GRASS VALLEY GROUP

Instruction Manual

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2000A89
8900 MODULE ADAPTER

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Preface

About This Manual

This manual describes the features of a specific module of the 2000 Series Modular Products family. As part of this module family, it is subject to Safety and Regulatory Compliance described in the 2000 Series frame and power supply documentation (see the *2000 Series Frames Instruction Manual*).

2000A89 Module Adapter Assembly

Introduction

The 2000A89 Module Adapter Assembly consists of a 2000 Series rear media module and front slot adapter that allows compatible 8900 modules to be installed in the front slot of a 2000 Series frame (see *Compatible 8900 Modules on page 5*). The 2000A89 module adapts the 8900 mechanical and electrical connections to the 2000 Series frame. The module has an on-board ±12V power supply to meet 8900 voltage requirements. The 2000A89 assembly includes:

- A rear mount module with:
  - Two BNCs providing a floating-shield 75 Ω loop-through input connection,
  - Eight 75 Ω BNC input/output connectors, and
  - ±12V power supply that is fused on the input side and short-circuit protected on the output side.
- A front frame slot guide assembly to compensate for the width of the narrower 8900 module.

Installation

Installation of the 2000A89 module adapter consists of:

- Installing the adapter board in the corresponding rear media slot,
- Installing the front slot guide assembly in the desired frame slot, and
- Installing the 8900 module.

The 8900 modules can be plugged in and removed from the 2000A89 with power on. Refer to the specific 8900 module manual for power-up, cabling, and configuration information.

Perform the following to install the 2000A89 Adapter:

1. Install the 2000A89 Adapter module in the selected rear slot.

   The module slides into guides on each side of the frame slot and secures on the alignment post on the mid-frame motherboard (refer to Figure 1). Screw locks secure the module in the slot. A Power OK LED should be visible from the front of the frame when power is applied (see *Power Up* *on page 7*).

Figure 1. 2000A89 Adapter Module Installation

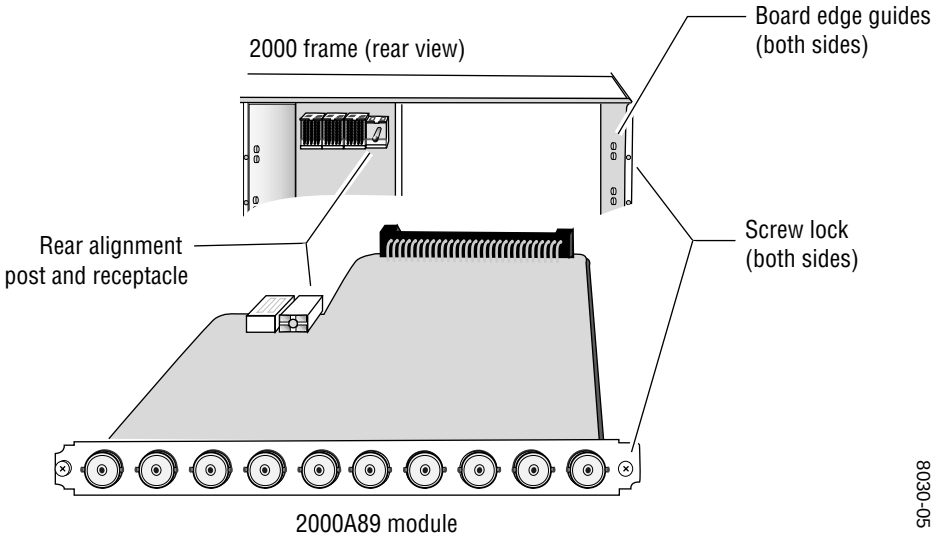
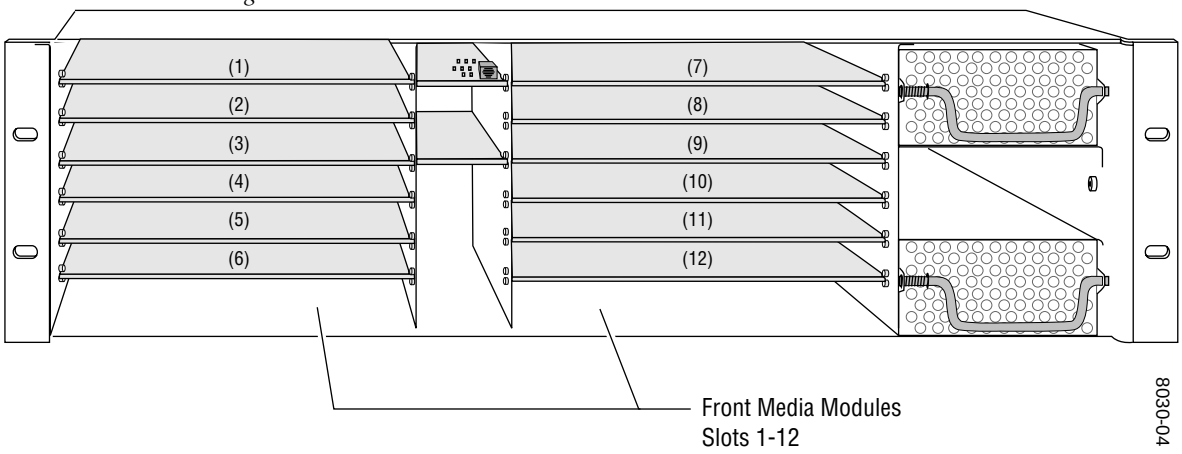


Figure 2. 2000Series Frame

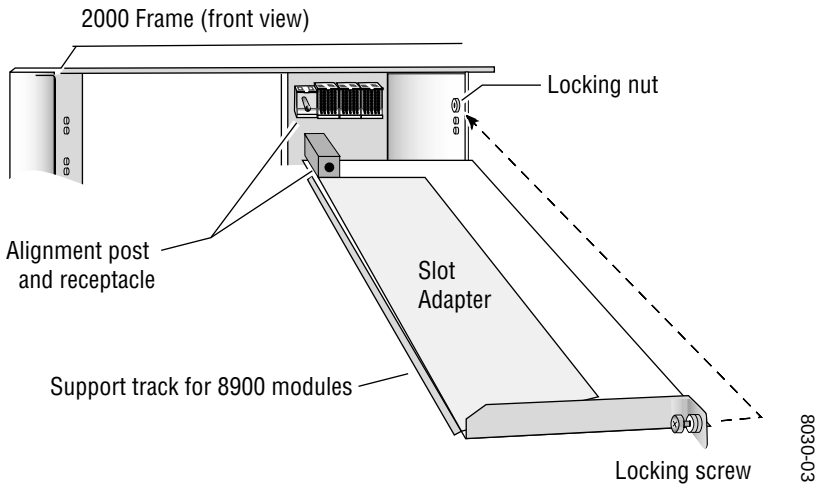


2. Install the Slot Adapter in the selected front media slot.

There are twelve media slot locations in the front of the 2000T3 frame to accommodate either analog or digital modules (Figure 2). The 8900 front slot adapter installed as shown in Figure 3 allows the narrower 8900 module to be installed.

The slot adapter slides along the card guide on the right side of the frame and onto the alignment post on the mid-frame motherboard. The front of the assembly is then secured in the track by the locking screw.

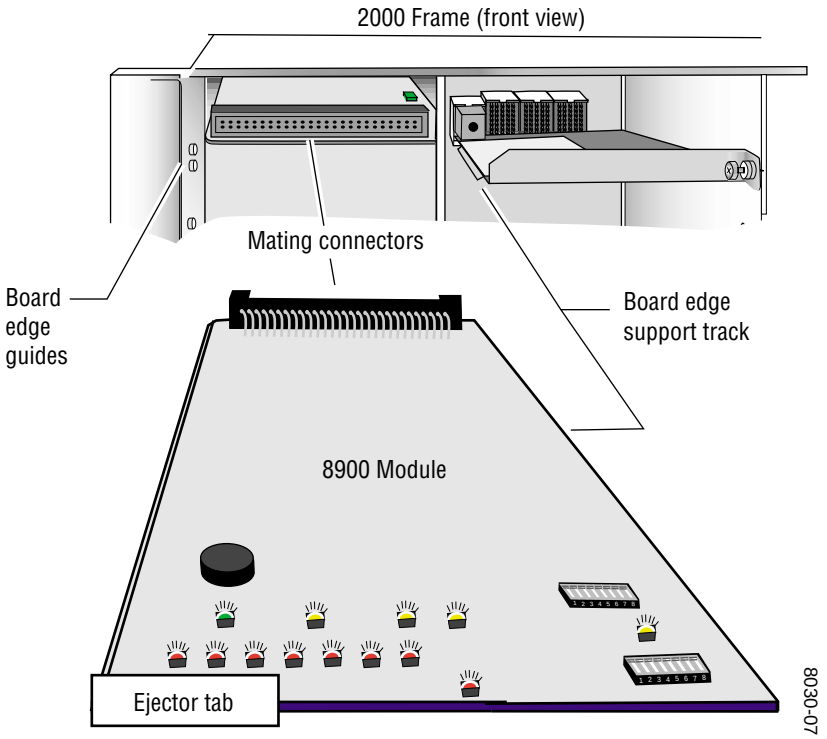
Figure 3. 2000Series Front Slot Adapter



3. Install the 8900 module in the proper front media slot.

The right edge of the 8900 module slides into the board edge support track while the left side is inserted between the board edge guides. The 50-pin rear connector should easily align with the rear connector on the adapter module. Gently press the module ejector tab to seat the module.

Figure 4. 8900 Module Installation



Compatible 8900 Modules

The following 8900 modules are compatible with the 2000A89 Adapter module:

- 8911 AES/EBU Reclocking DA
- 8914 Dual AES/EBU DA
- 8916 AES/EBU Auto-tracking Delay DA
- 8920MUX Video/Audio Multiplexer
- 8920DMX Video/Audio Demultiplexer
- 8931 Fanout DA
- 8936 Auto Reclocking DA
- 8941 Component Digital Monitoring DA
- 8950ADC Component A-to-D Converter*
- 8960DEC NTSC/PAL to SDI Decoder and 8960ENC SDI to NTSC/PAL Encoder without optional 8900FSS †
- 8980TLS Tri-level Sync HDTV Generator
- 8990ARC SDI Aspect Ratio Converter

Some Grass Valley 8800 and 8500 video DAs with large front panels can also be installed in the 2000A89 Adapter but require two media module slots for vertical clearance.

The maximum number of 8900 modules allowed in a frame is determined by frame cooling capacity. Refer to the 2000 Frames Instruction Manual and the specific 8900 module manual for power and cooling requirements.

*Some versions of this module cannot use the bottom media module slots and will require two module slots for component clearance. Contact Grass Valley Customer Support for information..

†With the 8900FSS option installed, these modules require two media slots for component clearance.

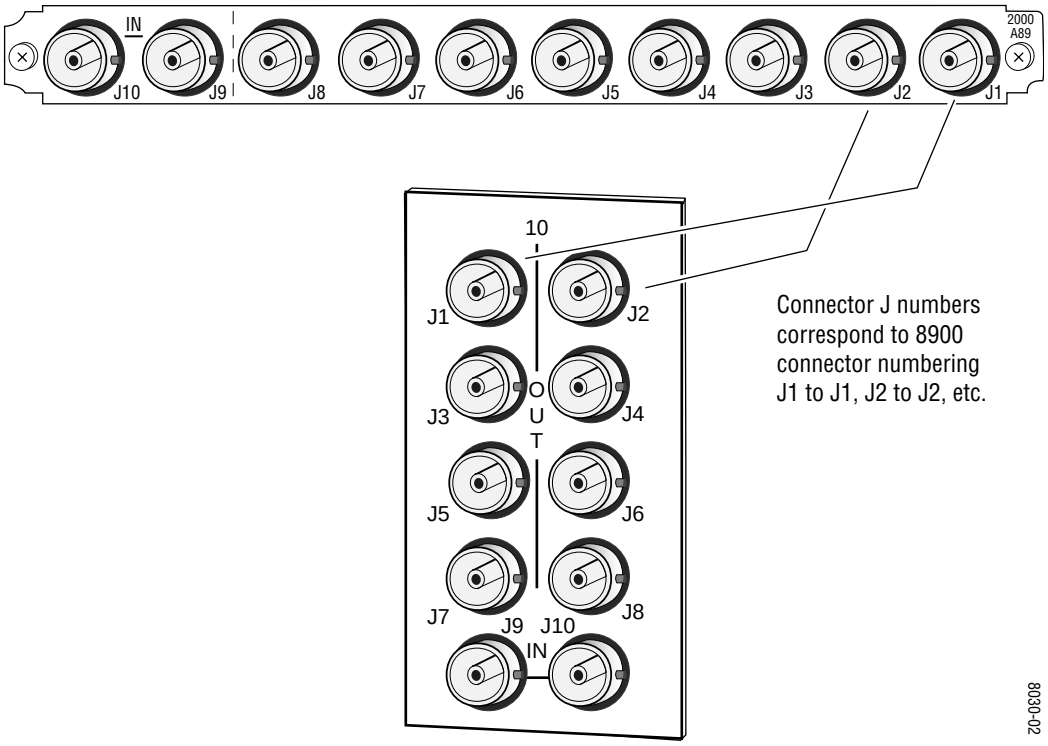
Cabling

The specific function of each 2000A89 BNC connector is determined by the 8900 module that is installed.

Loop-through Input

As in the 8900 frame, connectors J9 and J10 function as a loop-through input connections (see Figure 5). Terminate the unused connector into 75 Ω if the signal is not looped to other equipment.

Figure 5. 2000A89 *Input/Output Connectors*



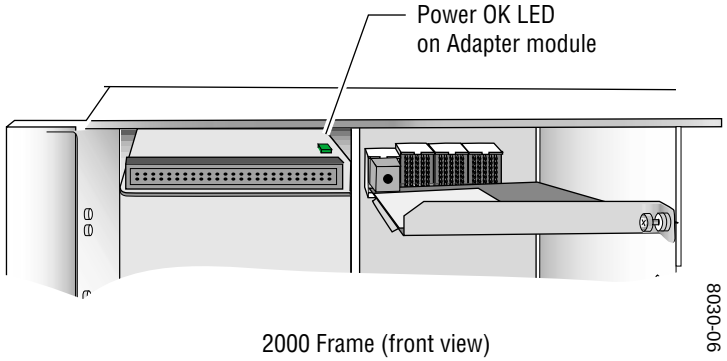
Outputs/Inputs

The 2000A89 provides eight BNCs (J1 through J8) for direct (non-looping) signal connections. The J numbers indicate the same wired connection to the 8900 module as occurs in the 8900 frame rear connector.

Power Up

A greenLED, visible from the front of the frame, indicates both +12 and -12 Volts are present on the adapter module.

Figure 6. LEDs and Configuration Switches



Refer to the instruction manual for the installed 8900 module for its LED status indicators.

Service

The 2000A89 modules use surface-mount technology to achieve compact size and adherence to demanding technical specifications. Circuit modules should not be serviced in the field.

If your module is not operating correctly, proceed as follows:

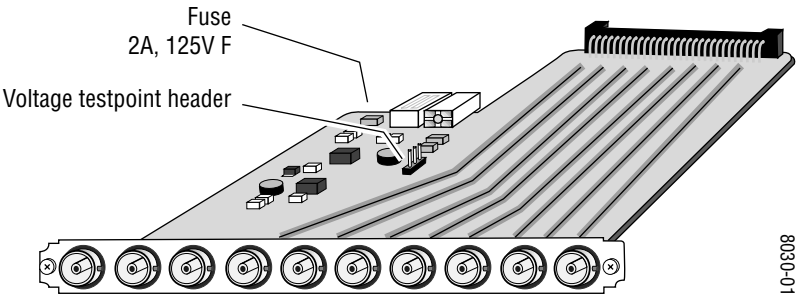
- Check frame and module power LEDs.
- Check for presence and quality of input signals.
- Verify that source equipment is operating correctly.
- Check cable connections.

If the 8900 module is not receiving +12 or -12 Volts, check the Adaptor module's Fuse F1 (see Figure 7).

If the module is still not operating correctly, replace it with a known good spare and return the faulty module to a designated Grass Valley repair depot. Call your Grass Valley Group representative for depot location.

Refer to *Contacting Grass Valley Group* at the front of this document for the Grass Valley Customer Support information number.

Figure 7. 2000A89 Adapter Module Fuse and Voltage Testpoints



Specifications

Table 1. 2000A89 Specifications

Parameter	Value
Input	
Signal type	Determined by 8900 module type: component/composite analog, serial digital component
Number of inputs	1 loop-through
Connector type	75 Ω BNCs
Signal level	According to signal standard
Return Loss	>30 dB to 5.5 MHz >13 dB 10 to 270 MHz >13 dB 270 to 360 MHz
Output to input isolation	>40 dB to 5.5 MHz >20 dB 10 to 270 MHz >20 dB 270 to 360 MHz
Electrical length	1.6 ns from BNC to board edge
Outputs/Inputs	
Number of outputs/inputs	8
Connector type	75 Ω BNC
Signal type	Determined by 8900 module type: component/composite analog, serial digital component
Signal level	According to signal standard
Return loss	>35 dB to 5.5 MHz >13 dB 10 to 270 MHz >13 dB 270 to 360 MHz
Output isolation	>40 dB to 5.5 MHz >20 dB 10 to 270 MHz >20 dB 270 to 360 MHz
Electrical length	1.3 ns from BNC to board edge
Power)	
Input power maximum	20 Watts
+12 V output	+12.35 V ±0.2 V from 0 to 850 mA load
-12 V output	-12.35 V ±0.2 V from 0 to 350 mA load
Environmental	
Operating temperature range	0 to 45 degrees C
Non-operating temperature	-10 to +70 degrees C
Operating humidity range	10 to 90% non-condensing
Mechanical	
Weight	1 lb (0.45 kg)
Power Requirements	
Supply voltage	+24 V
Power consumption	Module dependent

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