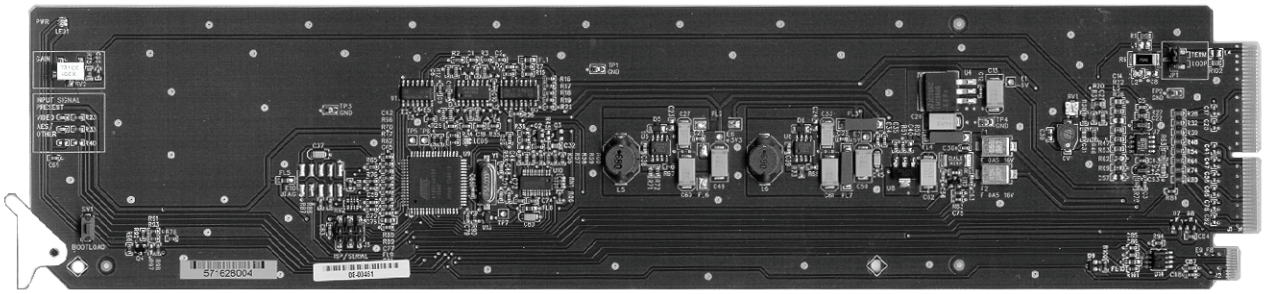
Ross Video Limited

UDA-8705A
Analog Utility Distribution Amplifier
User Manual



Live Production Technology

openGear

UDA-8705A • Analog Utility Distribution Amplifier User Manual

- Ross Part Number: **8705ADR-004-02**
- Release Date: April 14, 2011. Printed in Canada.

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Copyright

Patents

This product is protected by the following US Patents: 4,205,346; 5,115,314; 5,280,346; 5,561,404; 7,034,886; 7,508,455; 7,602,446; 7,834,886. This product is protected by the following Canadian Patents: 2039277; 1237518; 1127289. Other patents pending.

Notice

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Trademarks

Important Regulatory and Safety Notices

Before using this product and any associated equipment, refer to the "**Important Safety Instructions**" listed below to avoid personnel injury and to prevent product damage.

Products may require specific equipment, and/or installation procedures to be carried out to satisfy certain regulatory compliance requirements. Notices have been included in this publication to call attention to these specific requirements.

Symbol Meanings

This symbol on the equipment refers you to important operating and maintenance (servicing) instructions within the Product Manual Documentation. Failure to heed this information may present a major risk of damage or injury to persons or equipment.

Warning — *The symbol with the word "**Warning**" within the equipment manual indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.*

Caution — *The symbol with the word "**Caution**" within the equipment manual indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.*

Notice — *The symbol with the word "**Notice**" within the equipment manual indicates a situation, which if not avoided, may result in major or minor equipment damage or a situation which could place the equipment in a non-compliant operating state.*

ESD Susceptibility — *This symbol is used to alert the user that an electrical or electronic device or assembly is susceptible to damage from an ESD event.*

Important Safety Instructions

Caution — *This product is intended to be a component product of the DFR-8300 series frame. Refer to the DFR-8300 series frame User Manual for important safety instructions regarding the proper installation and safe operation of the frame as well as its component products.*

Warning — *Certain parts of this equipment namely the power supply area still present a safety hazard, with the power switch in the OFF position. To avoid electrical shock, disconnect all A/C power cards from the chassis' rear appliance connectors before servicing this area.*

Warning — *Service barriers within this product are intended to protect the operator and service personnel from hazardous voltages. For continued safety, replace all barriers after any servicing.*
This product contains safety critical parts, which if incorrectly replaced may present a risk of fire or electrical shock. Components contained with the product's power supplies and power supply area, are not intended to be customer serviced and should be returned to the factory for repair. To reduce the risk of fire, replacement fuses must be the same time and rating. Only use attachments/accessories specified by the manufacturer.

EMC Notices

United States of America
FCC Part 15

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.

Notice — *Changes or modifications to this equipment not expressly approved by Ross Video Limited could void the user's authority to operate this equipment.*

CANADA

This Class "A" digital apparatus complies with Canadian ICES-003.

Cet appariel numerique de la classe "A" est conforme a la norme NMB-003 du Canada.

EUROPE

This equipment is in compliance with the essential requirements and other relevant provisions of **CE Directive 93/68/EEC**.

INTERNATIONAL

This equipment has been tested to **CISPR 22:1997** along with amendments **A1:2000** and **A2:2002**, and found to comply with the limits for a Class A Digital device.

Notice — *This is a Class A product. In domestic environments, this product may cause radio interference, in which case the user may have to take adequate measures.*

Maintenance/User Serviceable Parts

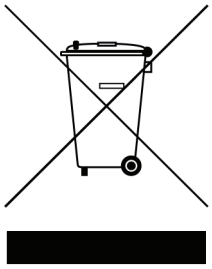
Routine maintenance to this openGear product is not required. This product contains no user serviceable parts. If the module does not appear to be working properly, please contact Technical Support using the numbers listed under the "Contact Us" section on the last page of this manual. All openGear products are covered by a generous 5-year warranty and will be repaired without charge for materials or labor within this period. See the "Warranty and Repair Policy" section in this manual for details.

Environmental Information

The equipment that you purchased required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment.

To avoid the potential release of those substances into the environment and to diminish the need for the extraction of natural resources, Ross Video encourages you to use the appropriate take-back systems. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

The crossed-out wheeled bin symbol invites you to use these systems.



If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration. You can also contact Ross Video for more information on the environmental performances of our products.

Company Address

Ross Video Limited
8 John Street
Iroquois, Ontario
Canada, K0E 1K0

Ross Video Incorporated
P.O. Box 880
Ogdensburg, New York
USA 13669-0880

General Business Office: (+1) 613 • 652 • 4886
Fax: (+1) 613 • 652 • 4425

Technical Support: (+1) 613 • 652 • 4886
After Hours Emergency: (+1) 613 • 349 • 0006

E-mail (Technical Support): techsupport@rossvideo.com
E-mail (General Information): solutions@rossvideo.com
Website: http://www.rossvideo.com

Contents

Introduction

In This Chapter

This chapter contains the following sections:

- Overview
- Functional Block Diagrams
- Documentation Terms and Conventions

A Word of Thanks

Congratulations on choosing an openGear UDA-8705A Analog Utility Distribution Amplifier. Your UDA-8705A is part of a full line of Analog Products within the openGear Terminal Equipment family of products, backed by Ross Video's experience in engineering and design expertise since 1974.

You will be pleased at how easily your new UDA-8705A fits into your overall working environment. Equally pleasing is the product quality, reliability and functionality. Thank you for joining the group of worldwide satisfied Ross Video customers!

Should you have a question pertaining to the installation or operation of your UDA-8705A, please contact us at the numbers listed on the back cover of this manual. Our technical support staff is always available for consultation, training, or service.

Overview

The UDA-8705A is an analog general-purpose distribution amplifier. It is very useful in digital systems when there is a requirement for the distribution of a few analog signals, such as a color black reference.

The UDA-8705A is a general-purpose amplifier for use in the distribution of analog SD-video, Tri-level sync or AES3id audio. It is intended for use in situations where cable equalization and differential input are not needed, and clamping is not required. Gain is adjustable over a wide range of 3dB.

This amplifier is DC-coupled and will faithfully provide all aspects of a video input signal to eight identical output copies with very low distortion. The use of new generation integrated circuits and innovative engineering has resulted in excellent performance combined with economy.

The UDA-8705A is designed for use in the openGear DFR-8300 series frames.

Features

The following features make the UDA-8705A the best solution for general analog distribution:

- 8 analog video outputs
- DC Coupled
- Wide adjustable gain range of 3dB
- Low distortion
- Excellent isolation between outputs
- Power to each card is individually fused
- Reports status and configuration remotely via the DashBoard Control System™
- Fits DFR-8300 series frames
- Fully compliant with openGear specifications
- 5-year transferable warranty

Functional Block Diagrams

This section provides a functional block diagrams that outline the workflow of the UDA-8705A.

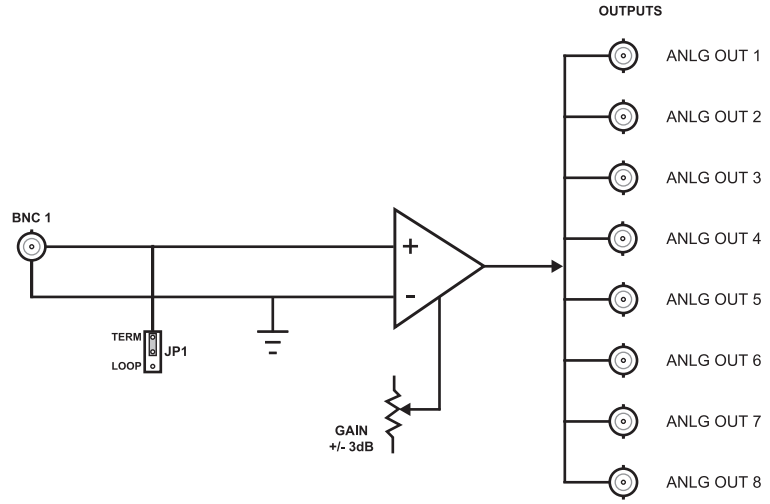


Figure 1.1 *UDA-8705A without Looping, Full Rear Module — Simplified Block Diagram*

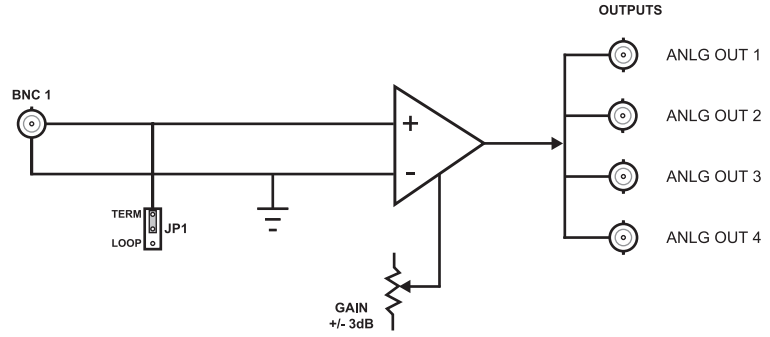


Figure 1.2 *UDA-8705A without Looping, Split Rear Module — Simplified Block Diagram*

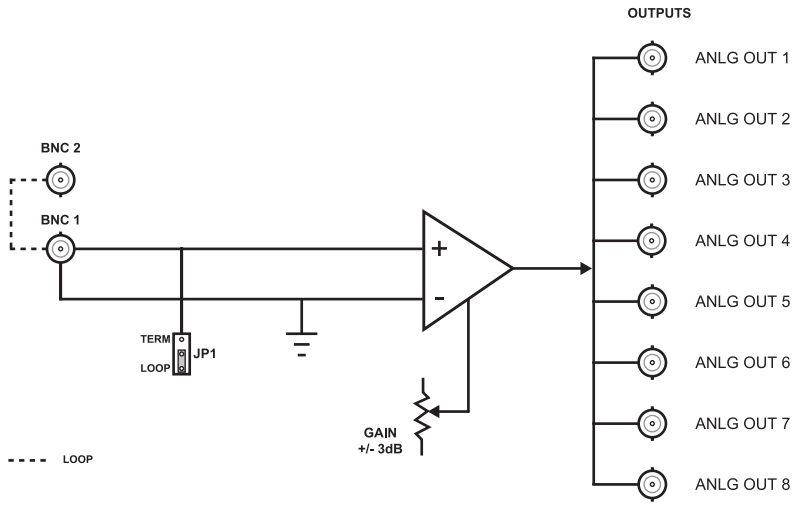


Figure 1.3 *UDA-8705A with Looping, Full Rear Module — Simplified Block Diagram*

Documentation Terms and Conventions

The following terms and conventions are used throughout this manual:

- "**Frame**" refers to DFR-8300 series frame that houses the UDA-8705A, as well as any openGear frames.
- All references to the **DFR-8300 series frame** also includes all version of the 10-slot (DFR-8310 series) and 20-slot (DFR-8321 series) frames and any available options unless otherwise noted.
- All references to the **UDA-8705A** also includes all versions unless otherwise indicated.
- "**Operator**" and "**User**" refer to the person who uses UDA-8705A.
- "**Board**", and "**Card**" refer to openGear terminal devices within openGear frames, including all components and switches.
- "**System**" and "**Video system**" refer to the mix of interconnected production and terminal equipment in your environment.
- "**DashBoard**" refers to the DashBoard Control System™.
- The "**Operating Tips**" and "**Note**" boxes are used throughout this manual to provide additional user information.

Installation

In This Chapter

This chapter provides instructions for installing the Rear Module(s) for the UDA-8705A, installing the card into the frame, and cabling details.

The following topics are discussed:

- Before You Begin
- Installing the UDA-8705A
- Cabling for the UDA-8705A

Before You Begin

Before proceeding with the instructions in this chapter, ensure that your DFR-8300 series frame is properly installed according to the instructions in the ***DFR-8300 Series User Manual***.

Static Discharge

Throughout this chapter, please heed the following cautionary note:

ESD Susceptibility — *Static discharge can cause serious damage to sensitive semiconductor devices. Avoid handling circuit boards in high static environments such as carpeted areas and when synthetic fiber clothing is worn. Always exercise proper grounding precautions when working on circuit boards and related equipment.*

Unpacking

Unpack each UDA-8705A you received from the shipping container and ensure that all items are included. If any items are missing or damaged, contact your sales representative or Ross Video directly.

Installing the UDA-8705A

This section outlines how to install a Rear Module in a DFR-8300 series frame. The same procedure applies regardless of the frame or card type.

Rear Modules for the UDA-8705A

The specific Rear Module you need to install depends on the frame you are using and if you require the looping feature. Note that the available cable designations differ between the type of module used. Refer to the section "**Cabling for the UDA-8705A**" on page 2-5 for details.

DFR-8310 Series Frames

Use one of the following rear modules when installing the card in a DFR-8310 series frame:

- **8310AR-030** Rear Module (R1-8705) — Use this rear module if you do not require the looping feature. Note that the **8310AR-030** has the symbol "**A**" in the top left corner of the module face. Ensure to terminate the input on the card by setting **JP1** to **TERM**.
- **8310AR-032** Rear Module (R1L-8705) — Use this rear module to access the looping feature. Note that the **8310AR-032** has the symbol "**K**" in the top left corner of the module face. If the input is looped on the rear module to another device, set **JP1** to **LOOP**. If looping is not used, either set **JP1** to **TERM**, or terminate the input externally at BNC 2.
- The UDA-8705A is also compatible with the DFR-8310-BNC frames. However, this frame does not support the looping feature of the UDA-8705A.

DFR-8321 Series Frames

Use one of the following rear modules when installing the card in a DFR-8321 series frame:

- **8320AR-030** Full Rear Module (R2-8705) — Use this rear module if you do not require the looping feature. Note that the **8320AR-030** has the symbol "**A**" in the top left corner of the module face. Ensure to terminate the input on the card by setting **JP1** to **TERM**.
- **8320AR-032** Full Rear Module (R2L-8705) — Use this rear module to access the looping feature. Note that the **8320AR-032** has the symbol "**K**" in the top left corner of the module face. If the input is looped on the rear module to another device, set **JP1** to **LOOP**. If looping is not used, either set **JP1** to **TERM**, or terminate the input externally at BNC 2.
- **8320AR-031** Split Rear Module (R2S-8705) — Use this rear module to densely populate your frame. Because the looping feature is not available when using this rear module, ensure that the input for each card is terminated on the card by setting **JP1** to **TERM**.

Installing a Rear Module

If you are installing the UDA-8705A in a DFR-8310-BNC frame, or the Rear Module is already installed, proceed to the section "**Installing the UDA-8705A**" on page 2-4.

Use the following procedure to install a Rear Module in your DFR-8300 series frame:

1. Locate the card frame slots on the rear of the frame.
2. Remove the Blank Plate from the slot you have chosen for the UDA-8705A installation.
3. Install the bottom of the Rear Module in the **Module Seating Slot** at the base of the frame's back plane. (**Figure 2.1**)

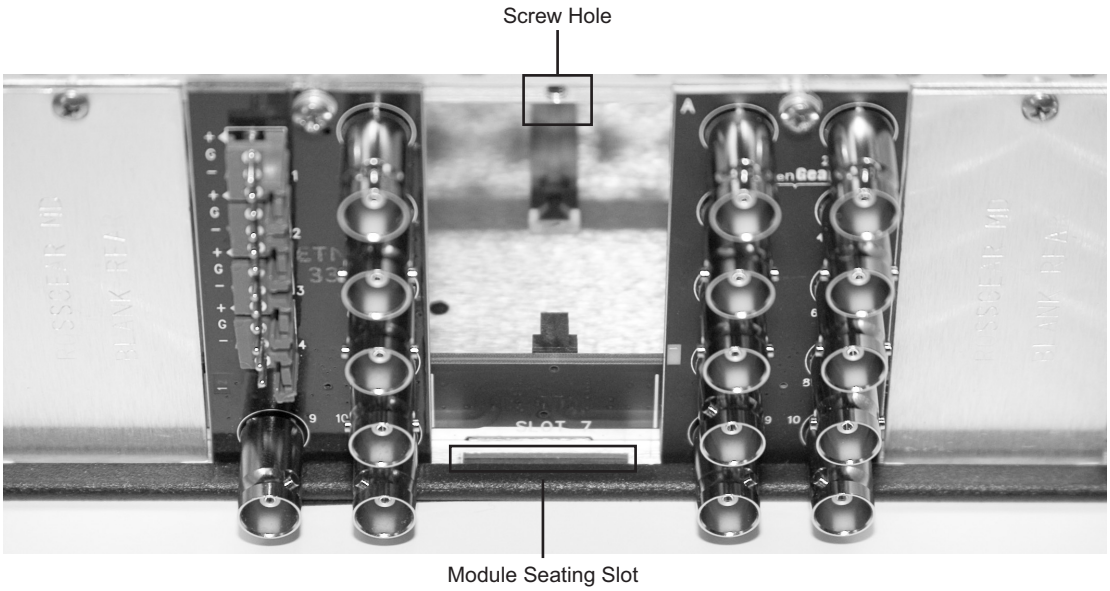


Figure 2.1 *Rear Module Installation in a DFR-8310 Series Frame (UDA-8705A not shown)*

4. Align the top hole of the Rear Module with the screw on the top-edge of the frame back plane.
5. Using a Phillips screwdriver and the supplied screw, fasten the Rear Module to the back plane of the frame. Do not over tighten.
6. Ensure proper frame cooling and ventilation by having all rear frame slots covered with Rear Modules or Blank Plates.

This completes the procedure for installing a Rear Module in your DFR-8300 series frame.

Installing the UDA-8705A

This section outlines how to install the UDA-8705A in a DFR-8300 series frame.

Use the following procedure to install the UDA-8705A in a DFR-8300 series frame:

1. Locate the Rear Module you installed in the procedure "**Installing a Rear Module**" on page 2-3.

Notice — *Heat and power distribution requirements within a frame may dictate specific slot placements of cards. Cards with many heat-producing components should be arranged to avoid areas of excess heat build-up, particularly in frames using convectional cooling.*

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2. Hold the UDA-8705A by the edges and carefully align the card-edges with the slots in the frame.
3. Fully insert the card into the frame until the rear connection plus is properly seated in the Rear Module.
4. Verify whether your label is self-adhesive by checking the back of the label for a thin wax sheet. You must remove this wax sheet before affixing the label to the rear module surface.
5. Affix the supplied **Rear Module Label** to the BNC area of the Rear Module.

This completes the procedure for installing the UDA-8705A in a DFR-8300 series frame.

Cabling for the UDA-8705A

This section provides information for connecting cables to the installed Rear Modules on the DFR-8300 series frames. The input of the UDA-8705A can be terminated on the card depending on the rear module used. It is not necessary to terminate unused outputs.

DFR-8310 Series Frame Cabling Overview

In the DFR-8310 series frames, the UDA-8705A is used with the following Rear Modules:

- **8310AR-030** Rear Module — Each card occupies one slot and provides one analog input, and eight analog outputs. (**Figure 2.2**)
- **8310AR-032** Rear Module — Each card occupies one slot and provides eight outputs, and one looping output. (**Figure 2.3**)

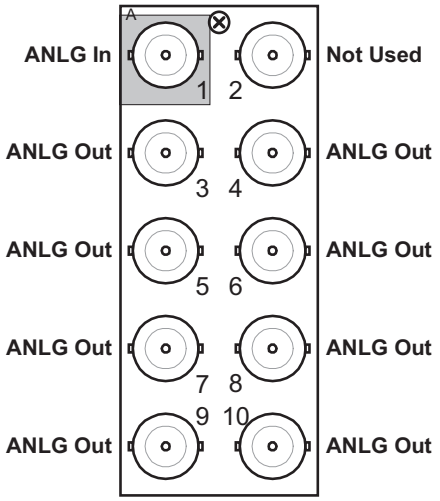

Figure 2.2 *Cable Connections for the 8310AR-030 and 8320AR-030 Rear Modules*

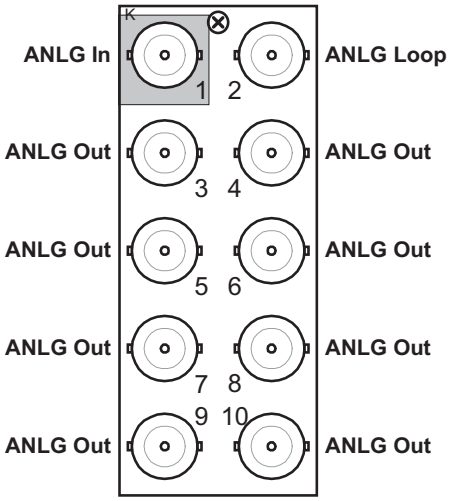

Figure 2.3 *Cable Connections for the 8310AR-032 and 8320AR-032 Rear Modules*

DFR-8321 Series Frame Cabling Overview

In the DFR-8321 series frames, the UDA-8705A is used with the following Rear Modules:

- **8320AR-030** Full Rear Module — Each card occupies two slots and provides one analog input, and eight analog outputs. (**Figure 2.2**)
- **8320AR-032** Full Rear Module — Each card occupies two slots and provides one analog input, one looping output, and eight analog outputs. (**Figure 2.3**)
- **8320AR-031** Split Rear Module — Each card occupies one slot and provides one analog input, and four analog outputs. (**Figure 2.4**)

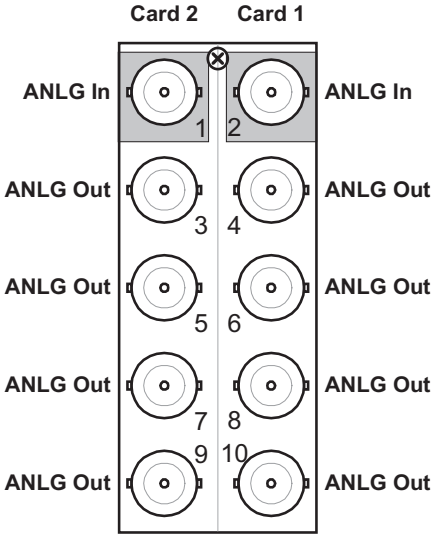

Figure 2.4 *Cable Connections for the 8320AR-031 Rear Module*

User Controls

In This Chapter

This chapter provides a general overview of the user controls available on the UDA-8705A.

The following topics are discussed:

- Card Overview
- Control and Monitoring Features

Card Overview

This section provides a general overview of the UDA-8705A components.

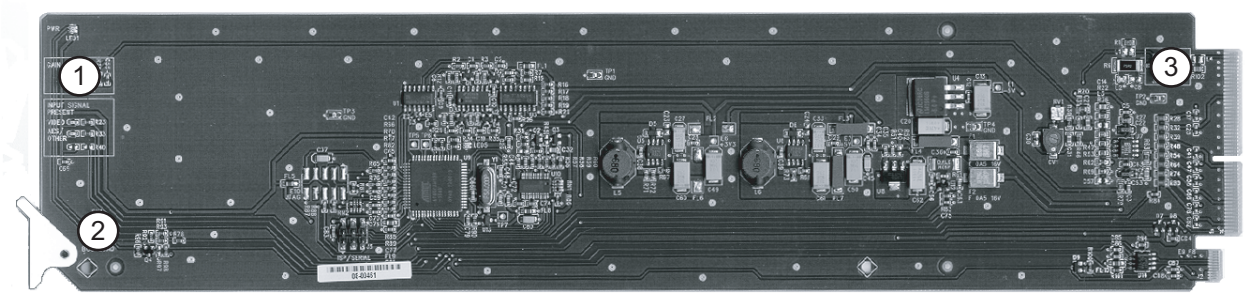

Figure 3.1 *UDA-8705A — Components*

1) Gain Adjustment (**RV2**)	2) Bootload Button (**SW1**)	3) Local Termination (**JP1**)

1. Gain Adjustment (RV2)

Use **RV2** to adjust the Gain level of the UDA-8705A. This control provides a gain range of +/- 3dB.

2. Bootload Button (SW1)

This button is used for factory service in the unlikely event of a complete card failure.

3. Local Termination (JP1)

Use **JP1** to configure an optional 75ohm termination on the input of the UDA-8705A as follows:

- **TERM** — Select this option to terminate the input signal on the card. This is the default.
- **LOOP** — Select this option to leave the input unterminated. For example, use this setting if you wish to loop the signal to another device.

For More Information...

- on the LEDs available on the card-edge, refer to the section "**Control and Monitoring Features**" on page 3-3.
- on the bootload process, refer to the section "**Bootload Button**" on page 6-2.

Control and Monitoring Features

This section describes the LEDs on the UDA-8705A. Refer to **Figure 3.2** for the LED locations.

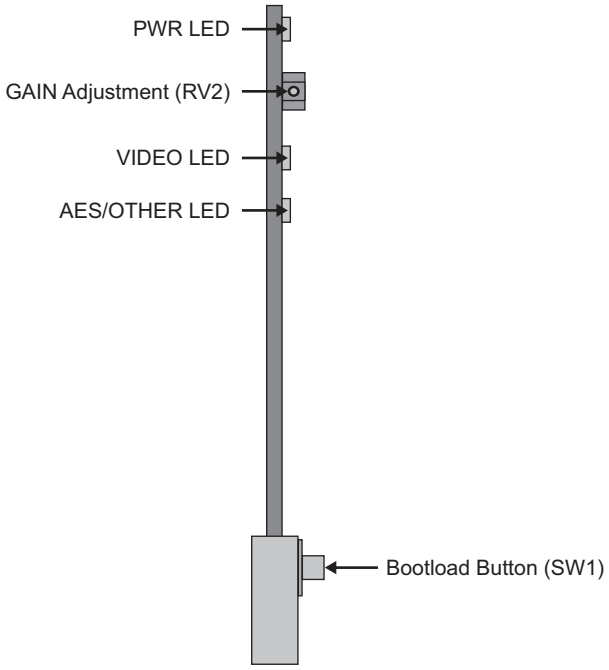

***Figure 3.2** UDA-8705A Card-edge Controls*

Status LEDs on the UDA-8705A

Table 3.1 provides information on the LEDs located on the UDA-8705A card-edge.

Table 3.1 LEDs on the UDA-8705A

LED	Color	Display and Description
PWR	Green	When lit green, this LED indicates that the card is operating normally and no anomalies have been detected.
	Flashing Green	When flashing green, this LED indicates that the card requires a software upgrade.
	Orange	When lit orange, this LED indicates that the card is running internal diagnostics while powering up.
	Red	When lit red, this LED indicates that an error has occurred. Re-seat the card in the frame, verify the rear module type and connections, or call Ross Technical Support.
	Off	When not lit, this LED indicates that the card is not powered.
VIDEO[a]		When lit, this LED indicates that a valid analog video input signal is present on BNC 1.
AES/OTHER[a]		When lit, this LED indicates a valid AES signal, or some other analog signal, is present on the input. The signal must be greater than 0.5Vp-p.

a. Slowly changing, or small amplitude signals, will pass through the card, but the LEDs may be unlit. In this case, it is recommended to disable the Notify on Input Loss alarm in DashBoard. Note that the Input Signal Present threshold is set to assume a level of 1Vp-p.

Menus

In This Chapter

This chapter provides a summary of the menus available for the UDA-8705A.

The following topics are discussed:

- SNMP Monitoring and Control
- DashBoard Menus for the UDA-8705A

SNMP Monitoring and Control

The MFC-8300 Series Network Controller Card in the DFR-8300 series frame provides optional support for remote monitoring of your frame and the using Simple Network Management Protocol (SNMP), which is compatible with many third-party monitoring and control tools.

Refer to your UDA-8705A Management Information Base (MIB) file for a breakdown of SNMP controls on this card. Refer to the ***DFR-8300 Series User Manual*** for additional information on SNMP Monitoring and Control.

DashBoard Menus for the UDA-8705A

The DashBoard Control System™ enables you to monitor and control openGear frames and cards from a computer. DashBoard communicates with other cards in the DFR-8300 series frame through the MFC-8300 Series Network Controller Card.

This section briefly summarizes the menus, items, and parameters available from the DashBoard Control System™ for the UDA-8705A. Parameters marked with an asterisk (*) are the factory default values.

Status Tabs

The **Status** tabs provide read-only information such as software revision issue, signal status, and power consumption of the UDA-8705A.

Signal Tab

Table 4.1 summarizes the read-only information, such as signal status, and input status, displayed of the **Signal** tab.The fields in the **Signal** tab vary in severity from green (valid) to red (alarm). DashBoard reports the most severe alarm for a single field. Alarm colors are noted within **Table 4.1** as text set in brackets next to the menu parameter name.

Table 4.1 Signal Tab Items

Tab Title	Item	Parameters	Description
Signal (Read-only)	Signal Status	Video Present (Green)	Indicates the card is passing valid analog video
		AES/Other (Green)	Indicates the card is passing AES audio or other analog signals
		No Input (Green)	Indicates one of the following has occurred: • No input signal is detected • Signal is below the detection threshold • The Notify on Loss of Input alarm is disabled
		No Input (Red)	Indicates one of the following has occurred: • No input signal is present • Signal is below 0.5Vp-p • The Notify on Loss of Input alarm is enabled
	Signal Format	#	Indicates the valid video format detected
		Unknown Video	Indicates a video signal is present, but the format is not supported
		No Signal	Indicates the video signal is absent
		AES/Other	Indicates an audio, or other analog, signal is detected

Hardware Tab

Table 4.2 summarizes the read-only information, such as power consumption and CPU Headroom, of the **Hardware** tab.

Table 4.2 Hardware Tab Items

Tab Title	Item	Parameters	Description
Hardware (Read-only)	Voltage (mV)	#	Supply Voltage
	Current (mA)	#	Current consumption of card
	Rear Module	#	Indicates the installed rear module
	CPU Headroom	#	Processing power available
	RAM Available	#	On-board processing memory available
	EE Bank	#	Storage count

Product Tab

Table 4.3 summarizes the read-only information, such as board revision, of the **Product** tab.

Table 4.3 Product Tab Items

Tab Title	Item	Parameters	Description
Product (Read-only)	Product	UDA-8705A	
	Supplier	Ross Video Ltd.	
	Board Rev	##	
	Serial Number	######	Indicates the serial number of the card
	Software Rev	#	Indicates the software version

Setup Menus

Table 4.4 summarizes the **Setup** options available in DashBoard for the UDA-8705A.

Table 4.4 Setup Menu Items

Tab Title	Item	Parameters	Description
Setup	Notify on Loss of Input	Selected*	Signal Status field in the **Signal** tab ignores a loss of input
		Cleared	Signal Status field in the **Signal** tab reports a loss of input

Specifications

In This Chapter

This chapter provides the technical specification information for the UDA-8705A. Note that specifications are subject to change without notice.

The following topics are discussed:

- Technical Specifications

Technical Specifications

This section provides the technical specifications for the UDA-8705A.

Table 5.1 UDA-8705A Technical Specifications

Category	Parameter	Specification
Analog Input	Number of Inputs	8310AR-030, 8320AR-030: 1
		8310AR-032, 8320AR-032: 1
		8320AR-031: 1
	Impedance	75ohm terminating
	Return Loss	43dB to 5MHz
		35dB to 20MHz
	Nominal Signal Level	1Vp-p (video, AES-3id)
Analog Outputs	Number of Outputs	8310AR-030, 8320AR-030: 8
		8310AR-032, 8320AR-032: 8 plus 1 looping
		8320AR-031 Rear Module: 4
	Impedance	75ohm
	Return Loss	45dB to 5MHz
		41dB to 20MHz
	Isolation	51dB to 5MHz
		40dB to 20MHz
	DC Offset	<30mV
	Frequency Response	±0.08dB to 10MHz
		±0.2dB to 20MHz
	Differential Phase	NTSC: <0.1°
		PAL: <0.3°
	Differential Gain	NTSC: <0.1%
		PAL: <0.1%
	RMS Noise (unweighted)	68dB
Performance (all outputs loaded)	Gain Range	±3dB
	Gain Stability	<0.2% per 10°C
	Delay	NTSC: 7ns (9° @ 3.58MHz)
		PAL: 7ns (11° @ 4.43MHz)
	Chrominance-to-Luminance Delay	<2.0ns
	Line Rate Window Tilt	<0.1%
	Field Rate Window Tile	<0.1%
	Bandwidth	-3dB @ 56MHz Typical
Power	Total Power Draw	<1.5W

Service Information

In This Chapter

This chapter contains the following sections:

- Troubleshooting Checklist
- Warranty and Repair Policy

Troubleshooting Checklist

Routine maintenance to this openGear product is not required. In the event of problems with your UDA-8705A, the following basic troubleshooting checklist may help identify the source of the problem. If the frame still does not appear to be working properly after checking all possible causes, please contact your openGear products distributor, or the Technical Support department at the numbers listed under the "**Contact Us**" section.

1. **Visual Review** — Performing a quick visual check may reveal many problems, such as connectors not properly seated or loose cables. Check the card, the frame, and any associated peripheral equipment for signs of trouble.
2. **Power Check** — Check the power indicator LED on the distribution frame front panel for the presence of power. If the power LED is not illuminated, verify that the power cable is connected to a power source and that power is available at the power main. Confirm that the power supplies are fully seated in their slots. If the power LED is still not illuminated, replace the power supply with one that is verified to work.
3. **Input Signal Status** — Verify that source equipment is operating correctly and that a valid signal is being supplied.
4. **Output Signal Path** — Verify that destination equipment is operating correctly and receiving a valid signal.
5. **Unit Exchange** — Exchanging a suspect unit with a unit that is known to be working correctly is an efficient method for localizing problems to individual units.

Bootload Button

In the unlikely event of a complete card failure, you may be instructed by a Ross Technical Support specialist to perform a complete software reload on the UDA-8705A.

Use the following procedure to reload the software on a UDA-8705A:

1. Eject the card from the frame.
2. Press and hold the **Bootload** button, while re-inserting the card into the frame.
3. Release the button.
   - The **PWR LED** will flash green while the card is waiting for a new software load.
   - If a new software load is not sent to the card within 60 seconds, the card will attempt to restart with its last operational software load.
   - Software loads can be sent to the UDA-8705A via the connection on the rear of the frame.

This completes the procedure for reload the software on a UDA-8705A.

Warranty and Repair Policy

The UDA-8705A is warranted to be free of any defect with respect to performance, quality, reliability, and workmanship for a period of FIVE (5) years from the date of shipment from our factory. In the event that your UDA-8705A proves to be defective in any way during this warranty period, Ross Video Limited reserves the right to repair or replace this piece of equipment with a unit of equal or superior performance characteristics.

Should you find that this UDA-8705A has failed after your warranty period has expired, we will repair your defective product should suitable replacement components be available. You, the owner, will bear any labor and/or part costs incurred in the repair or refurbishment of said equipment beyond the FIVE (5) year warranty period.

In no event shall Ross Video Limited be liable for direct, indirect, special, incidental, or consequential damages (including loss of profits) incurred by the use of this product. Implied warranties are expressly limited to the duration of this warranty.

This UDA-8705A User Manual provides all pertinent information for the safe installation and operation of your openGear Product. Ross Video policy dictates that all repairs to the UDA-8705A are to be conducted only by an authorized Ross Video Limited factory representative. Therefore, any unauthorized attempt to repair this product, by anyone other than an authorized Ross Video Limited factory representative, will automatically void the warranty. Please contact Ross Video Technical Support for more information.

In Case of Problems

Should any problem arise with your UDA-8705A, please contact the Ross Video Technical Support Department. (Contact information is supplied at the end of this publication.)

A Return Material Authorization number (RMA) will be issued to you, as well as specific shipping instructions, should you wish our factory to repair your UDA-8705A. If required, a temporary replacement frame will be made available at a nominal charge. Any shipping costs incurred will be the responsibility of you, the customer. All products shipped to you from Ross Video Limited will be shipped collect.

The Ross Video Technical Support Department will continue to provide advice on any product manufactured by Ross Video Limited, beyond the warranty period without charge, for the life of the equipment.

Contact Us

Contact our friendly and professional support representatives for the following:

- Name and address of your local dealer
- Product information and pricing
- Technical support
- Upcoming trade show information

PHONE	**General Business Office and Technical Support**	613 • 652 • 4886
	After Hours Emergency	613 • 349 • 0006
	Fax	613 • 652 • 4425
E-MAIL	**General Information**	solutions@rossvideo.com
	Technical Support	techsupport@rossvideo.com
POSTAL SERVICE	**Ross Video Limited**	8 John Street, Iroquois, Ontario, Canada K0E 1K0
	Ross Video Incorporated	P.O. Box 880, Ogdensburg, New York, USA 13669-0880

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Ross Part Number: 8705ADR-004-02