



PAC 216 UPGRADE

Installation Manual

071-0108-01
NOVEMBER 2000

PROFILE FAMILY
VIDEO FILE SERVERS

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Revision Status

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December 1997	Original issue. Manual Part Number 071-0108-00.
November 2000	Revised Product Support contact information. Part Number 071-8071-01.

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 45 29 73 00	United Kingdom	01628 405830
Germany	49 221 1791 234	Other	+44 1753 218 777
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	Mexico	52-5-666-6333
	ext. 711	Singapore	65-356-3900
Brazil	55-11-3741-8422	Taiwan	886-2-27571571
Hong Kong	852-2585-6579		

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
E-mail	profile-users@grassvalleygroup.com



General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it.

Only qualified personnel should perform service procedures.

While using this product, you may need to access other parts of the system. Read the general safety summary in other system manuals for warnings and cautions related to operating the system.

Injury Precautions

Use Proper Power Cord

To avoid fire hazard, use only the power cord specified for this product.

Ground the Product

This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

Do Not Operate Without Product Covers in Place

To avoid electric shock or fire hazard, do not operate this product with covers or panels removed.

Use Proper Fuse

To avoid fire hazard, use only the fuse type and rating specified for this product.

Do Not Operate in Wet/Damp Conditions

To avoid electric shock, do not operate this product in wet or damp conditions.

Do Not Operate in an Explosive Atmosphere

To avoid injury or fire hazard, do not operate this product in an explosive atmosphere.

Avoid Exposed Circuitry

To avoid injury, remove jewelry such as rings, watches, and other metallic objects. Do not touch exposed connections and components when power is present.

Product Damage Precautions

Use the Proper Power Source	Do not operate this product from a power source that applies more than the voltage specified.
Use the Proper Voltage Setting	Ensure that the line selector is in the proper position for the power source before applying power.
Provide Proper Ventilation	Prevent product overheating by providing proper ventilation.
Do Not Operate If You Suspect Product Failures	If you suspect there is damage to this product, have it inspected by qualified service personnel.

Safety Terms and Symbols

Terms in This Manual These terms may appear in this manual:



WARNING: Warning statements identify conditions or practices that can result in personal injury or loss of life.



CAUTION: Caution statements identify conditions or practices that can result in damage to the equipment or other property.

Terms on the Product These terms may appear on the product:

DANGER indicates a personal injury hazard immediately accessible as one reads the marking.

WARNING indicates a personal injury hazard not immediately accessible as you read the marking.

CAUTION indicates a hazard to property, including the product.



Symbols on the Product

The following symbols may appear on the product:



DANGER high voltage



Protective ground (earth) terminal



ATTENTION – refer to manual

Service Safety Summary



WARNING: *These instructions are for use by qualified service personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries before performing service.*

Do Not Service Alone

Do not perform internal service or adjustment of this product unless another person capable of rendering first aid and resuscitation is present.

Disconnect Power

To avoid electric shock, disconnect the main power by means of the power cord or, if provided, the power switch.

Use Care When Servicing With Power On

Dangerous voltages or currents may exist in this product. Disconnect power and remove battery (if applicable) before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.

Certifications and Compliances

Canadian Certified Power Cords

Canadian approval includes the products and power cords appropriate for use in the North America power network. All other power cords supplied are approved for the country of use.

Canadian Certified AC Adapter

Canadian approval includes the AC adapters appropriate for use in the North America power network. All other AC adapters supplied are approved for the country of use.

FCC Emission Control

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by Grass Valley Group can affect emission compliance and could void the user's authority to operate this equipment.

Canadian EMC Notice of Compliance

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

EN55022 Class A Warning

For products that comply with Class A. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



Certification

Category	Standard
Safety	<i>Designed/tested for compliance with:</i> UL1950 – Safety of Information Technology Equipment, including Electrical Business Equipment (Third Edition, 1995) IEC 950 – Safety of Information Technology Equipment, including Electrical Business Equipment (Second edition, 1991) CAN/CSA C22.2, No. 950-95 – Safety of Information Technology Equipment, including Electrical Business Equipment EN60950 – Safety of Information Technology Equipment, including Electrical Business Equipment (includes Appendix ZB)

PAC 216 Upgrade Installation

Introduction

These instructions show you how to install a daughter card in a PAC208 Analog/Digital Interface to upgrade it to a PAC216, providing an additional eight channels of audio, for a total of 16. The PAC208 is housed in a PAC200 Audio Chassis and is identified by a model/serial number sticker on the side of the unit. By installing the daughter card in the PAC200 Audio Chassis and attaching the PAC XLR Breakout Panel, the audio chassis is upgraded from a PAC208 to a PAC216. The audio chassis is attached to an Audio Signal Processing Board (ASPB) in your Profile disk recorder via an ASPB cable with an 80-pin connector.

NOTE: These instructions assume that you already have a PAC208.

The instructions include procedures for:

- Opening the PAC200 Audio Chassis.
- Installing brackets for the new daughter card.
- Installing the new daughter card.
- Closing the PAC200 Audio Chassis.
- Connecting the PAC XLR Breakout Panel.
- Verifying that the installed board is functioning correctly.

System Requirements

The Profile system software installed in the Profile system must be version 2.1 or higher. To check the software version installed in your Profile system, open the VrdPanel application and choose **Help | About VdrPanel**. The software version is listed in the Product Version field in the displayed window.



Kit Contents

This PAC upgrade kit includes the following:

- Audio interface chassis daughter card.
- This installation manual and a warranty card.
- Three mounting brackets with five T15 screws.
- A PAC XLR Breakout Panel with cable.

Tools Required

Tools required, but not supplied, to install this kit are:

- A Torx tool with a T15 tip.
- Electrostatic discharge (ESD) grounding straps.

Electrostatic Precautions



CAUTION: This product contains components that are highly sensitive to electrostatic discharge. To protect these components from damage and to maintain product reliability, take the following precautions when handling the circuit boards:

- ***Handle all circuit boards in a static-protected area capable of controlling static charge on conductive materials, people, and nonconductive materials. Static-protected areas include nonstatic table tops and nonstatic floor mats.***
- ***Handle the circuit boards only by the edges. Avoid touching the printed wires on the back of the circuit board as much as possible.***
- ***Leave the board in its ESD static-shielded bag until you are ready to install the board.***

Installation Procedures

The procedures that follow take you step-by-step through the installation of the upgrade. You can install the daughter card with the unit's chassis fully extended on the rack slides if the equipment rack is adequately mounted to prevent tipping, and if there is sufficient slack in the cables connected to the rear panel to allow the chassis to fully extend on the slides.

If it is necessary for you to remove the PAC200 Audio Chassis from the equipment rack to perform this installation, refer to the Profile system's installation manual for instructions.



WARNING: Unless the equipment rack is adequately anchored, the rack could tip when the chassis is extended on the rack slides. To avoid possible injury, make sure the rack is firmly anchored before extending the chassis on the rack slides.



Removing the Chassis Cover

To remove the chassis cover, refer to Figure 1 and:

1. Turn PAC200 power off and remove the power cord.
2. Use the Torx tool with the T15 tip to remove the four screws from the chassis cover: two on top and two in the rear, as shown in Figure 1.

NOTE: Take care not to lose these chassis screws. They are required to meet the EMI specifications for the PAC208.

3. Lift the cover from the chassis and set aside.

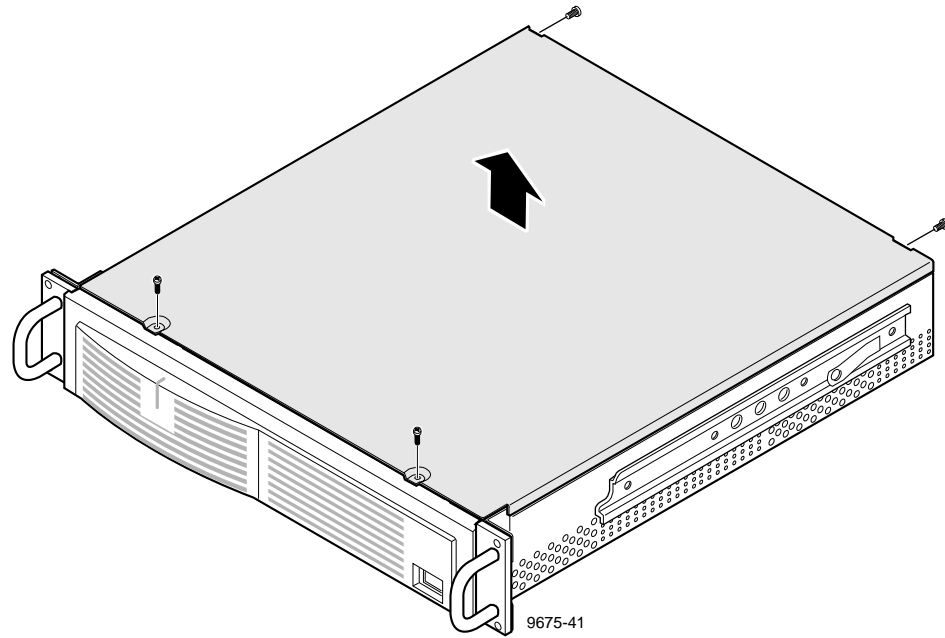


Figure 1. Removing the PAC200 audio chassis cover



Install Mounting Brackets

Use the following procedure to remove the bracket screws from the motherboard and then install the mounting brackets.

1. Use the Torx tool with the T15 tip to remove the three screws from the motherboard inside the chassis (❶ in Figure 2).
2. Install the three mounting brackets (❷ in Figure 2) using the three screws removed in step 1. Make sure to orient the dimple on the bottom of the bracket with the corresponding hole in the motherboard.

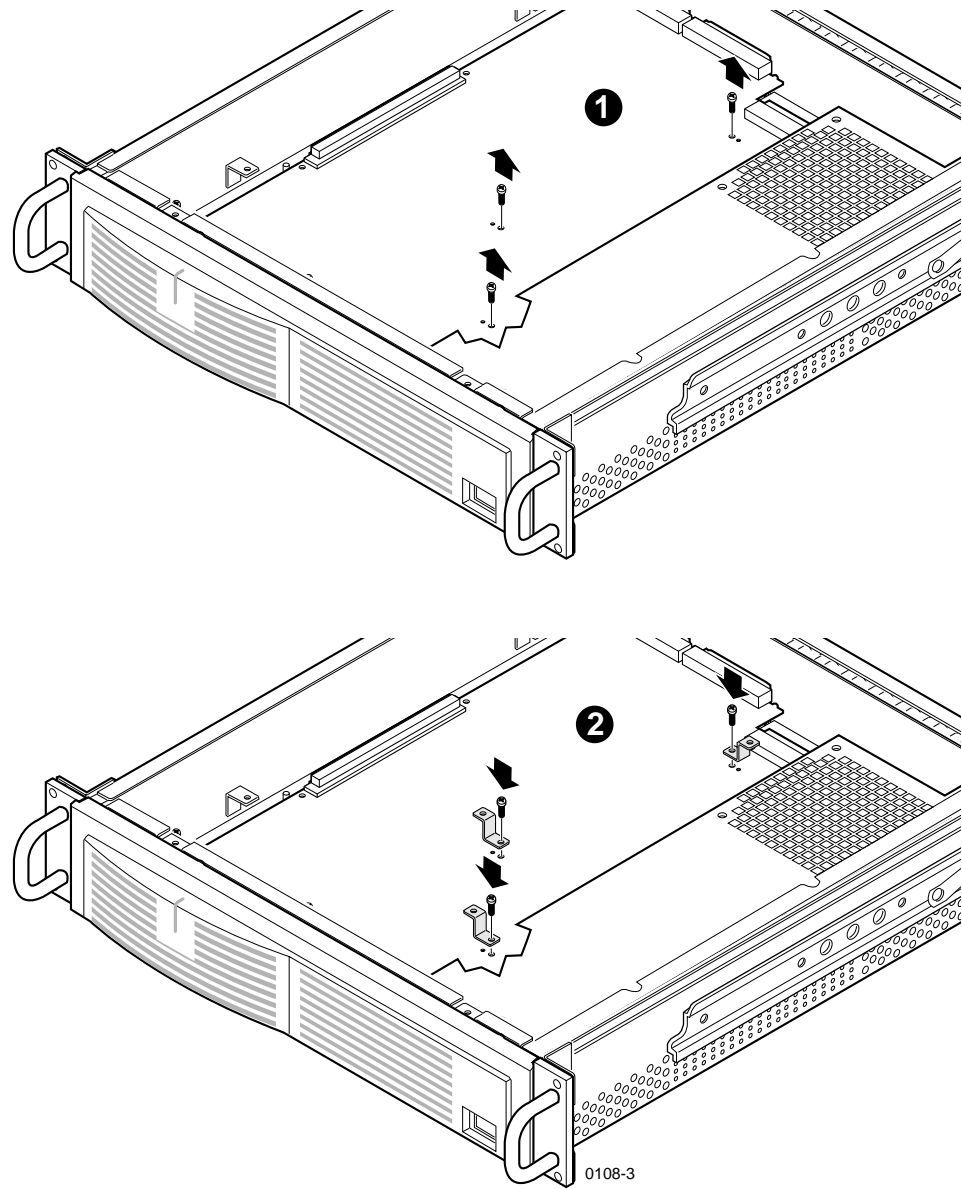


Figure 2. Removing screws from motherboard and installing mounting brackets



Installing the Daughter Card

Follow this procedure to install the daughter card:

1. Handling the edges of the daughter card, carefully align the screw holes with the brackets.
2. Press down the expansion connector pins to seat the expansion connector in the motherboard (❶ in Figure 3).
3. Using the Torx tool with the T15 tip, attach the daughter card to the five brackets with five T15 head screws supplied in the kit (❷ in Figure 3).
4. Replace the chassis cover (see Figure 1).
5. If necessary, remount the unit in the rack.

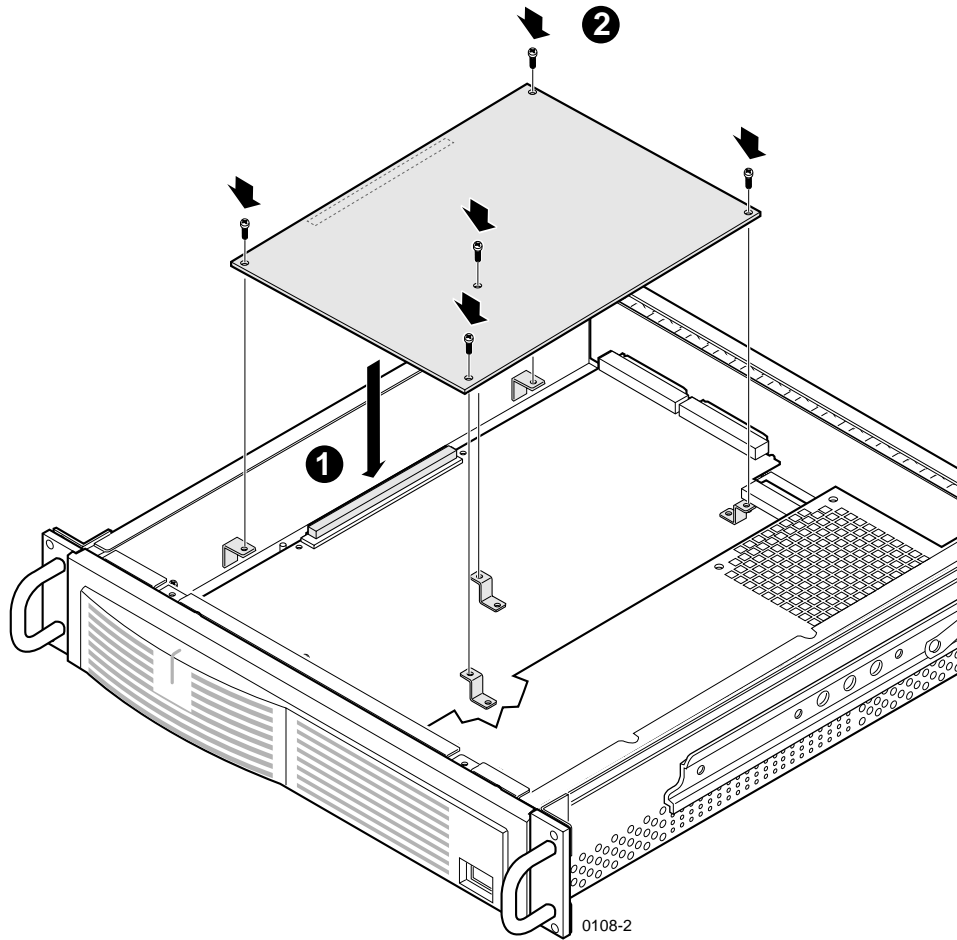


Figure 3. Installing the daughter card



Attaching the PAC XLR Breakout Panel

The PAC XLR Breakout Panel coupled with daughter card in the PAC200 Audio Chassis upgrade a PAC208 to a PAC216. Follow this procedure to attach the PAC XLR Breakout Panel to the PAC200 Audio Chassis.

1. Turn the Profile unit power off.
2. Verify that the power cord is not attached to the PAC200 Audio Chassis and that the power switch is off as well.
3. Reattach the ASPB cable from the connector labeled *Audio I/O* on the back of the Profile unit to the *Main Audio I/O* connector on the back of the PAC200 (PAC208), as shown in Figure 4.
4. Attach the cable that came with the kit from the connector labeled *PAC Breakout* on the back of the PAC200 to the connector labeled *PAC Breakout* on the back of the PAC XLR Breakout Panel, as shown in Figure 4.
5. Turn on the power for the Profile unit.
6. Reattach the power cord into the back of the PAC200 and turn the power on.

NOTE: Follow the procedure under “Installation Verification” on page 12 to verify that the overall installation was successful.

Attaching the PAC XLR Breakout Panel

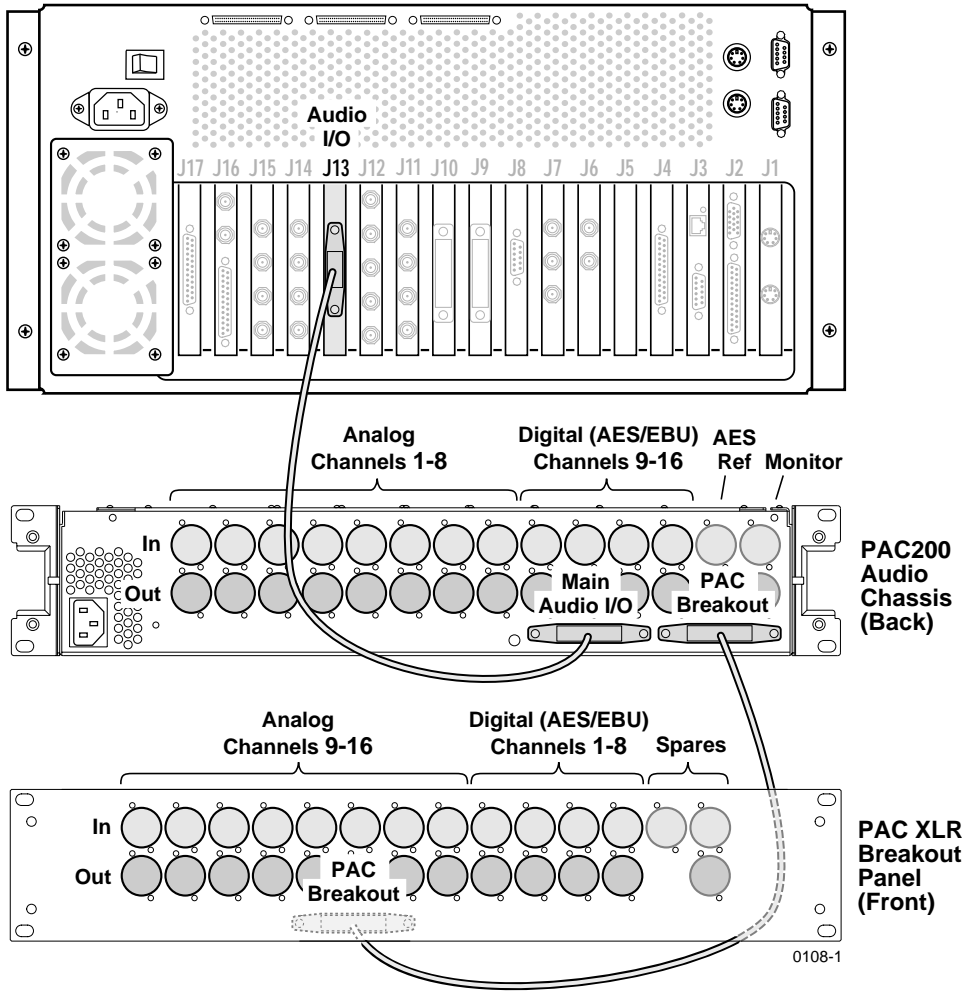


Figure 4. Attaching the PAC XLR breakout panel to the PAC200 audio chassis



Installation Verification

Verification of installation of the PAC216 upgrade consists of ensuring that the system recognizes the daughter card. To check for recognition of the card and that 16 channels of analog and digital audio are available in your Profile system:

1. From the Windows NT desktop, open the Profile Configuration Manager application by choosing **Start | Programs | PDR Applications | Profile Configuration Manager**.
2. In Configuration Manager, choose **Options | Audio Configuration**.
3. Click the **Input Mapping** tab. The Analog In and AES/EBU In columns will show 16 channels of audio instead of eight. Likewise, the **Output Mapping** tab will show 16 channels of audio in the Analog Out and AES/EBU Out columns.
4. Click **OK**.

***NOTE:** If you do not see 16 channels of Analog and AES/EBU digital audio, follow the installation steps again or contact your Grass Valley Group representative. See “Grass Valley Group Product Support” on page iii.*