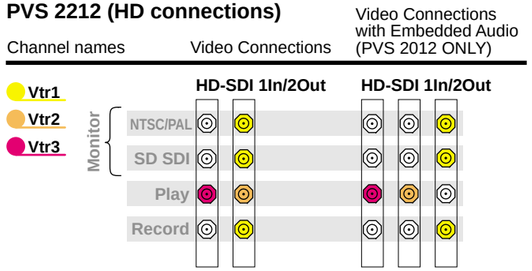
Standard PVS2000 Accessories	
Keyboard and Mouse	Ethernet Cable
I/O Panel and interface cable	Windows NT Software Disk and Documentation
Rack-mount slides	Profile XP Software CD-ROM and Release Notes

1 Set up system hardware and connect video

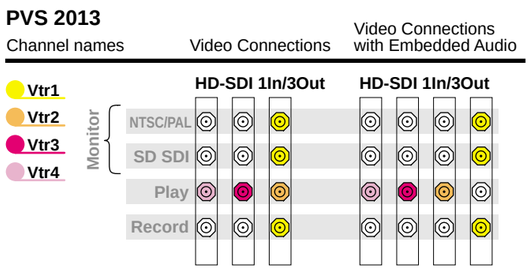
Set up the system hardware as shown in this diagram, then locate your PVS2000 Series model under Default Video Connections. Use the color coding to make the video I/O connections for the recorder and player channels.

HD Default Video Connections

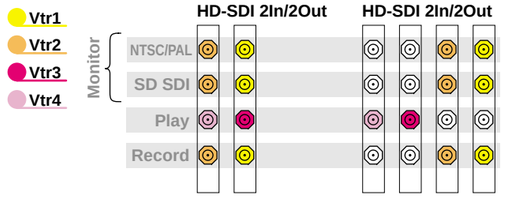
PVS 2012 or PVS 2212 (HD connections)



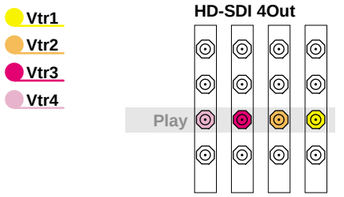
PVS 2013



PVS 2022



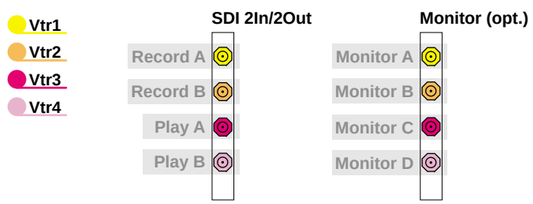
PVS 2004



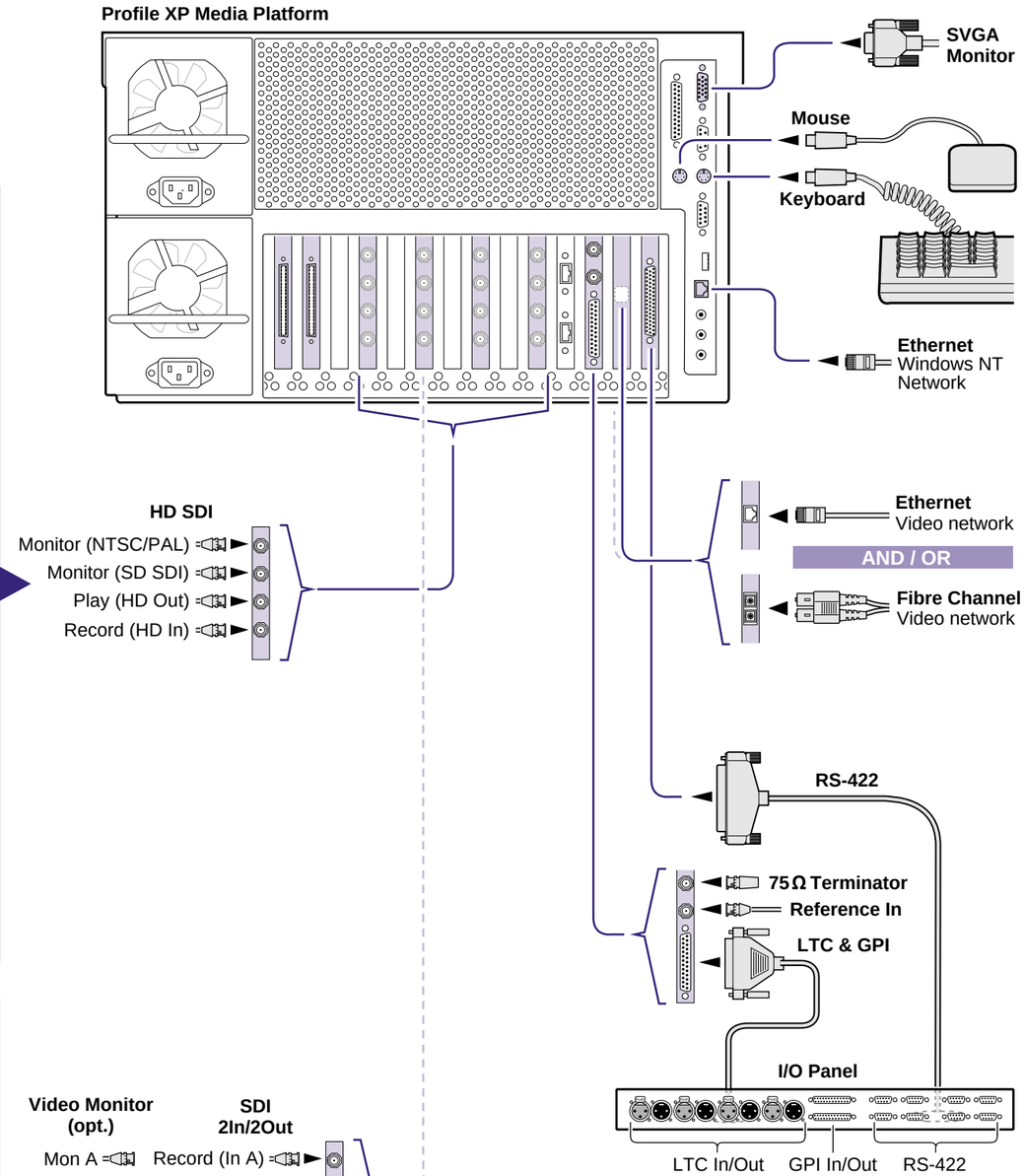
Notes:
Video I/Os are assigned beginning with Vtr1 and the board in the lowest numbered board slot.
NTSC/PAL and SD SDI connections are for monitoring purposes only.

SD Default Video Connections

PVS 2212 (SD connections)

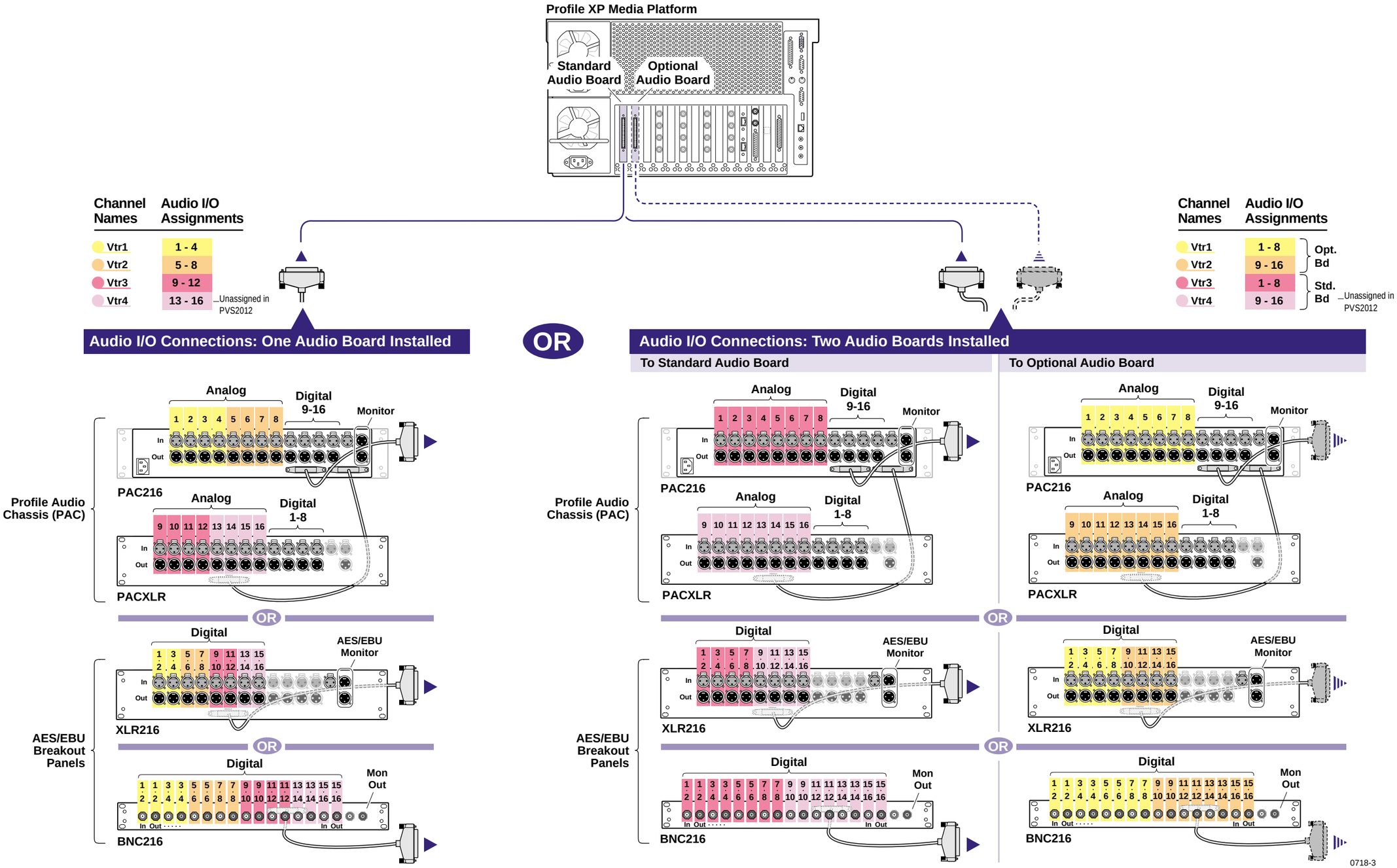


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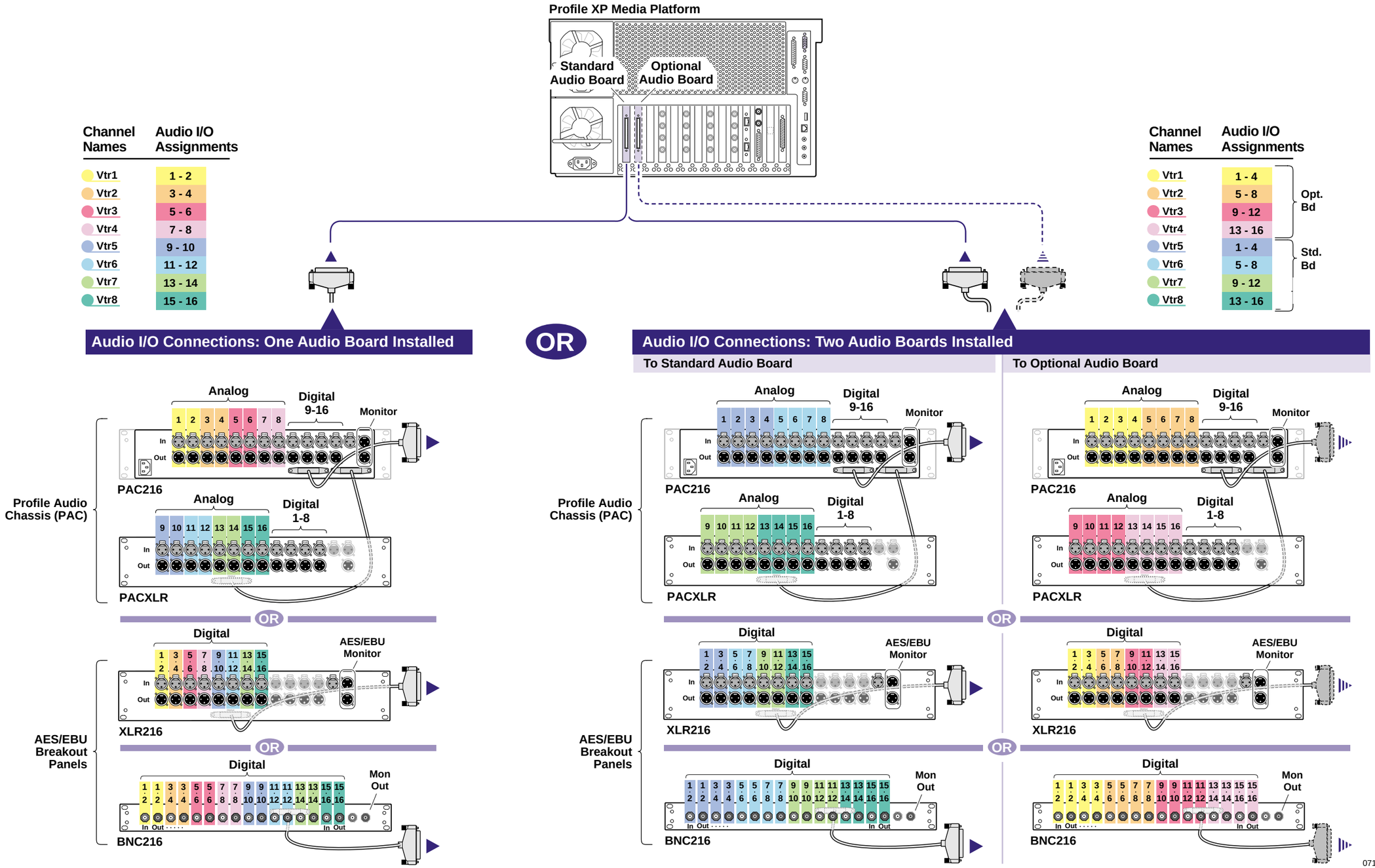
2 Connect audio (Except PVS2212)

Determine if your PVS2000 media platform has one or two audio boards installed as shown on this diagram, then use the color coding to determine the audio I/O connections for each video channel.



2 Connect audio (PVS2212 Only)

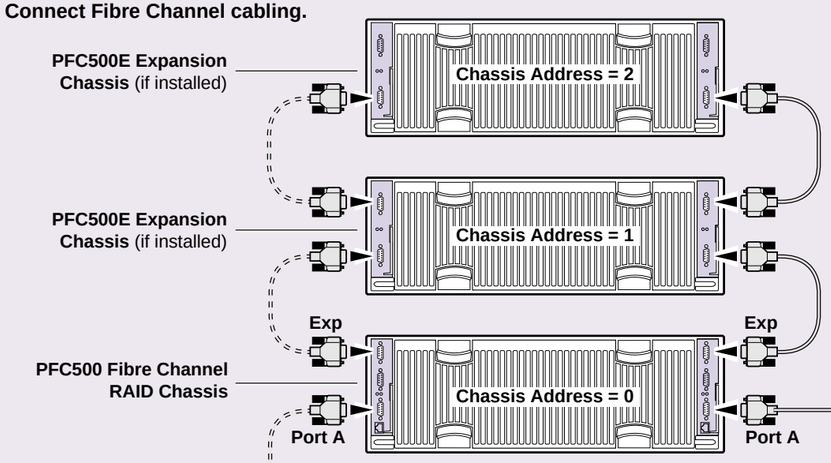
Determine if your PVS2212 has one or two audio boards installed as shown on this diagram, then use the color coding to determine the audio I/O connections for each video channel.



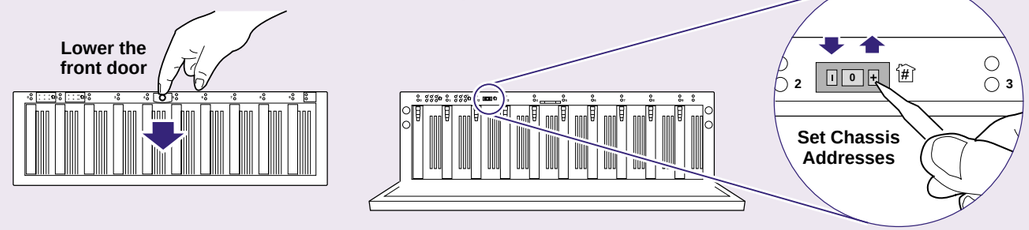
3 Set up the Fibre Channel RAID Chassis

Use this diagram to set up the PFC500 Fibre Channel RAID Chassis and the PFC500E Expansion Chassis (if used). If you are installing more than one PFC500, use the procedures in the *Profile XP System Guide*, Chapter 3, "Working with Profile XP Storage systems", to set up your storage chassis.

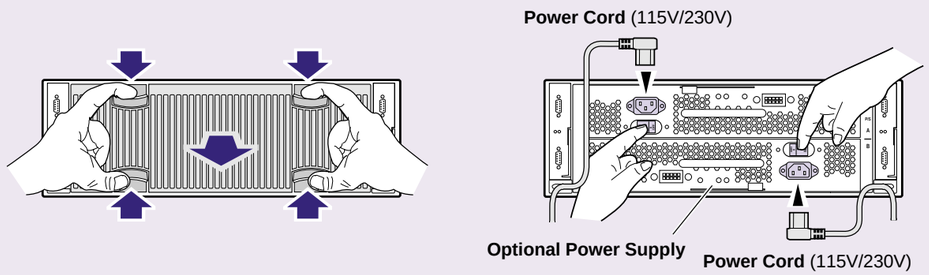
1 Connect Fibre Channel cabling.



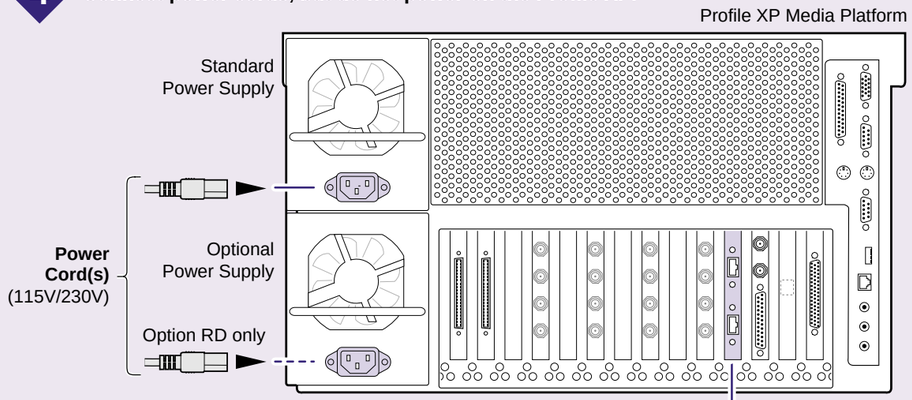
2 Set required chassis addresses as shown in Step 1.



3 Connect power cords, and turn on power as shown. Begin with PFC500E(s), if installed.



4 Connect power cords, but do not power-on the Profile XP.



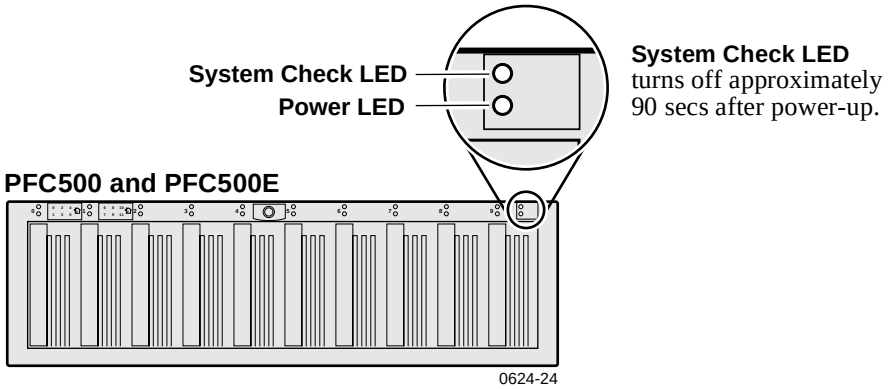
0718-2

4 Start your PVS2000 system

To start your system:

1. Turn on power to all peripheral devices connected to the PVS2000.
2. Verify that the **System Check LED** is out on the PFC500 Fibre Channel RAID Chassis and all PFC500E Expansion Chassis, if installed.

   Refer to the *PFC500 Instruction Manual* for more information if the System Check LED remains lit.



NOTE: Do not power-on the PVS2000 until the PFC500 Fibre Channel RAID storage system is fully initialized; approximately 2-3 minutes.

3. Turn on the PVS2000 using the front panel standby switch, and wait for Windows NT to initialize and perform auto-logon. The Windows NT desktop will appear after successful auto-logon.

   During initialization, the Profile XP system software checks the PFC500 storage system for a video file system. Since at first power-up one is not found, an error message may be displayed regarding loss of the video file system.

   Proceed with the next procedure to create a new video file system.

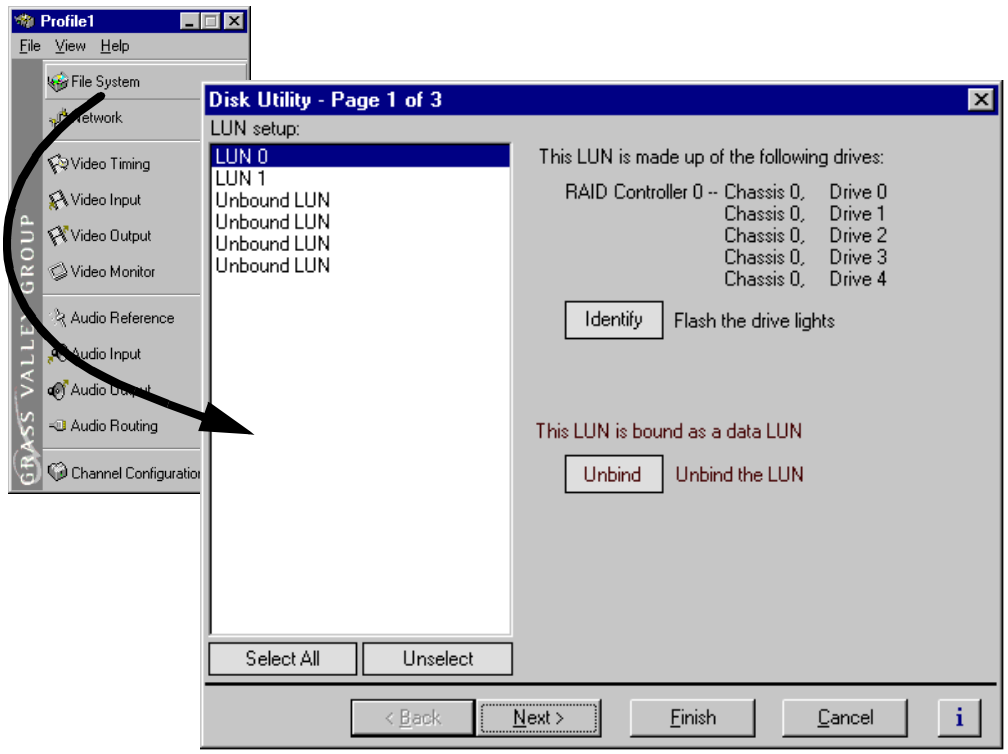
5 Create a video file system

Before you can use your PVS2000 system, you must create a video file system on the PFC500 Fibre Channel RAID Chassis using the Disk Utility.

NOTE: If you want to configure some drives as hot spare drives, do not perform this procedure. Instead, perform the procedures found in Chapter 3 of the *Profile XP System Guide* ***in the section titled "Configuring storage using Disk Utility", then proceed with the next procedure in this guide to select audio I/O format.***

To create a video file system:

1. Start Configuration Manager using the desktop shortcut or by selecting **Start | Programs | Profile Apps | Configuration Manager**. The Configuration Manager dialog box appears.



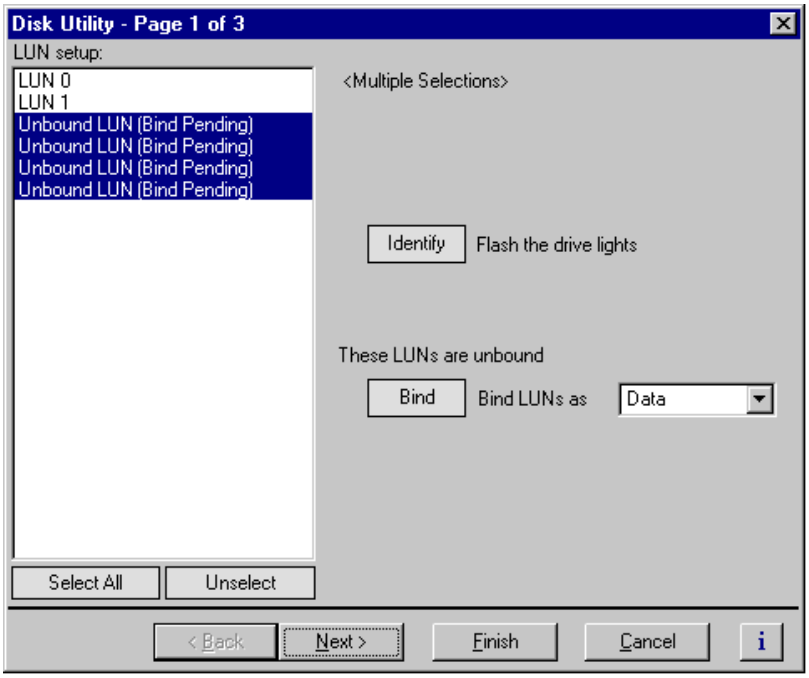
2. Click **File System** in the Configuration Manager window. Page 1 of the Disk Utility dialog box appears.

   This example shows a 30 disk system.

3. If there are Unbound LUNs displayed in the LUN setup list, you must perform the following steps, otherwise, proceed to step 4.

   a. Select all Unbound LUNs using **SHIFT** or **CTRL** and click.

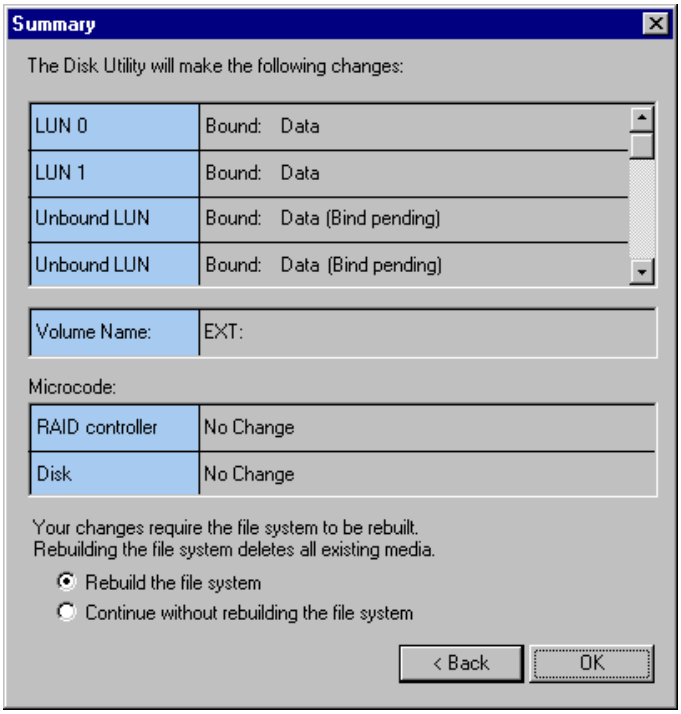
   b. Verify the LUN type selected is **Data** using the drop-down list.



   c. Click **Bind**.

      The list now shows the Unbound LUN status as **Bind Pending**.

4. Click **Finish**. The summary dialog box appears.



5. Select **Rebuild the file system**, then click **OK** in the Summary dialog box.
6. Read the warning message, then click **OK** to bind all unbound LUNs and create a file system.

   Binding 18GB drives - approximately one hour total

   Binding 36GB drives - approximately two hours total

   Creating a file system - if you have no unbound LUNs, creating the file system takes only a few seconds.
7. When the operation is complete, continue with the next procedure in this guide to select audio I/O format.

6 Select audio I/O format

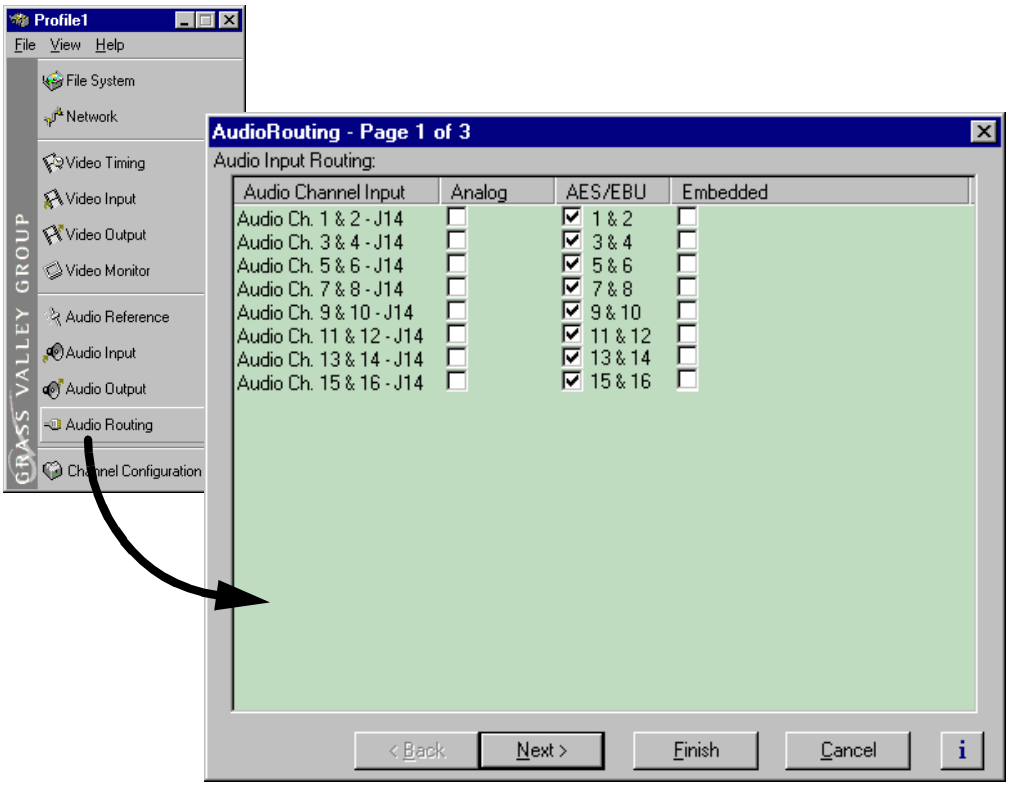
You must select the audio I/O format for the audio channels assigned to the default video channels.

The PVS2000 supports three audio I/O formats: AES/EBU, embedded audio (SMPTE 272M Level A), and analog audio formats. An interface chassis is required for analog audio and AES/EBU digital audio. If you are using only embedded audio, no interface chassis is required.

Select audio input format

To select audio input format:

1. Click **Audio Routing** in the Configuration Manager window. The Audio Input Routing dialog box appears.

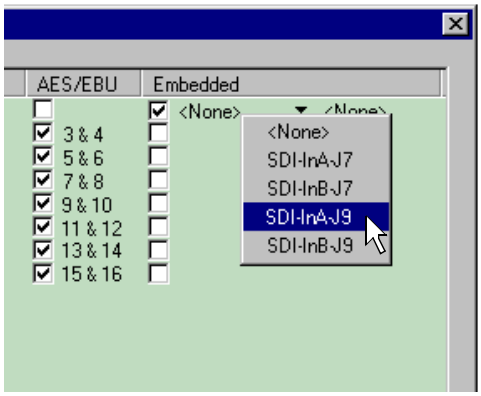


2. Select the audio input format for each PVS2000 audio channel pair.

3. If you selected embedded audio format, perform the following steps for each audio channel input pair requiring embedded audio:

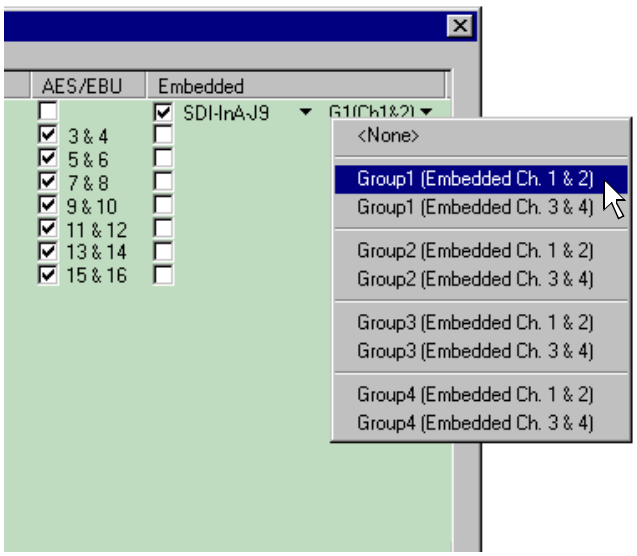
   a. Click the left-hand drop-down list arrow in the Embedded column for the channel pair you want to configure, and select a video input as shown.

NOTE: With one audio board, only the first 4 video inputs are selectable.



   b. Click the right-hand drop-down list arrow in the Embedded column for the channel pair you want to configure, and select an audio group and channel pair as shown.

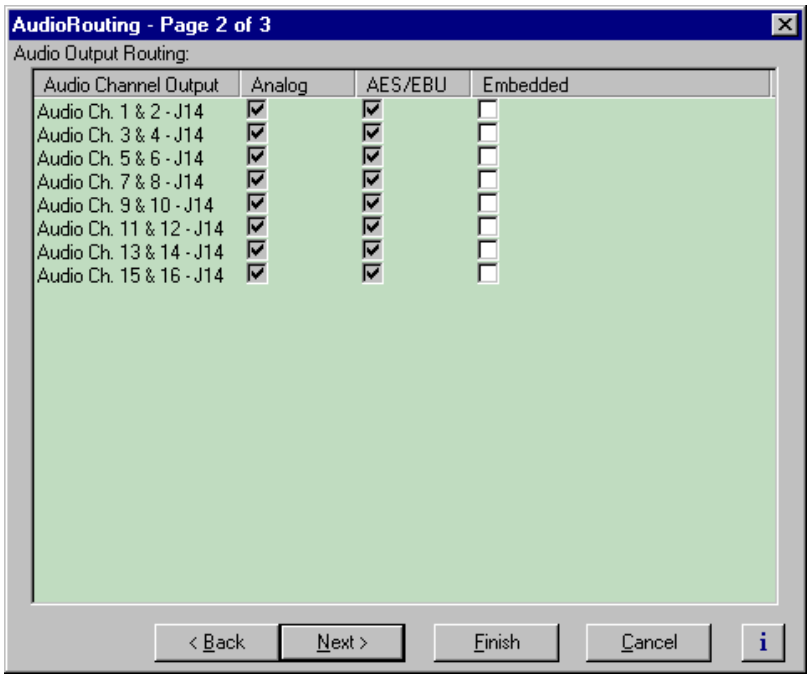
NOTE: Up to two audio groups (8 audio channels) can be extracted from a single video input.



Select audio output format

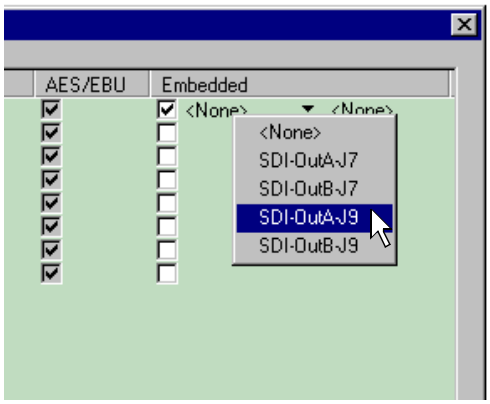
To select audio output format:

1. Click **Next** to navigate to Page 2 of the Audio Output Routing dialog box as shown.



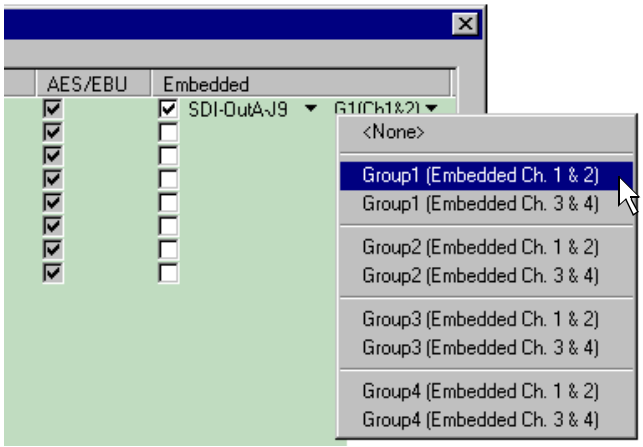
2. For AES/EBU or Analog audio, no selection is required. These audio formats are selected automatically when the system sees the audio interface is attached.
3. Select embedded audio output using the following steps:
   a. For embedded audio, select the **Embedded** check box for each audio channel pair that require embedded audio.
   b. Click the left-hand drop-down list arrow in the **Embedded** column for the channel pair you want to configure, and select a video output as shown.

NOTE: With one audio board, only the first 4 video outputs are selectable.



c. Click the right-hand drop-down list arrow in the **Embedded** column for the channel pair you want to configure, and select an audio group and channel pair as shown.

NOTE: Up to two audio groups (8 audio channels) can be embedded on a single video output.



4. Click **Finish** to save your settings.
5. Continue with the next procedure in this guide to test your system setup.

❼ Test your system setup using VdrPanel

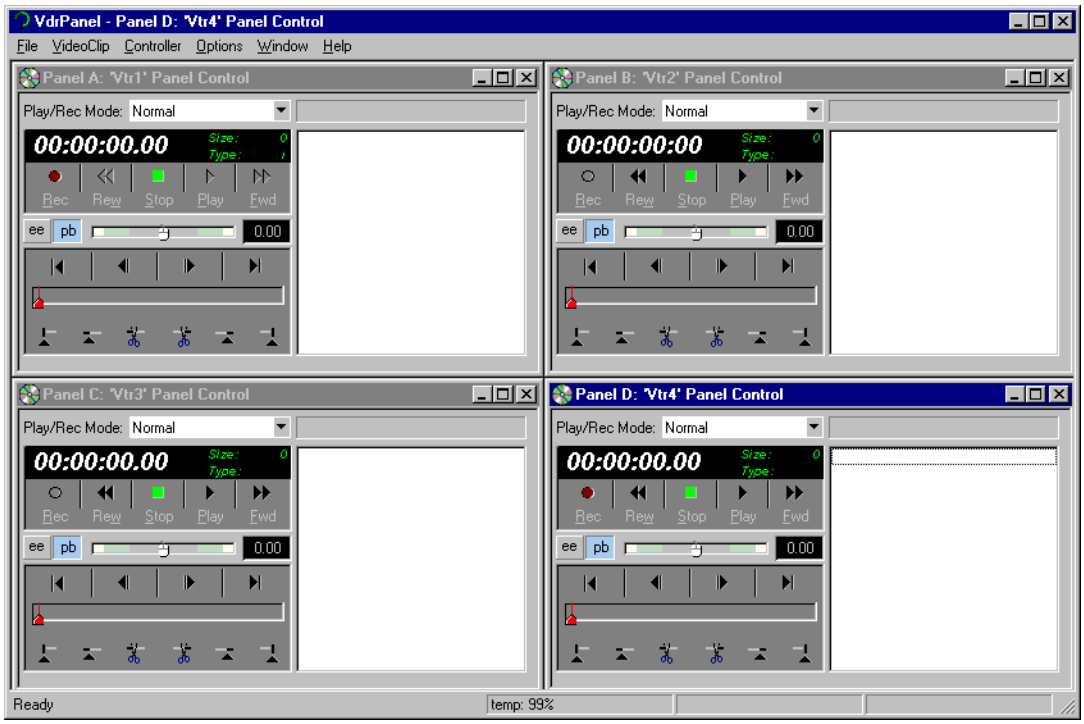
In this step, you will use VdrPanel in local control to test the record and play channels. This procedure assumes you have video and audio signals connected to the inputs of all record channels and have a way of monitoring the video, audio, and timecode outputs.

In systems without record channels you must use the video network to transfer a clip from another Profile. (See “Using Media Manager” in the *Profile XP User Manual*).

To test PVS2000 channels using VdrPanel:

1. Start VdrPanel using the desktop shortcut or by selecting **Start | Programs | Profile Applications | VdrPanel**. The VdrPanel window appears.

NOTE: The first time VdrPanel runs, a panel opens for each default record and play channel. The number of default channels depends on your PVS2000 model. Refer to “Default Video Connections” on page 5.



2. Record a short clip, a few seconds in duration as follows:
   a. Click the **Record** button in the panel for a record channel. Recording starts. The **Size** display indicates compressed frame sizes during record as timecode advances in the Timecode display.
   b. Click the **Stop** button to end the recording. Notice the clip name in the clip list is #1.

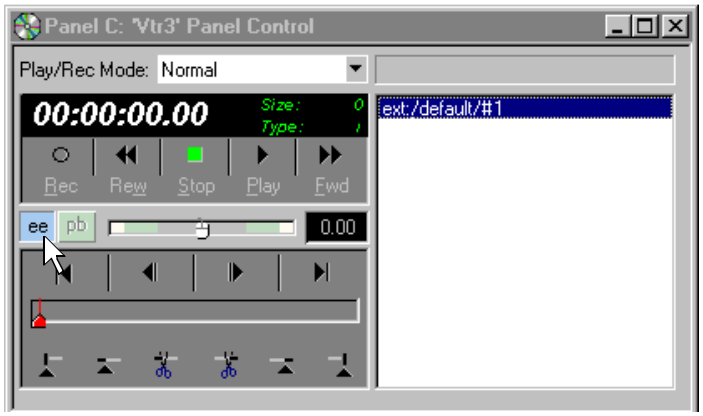
3. Load and play a clip on each Play Channel as follows:
   a. Click anywhere in the panel for a Play Channel.
   b. Select **VideoClip | Load Clip** to open the Load Clip dialog box.
   c. Select clip #1 in the clip list, then click **OK** to load the clip.
   d. Click **Play** and verify that video, audio are present at the channel outputs. If you have a problem, refer to the Chapter 10, “Solving Common Setup Problems” in the *Profile XP System Guide*.
4. Use steps 2 and 3 to test all record and play channels.
5. Continue with the next procedure in this guide to adjust video timing.

8 Adjust video output timing

All playback channels are zero timed by default, however, video output timing adjustment is provided to meet downstream timing requirements if needed. In this procedure you will load a clip and verify the output timing for each play channel.

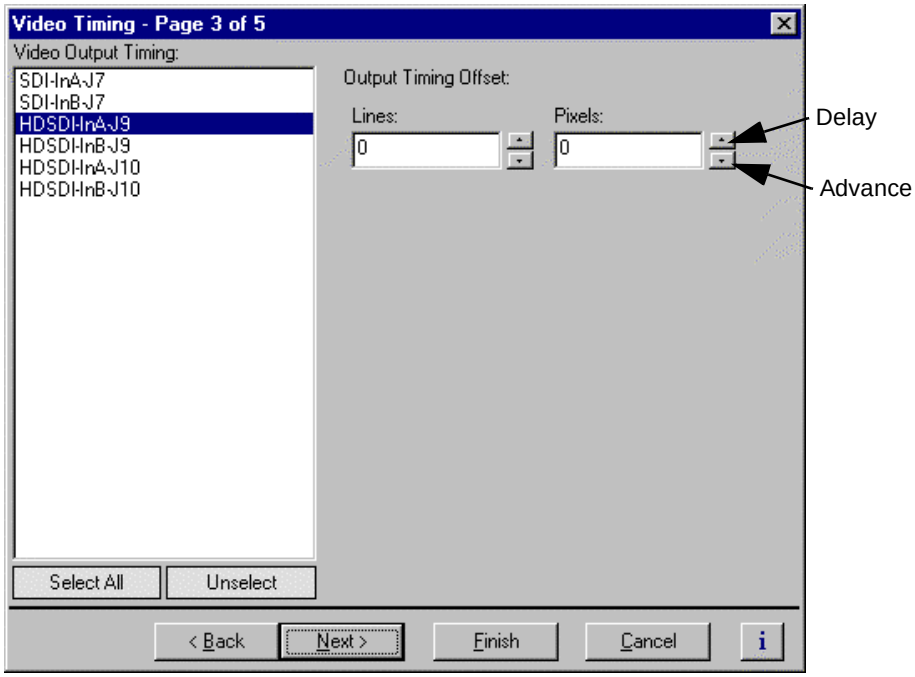
To adjust video output timing:

1. In VdrPanel, load and playback a clip as follows:
   a. Click anywhere in the panel for the first Play Channel.
   b. Select **Video Clip | Load Clip** to open the Load Clip dialog box.
   c. Select a clip to load, then click **OK**.



   d. Click the **ee** (ee) button in the panel.
   e. Repeat step a through step d for all Play channels.

2. Select **Video Timing** in the Configuration Manager window. Page 1 of the Video Timing dialog box appears.
3. Click **Next** to navigate to page 2 of 3.



4. Select the video output from the list, then adjust the video output timing with the timing controls.

NOTE: Use the Select All button to enter the same offset for all video outputs.

5. Repeat step 4 for each video output.
6. Click **Finish** to save you settings.
7. Continue with the next procedure in this guide to select RS-422 control protocol.

9 Select an RS-422 control protocol

PVS 2000 remote control protocols are shown in the table. Follow the procedure indicated for the remote control protocol you want to use. If you are not using RS-422 control, you can skip this step

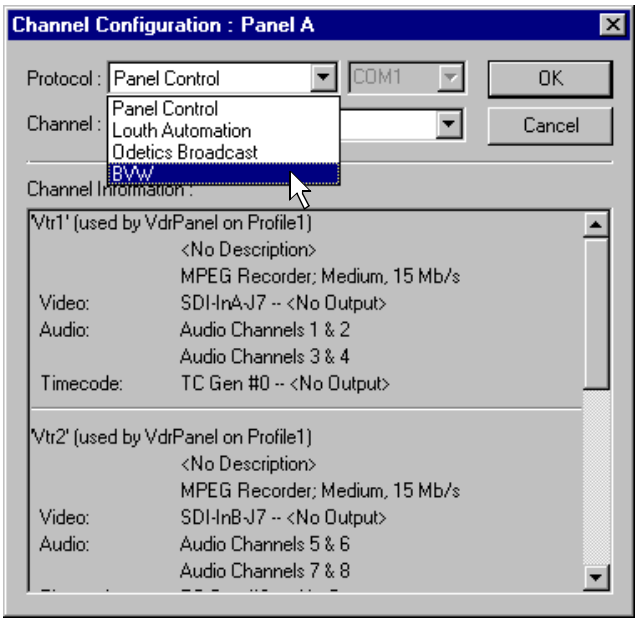
Protocols Available	Application to Use	Procedure to Follow
Louth Protocol Odetics Protocol BVW Protocol	VdrPanel	Setting up RS-422 remote control in VdrPanel
Profile Protocol	Prolink	Setting up RS-422 remote control using Prolink (Profile protocol)

NOTE: Some third-party applications also support the General Purpose Interface (GPI). Refer to your vendor's documentation for instructions on using GPI triggers.

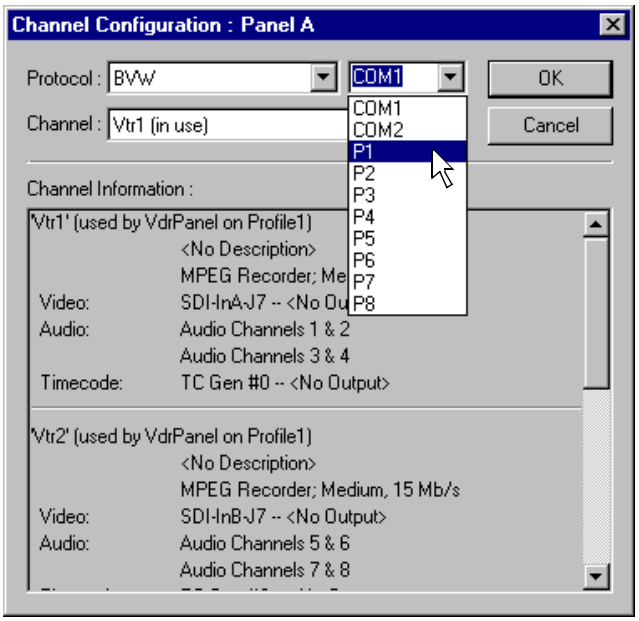
Setting up RS-422 remote control in VdrPanel

To setup a VdrPanel for remote control:

1. If VdrPanel is not already running, start it using the desktop shortcut or by selecting **Start | Programs | Profile Applications | VdrPanel**. The VdrPanel window appears.
2. In VdrPanel, click in the panel you want to set up for remote control.
3. Choose **Controller | Configure** to open the Channel Configuration dialog box, then select a control protocol using the **Protocol** drop-down list as shown.



4. Select a serial port using the port select drop-down list as shown. COM1 and COM2 are RS-232 ports on the PVS2000 rear panel. P1 through P8 are RS-422 ports on the I/O Panel.



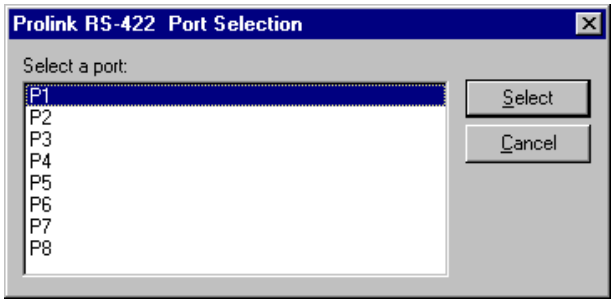
5. Click **OK** in the Channel Configuration dialog box.
6. Repeat step 2 through step 5 for the remaining panels.
7. Test the system using your automation controller.

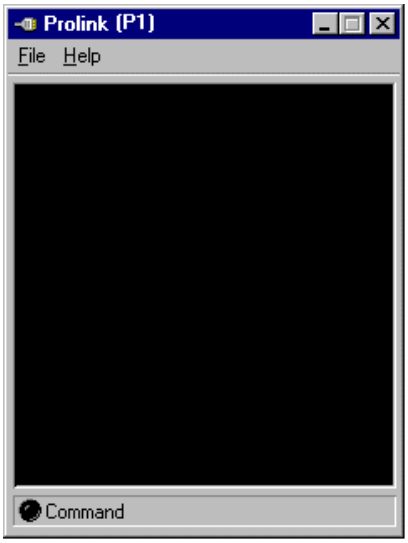
   This completes all the procedures in this *Installation Guide*. Refer to the *Profile XP System Guide* for more information on customizing settings for your application.

Setting up RS-422 remote control using Prolink (Profile protocol)

Use this procedure to start and set up Prolink to control the PVS2000 using Profile protocol.

1. Close VdrPanel if you used it earlier to test your record and play channels.
2. Open Prolink using the shortcut on the desktop or by selecting **Start | Programs | Profile Applications | Prolink**.
3. Select an RS-422 serial port, then click **Select**. The Prolink window appears.





4. Test the PVS2000 system using your controller.
5. Repeat steps 2-4 for the number of control ports you need to control the PVS2000 using Profile protocol.

NOTE: For more information on the Prolink user interface see Chapter 8, "Controlling the Profile XP Remotely" in the *Profile XP System Guide.*

This completes all the procedures in this *Installation Guide*. Refer to the *Profile XP System Guide* for more information on customizing settings for your application.

Grass Valley Group Product Support

You can get technical assistance, check on the status of problems, or report new problems by contacting our Product Support Group.

United States and Canada

Monday–Friday 5:30AM–5:00PM Pacific Time
(800) 547-8949

Europe

Monday–Friday 9:00AM–5:30PM

France	01 69 86 83 47	United Kingdom	01628 405830
Germany	0221 9477 446	Other	+44 1628 405840
Italy	02 25086606		

Asia and South America

Australia	02-9888 0100	Japan	81-3-3448-3111
- from overseas	61-2-9888 0100	Korea	82-2-528-5299
Beijing	86-10-62351230 ext. 711	Mexico	52-5-666-6333
		Singapore	65-356-3900
Brazil	55-11-3741-8422	Taiwan	886-2-27571571
Hong Kong	852-25856655		

World Wide

24-hour Emergency Hotline (530) 478-4148 (Contract and warranty customers)

World Wide Web	http://www.grassvalleygroup.com/support/
FTP Site	ftp.grassvalleygroup.com
Users Group	profile-users@grassvalleygroup.com