



ANALOG COMPOSITE OUTPUT

# Installation Manual

071-8080-00

NOVEMBER 2000

**PROFILE PDR 100**  
PROFESSIONAL DISK RECORDER

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## Revision Status

Rev Date	Description
October 1995	Original Issue; Manual Part Number 070-9500-00
November 2000	Revised Product Support contact information. Part Number 071-8080-00.

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# 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)

<b>World Wide Web</b>	<a href="http://www.grassvalleygroup.com/support/">http://www.grassvalleygroup.com/support/</a>
<b>FTP Site</b>	<a href="ftp.grassvalleygroup.com">ftp.grassvalleygroup.com</a>
<b>E-mail</b>	<a href="mailto:profile-users@grassvalleygroup.com">profile-users@grassvalleygroup.com</a>



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*Grass Valley Group Product Support*

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## General 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.***

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

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

**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 while servicing, disconnect the main power by means of the power cord.

**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.

**Avoid Exposed Circuitry**

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

**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.



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## General Safety Summary

### **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.

## **Product Damage Precautions**

### **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 you read 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



## **Certifications and Compliances**

### **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 this installation 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 or her 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 a 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	<p><i>Designed/tested for compliance with:</i></p> <p><b>UL1950</b> – Safety of Information Technology Equipment, including Electrical Business Equipment (Third Edition, 1995)</p> <p><b>IEC 950</b> – Safety of Information Technology Equipment, including Electrical Business Equipment (Second edition, 1991)</p> <p><b>CAN/CSA C22.2, No. 950-95</b> – Safety of Information Technology Equipment, including Electrical Business Equipment</p> <p><b>EN60950</b> – Safety of Information Technology Equipment, including Electrical Business Equipment (includes Appendix ZB)</p>



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*Certifications and Compliances*

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# ***Analog Composite Output Installation***

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## **Kit Description**

This product modification kit adds a circuit board to provide two NTSC analog composite output channels. *Refer to Configuration section in the PDR100 User manual for more information.*

## **Kit Parts List**

- One Analog Composite Output board
- One Audio Clock Routing cable
- One EMI suppression gasket
- One set of PDR100 option labels
- PDR0F3V Installation instructions



## Installation Instructions

***NOTE: Instrument upgrades and repairs should only be attempted by qualified service personnel. For further assistance call your nearest Grass Valley Group Service Center.***

Label wiring connections prior to removal to facilitate reassembly.

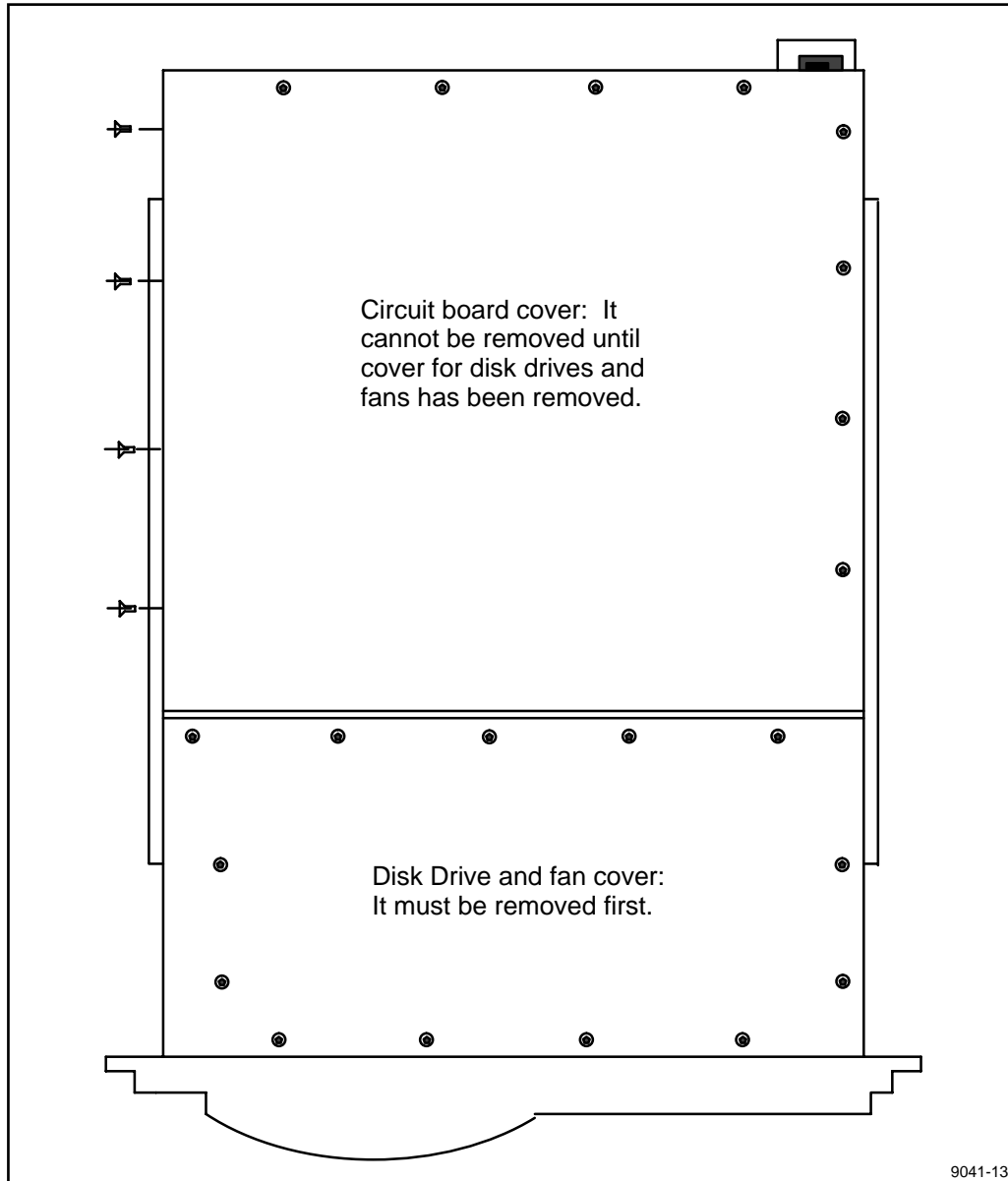
### **Remove the PDR 100 from the Instrument Rack**

1. Remove all cabling connected to the PDR 100.
2. Loosen the front-panel retaining screws.
3. Grasp the handles and pull the PDR 100 out until the slide sections latch. The PDR 100 is firmly held in this position.
4. Press both track stop latch buttons (visible in the stop latch holes) and carefully slide the PDR 100 free of the tracks.

>>> ***CAUTION. Many components in the PDR 100 are susceptible to static-discharge damage. Service the PDR 100 only in a static-free environment while observing standard handling precautions for static-sensitive devices. Always wear grounded wrist and foot straps.***

### **Remove the Instrument Covers**

1. Using a driver with a #10 Torx tip, remove the flat-head screws that hold down the top covers. See Figure 1.
2. Set aside the covers.



**Figure 1. PDR100 Showing Attaching Screws for the Top Covers**



## Remove the Circuit Board Retainers

1. Remove the screw that attaches the tall circuit board retainer to the left side of the chassis and pull the retainer straight up.

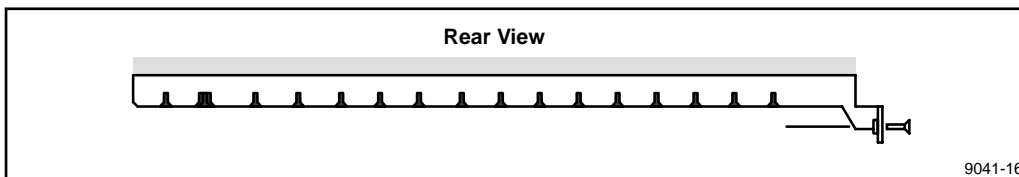


Figure 2. Retainer for Tall Circuit Boards

2. Remove the retainer for the short circuit boards. Remove the attaching screw located in the middle of the retainer. Lift the retainer straight out.

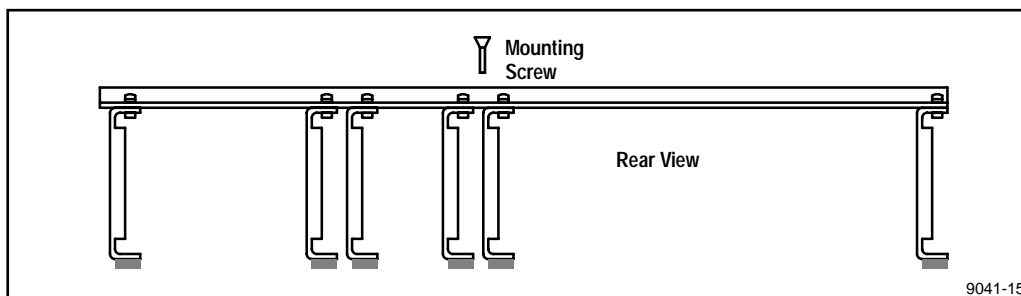


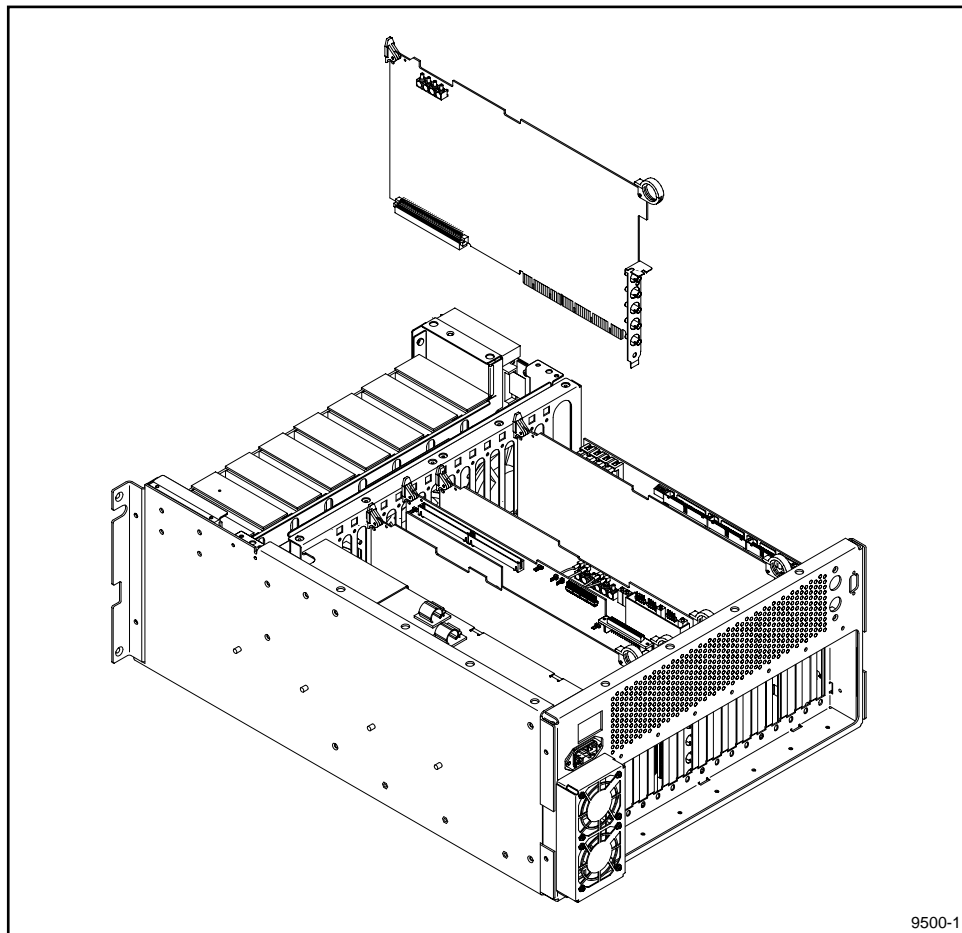
Figure 3. Retainer for Short Circuit Boards

## Install the Analog Composite Output Circuit Board

1. Select slot J11 or J12 for this application. Remove any circuit board that may be installed in this location.
- >>> **CAUTION.** Do not exert any force on the rear panel-connectors when removing or installing circuit boards in the card slots. Two screws hold the circuit board in the card slot, one accessible from the top of the PDR 100 and the other accessible from the rear. Both screws must be removed before the circuit board can be removed.



2. Remove the circuit board panel (bracket) that covers the rear panel slot (J11 or J12) that you selected for this application.
3. Slide the circuit board down into the selected position (J11 or J12). Some resistance will be exerted by the contact pressure of the connectors. Take care not to exert extreme force to seat the circuit board.



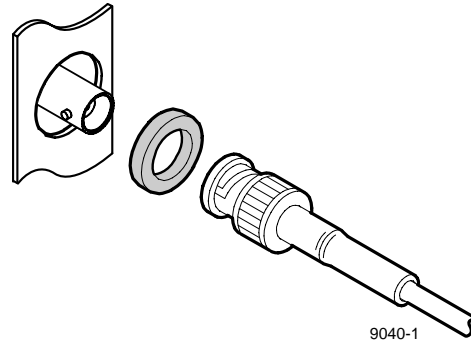
9500-1

**Figure 4. Partial PDR 100 Showing the Analog Composite Output Circuit Board**



## **Reassembly**

1. Install any additional Options (PDR0FXX) at this time. Use the procedures provided with the PDR0FXX kit. Cabling for the Audio Adapter circuit board should be connected at this time. Refer to Figures 6 and 7 for suggested wiring interconnections. *See Audio Adapter (I/O) circuit board Clock Wiring Considerations* on page 7.
2. Install the Torx mounting screw in the top of the circuit board panel (bracket). Use the hardware that was used to attach the blank bracket to the rear panel.
3. Install the Torx mounting screw through the rear panel into the lower part of the circuit board panel (bracket).
4. If it was necessary to change the location of any of the short circuit boards (to accommodate the selected location of the new circuit boards), rearrange the individual ECB holddowns for the short circuit boards to coincide with the new locations. Install the retainer.
5. Install the retainer for the tall circuit boards.
6. Choose the individual labels, that identify the options you have installed, from the label page provided in the kit. Apply the labels to cover the existing identification labeling located on the recessed bottom edge of the rear chassis. The **BANK 1, 2, 3, 4** and **VIDEO 1, 2, 3, 4** slots must be relabeled in ascending order right-to-left as viewed from the PDR 100 rear panel.
7. Install the top covers on the PDR 100.
8. Install the PDR 100 in the instrument rack.
9. Install the appropriate cabling to the rear panel connectors of the PDR 100. To ensure compliance with EMI certification requirements, the mesh washers supplied must be used when connecting BNC connectors to the rear panel. Install the washers as shown in Figure 5.



**Figure 5. Installing Mesh EMI Washers on BNC Connections**

### **Configuration**

1. You must use VdrPanel software V1.2.2 or higher to operate your new hardware option. To check the software version, view release.txt file or upgrade.txt file in the c:\profile directory. If you need a software upgrade contact your Grass Valley Group representative.
2. Start “VdrPanel” and “PDR 100 Configuration Tool” software and review your PDR 100 configuration settings. Please refer to the applicable sections in your User manual as follows:
  - VdrPanel
  - PDR 100 Configuration Tool

### **Audio Adapter (I/O) circuit board Clock Wiring Considerations**

1. If asynchronous video is used, the clock from the Analog Composite Input circuit board must be connected to all Audio Adapter (I/O) circuit boards associated with the Video input.  
If synchronous video is used, the associated Audio Adapter (I/O) circuit board only needs a Play clock attached. Then use the PDR 100 Configuration Tool software to select the Play clock as the source for the Record clock.  
*For both asynchronous and synchronous video, any source of system clock can be used for the Play clock.*



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## *Analog Composite Output Installation*

**Table 1. Circuit Board Identification for Figure 6**

<b>Slot Number</b>	<b>Assembly Number</b>	<b>Circuit Board Name</b>
J1	A10	486 Processor
J2	A20	VGA
J3	A21	LAN
J4	A16	Decoder
J5	A15	Analog Composite Input
J6	A19	Audio Adapter (I/O)
J7		
J8	A16	Decoder
J9	A15	Analog Composite Input
J10	A19	Audio Adapter (I/O)
J11	A17	Analog Composite Output
J12	A19	Audio Adapter (I/O)
J13	A19	Audio Adapter (I/O)
J14	A12	Master Disk Recorder
J15	A13	Slave Disk Recorder
J16	A11	Reference Genlock
J17	A9	RS-422

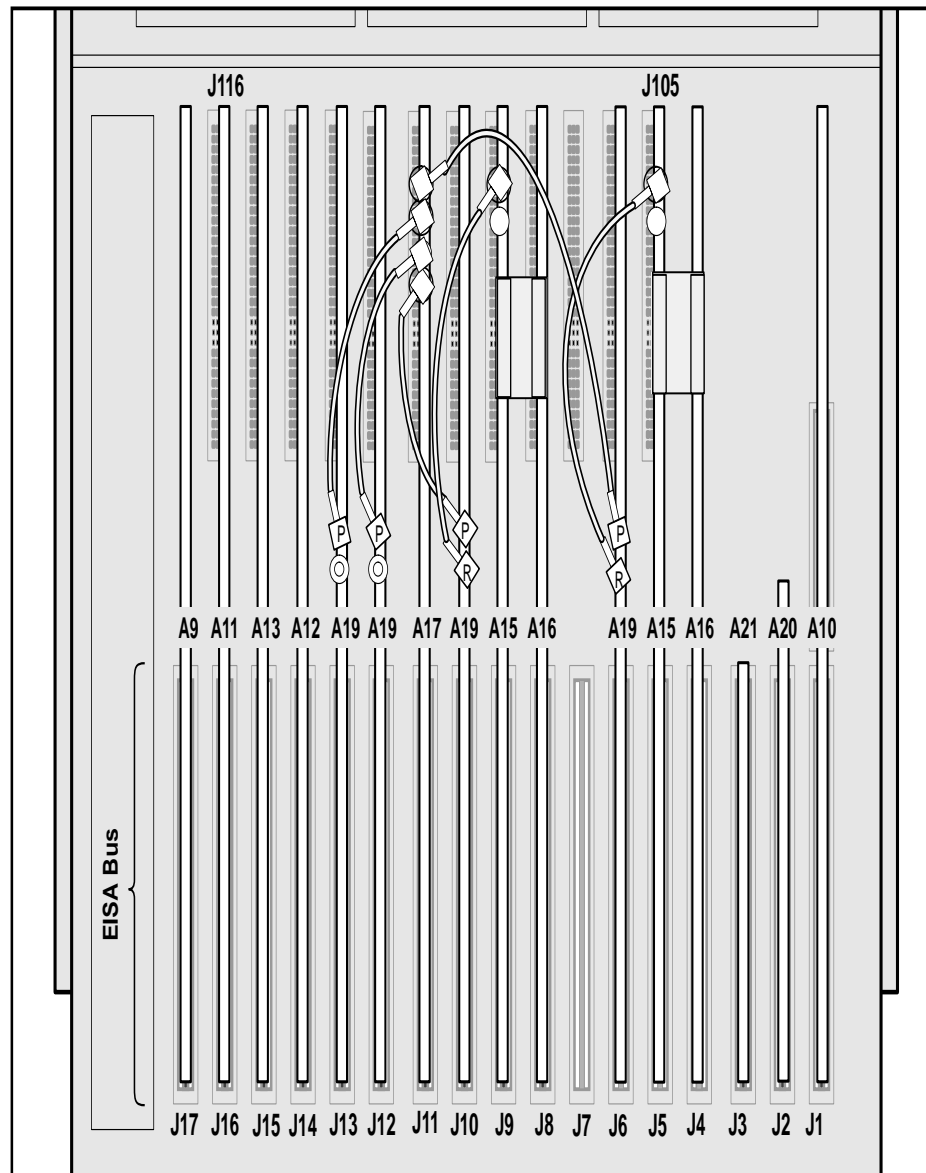


Figure 6. Recommended board locations and interconnecting Cabling for Two Analog Composite Input (PDR0F1V), One Analog Composite Output (PDR0F3V) and Four Audio Adapter I/O (PDR0F1A).



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## *Analog Composite Output Installation*

**Table 2. Circuit Board Identification for Figure 7**

<b>Slot Number</b>	<b>Assembly Number</b>	<b>Circuit Board Name</b>
J1	A10	486 Processor
J2	A20	VGA
J3	A21	LAN
J4	A16	Decoder
J5	A15	Analog Composite Input
J6	A19	Audio Adapter (I/O)
J7		
J8	A14	Serial Component (I/O)
J9	A19	Audio Adapter (I/O)
J10	A19	Audio Adapter (I/O)
J11	A17	Analog Composite Output
J12		
J13	A19	Audio Adapter (I/O)
J14	A12	Master Disk Recorder
J15	A13	Slave Disk Recorder
J16	A11	Reference Genlock
J17	A9	RS-422

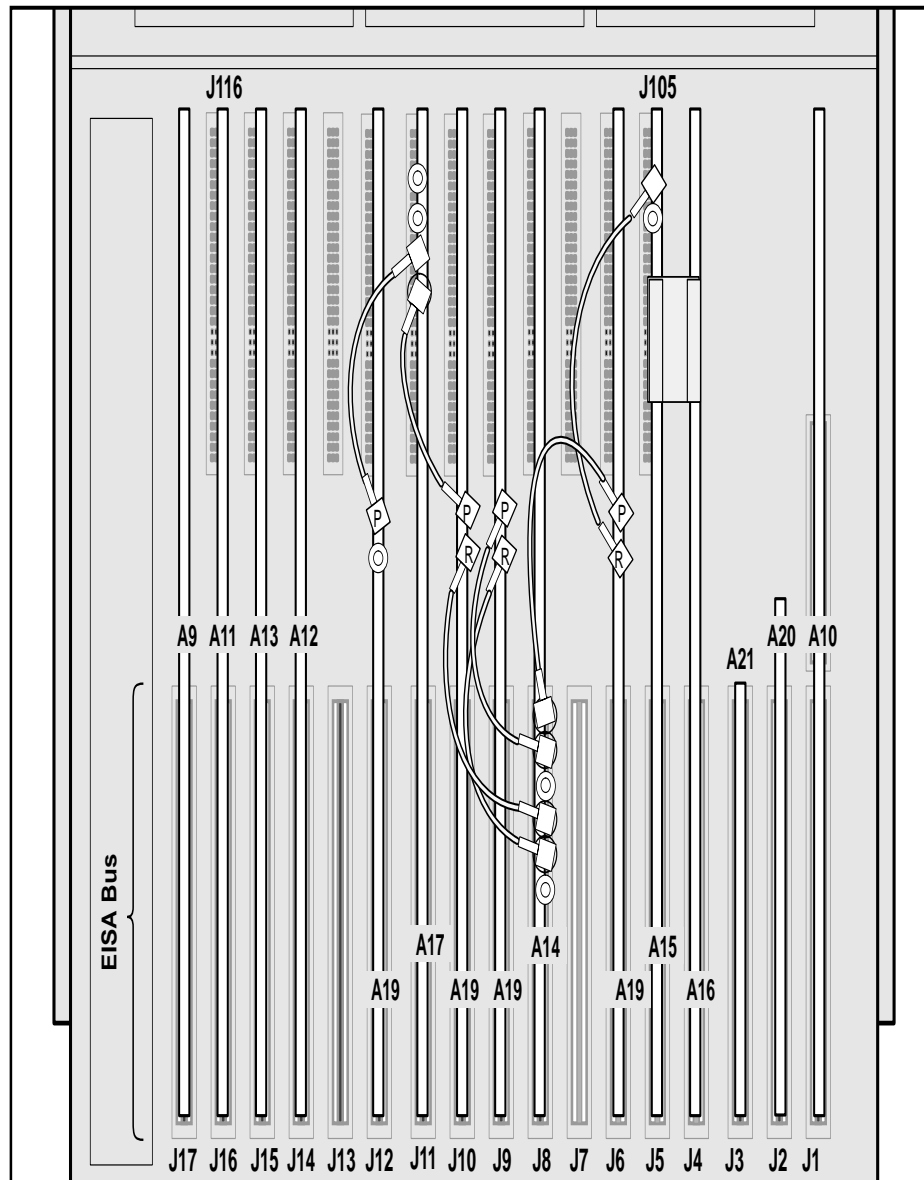


Figure 7. Recommended board locations and interconnecting Cabling for One Analog Input (PDR0F1V), One Analog Composite Output (PDR0F3V), One Serial Component I/O (PDR0F2V) and Four Audio Adapter I/O (PDR0F1A).



## *Analog Composite Output Installation*