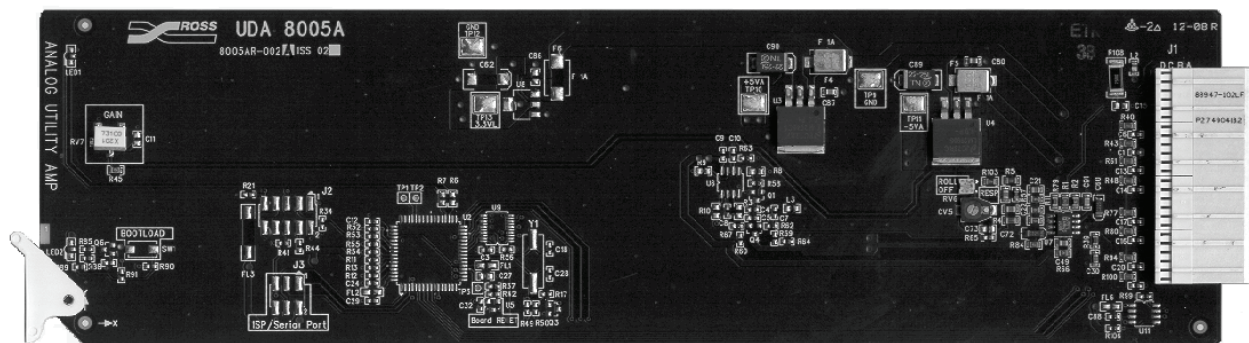


UDA-8005A

Utility Distribution Amplifier

User Manual



Ross Part Number: 8005ADR-004
Issue: 01

ROSS
Live Production Technology™

UDA-8005A • Utility Distribution Amplifier User Manual

- Ross Part Number: **8005ADR-004**
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Important Regulatory and Safety Notices

Before using this product and any associated equipment, refer to the “Important Safety Instructions” listed below so as to avoid personnel injury and to prevent product damage.

Products may require specific equipment, and /or installation procedures 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 RossGear 8000 series frame. Refer to the RossGear 8000 series frame User Manual for important safety instructions regarding the proper installation and safe operation of the frame as well as it's 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 cords 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 within 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 type and rating.

Only use attachments/accessories specified by the manufacturer.

EMC Notices

US 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 users will be required to correct the interference at their own expense.



Notice

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

CANADA

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

Cet appareil numérique de classe "A" est conforme à 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

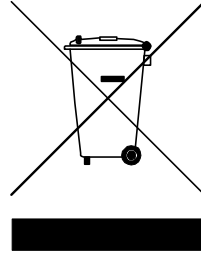
Routine maintenance to this RossGear product is not required. This product contains no user serviceable parts. If the module does not appear to be working properly, please contact Technical Support using the numbers listed under the "Contact Us" section on the last page of this manual. All RossGear products 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.



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Introduction

In This Chapter

This chapter contains the following sections:

- A Word of Thanks
- Overview
- Functional Block Diagram
- Features
- Documentation Terms

A Word of Thanks

Congratulations on choosing the Ross Video UDA-8005A Utility Distribution Amplifier. The UDA-8005A is part of a full line of Analog Products within the RossGear Terminal Equipment family of analog and digital products, backed by Ross Video's experience in engineering and design expertise since 1974.

You will be pleased at how easily your new UDA-8005A fits into your overall working environment. Equally pleasing is the product quality, reliability and functionality. Thank you for joining the worldwide group of satisfied Ross Video customers!

Should you have a question pertaining to the installation and operation of your UDA-8005A, please contact us at the numbers listed at the end of the manual. Our technical support staff is always available for consultation, training, or service.

Overview

The UDA-8005A 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. Use of this amplifier will avoid the need to purchase a separate analog Video Products rack frame and power supply.

The UDA-8005A is a general-purpose amplifier for use in the distribution of video. It is intended for use in situations where cable equalization and differential input are not important, and clamping is not required. Gain is adjustable over a wide range of $\pm 3\text{dB}$.

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-8005A card is designed for use in the RossGear 8000 series video frames. The power to each card is individually fused to prevent failure of any one card from affecting the rest of the cards in the frame. RossGear analog (and digital) cards are also designed to fit into distribution frames of some other manufacturers for installation flexibility.

Functional Block Diagram

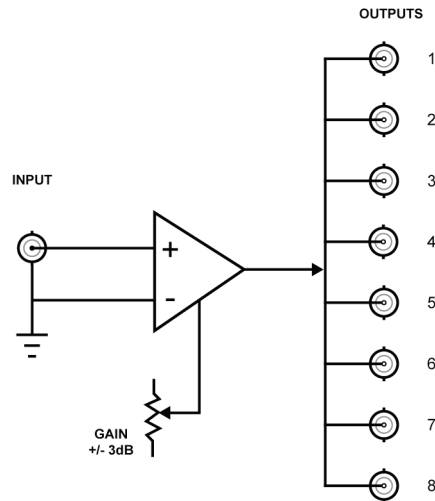


Figure 1. Simplified Block Diagram of UDA-8005A Functions

Features

The following features are unique to the UDA-8005A Utility Distribution Amplifier:

- 8 analog video outputs
- DC Coupled
- Wide adjustable gain range of $\pm 3\text{dB}$
- Low distortion
- Excellent isolation between outputs
- Excellent technical specifications
- Power to each card is individually fused
- 5-year transferable warranty

Documentation Terms

The following terms are used throughout this guide:

- “**Frame**” refers to the **DFR-8104A**, and **DFR-8110A** frames that can house the **UDA-8005A** cards. Refer to the respective User Manuals for details.
- All references to the **DFR-8104A** and **DFR-8110A** also include the **DFR-8104A-C** and **DFR-8110A-C** versions with the cooling fan option. Refer to the respective User Manuals for details.
- “**Operator**” and “**User**” both refer to the person who uses the **UDA-8005A** cards.
- “**Board**” and “**Card**” all refer to the **UDA-8005A** itself, including all components and switches.
- “**System**” and “**Video system**” refers to the mix of interconnected digital and analog production and terminal equipment in which the **UDA-8005A** operates.

Installation and Setup

In This Chapter

This chapter contains the following sections:

- Static Discharge
- Unpacking
- Board Installation
- BNC Labels
- Cable Connections
- Gain Setting

Static Discharge

Whenever handling the UDA-8005A cards and other related equipment, please observe all static discharge precautions as described in the following note:



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

Unpacking

Unpack each UDA-8005A card you received from the shipping container, and check the contents against the packing list to ensure that all items are included. If any items are missing or damaged, contact your sales representative or Ross Video directly.

Board Installation

Use the following procedure to install the UDA-8005A in a RossGear 8000 series digital frame:

1. Refer to the User Manual of the RossGear frame to ensure that the frame is properly installed according to instructions. If this card is to be installed in any compatible frame other than a Ross Video product, refer to the frame manufacturer's manual for specific instructions.



Heat and power distribution requirements within a frame may dictate specific slot placement 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.

2. After selecting the desired frame installation slot, hold the UDA-8005A card 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 plug is properly seated.

This completes the procedure for installing the UDA-8005A in a RossGear 8000 series digital frame.

BNC Labels

Affix the supplied BNC label, as per the included instructions, to the BNC area on the rear of the rack frame.

Cable Connections

The following diagram indicates the input and output connections for coax cables to the UDA-8005A when mounted in RossGear 8000 series digital frames.

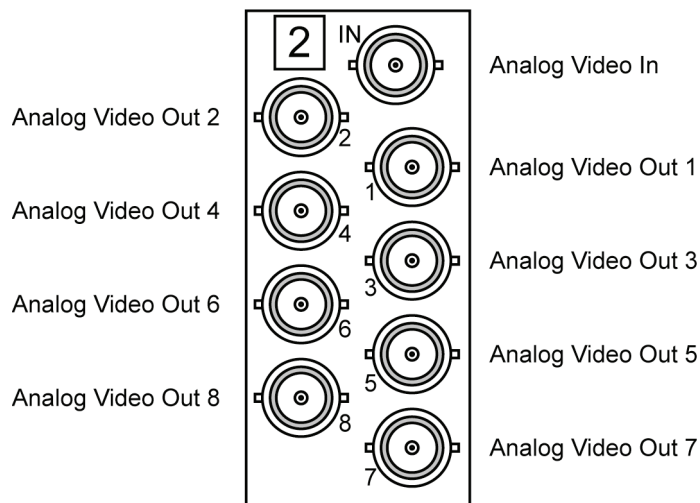


Figure 2. UDA-8005A BNC Designations for RossGear DFR-8110A (2RU Frame)

Gain Setting

Use **Figure 3**, the card labeling, and discussion to adjust the **UDA-8005A** Gain level.

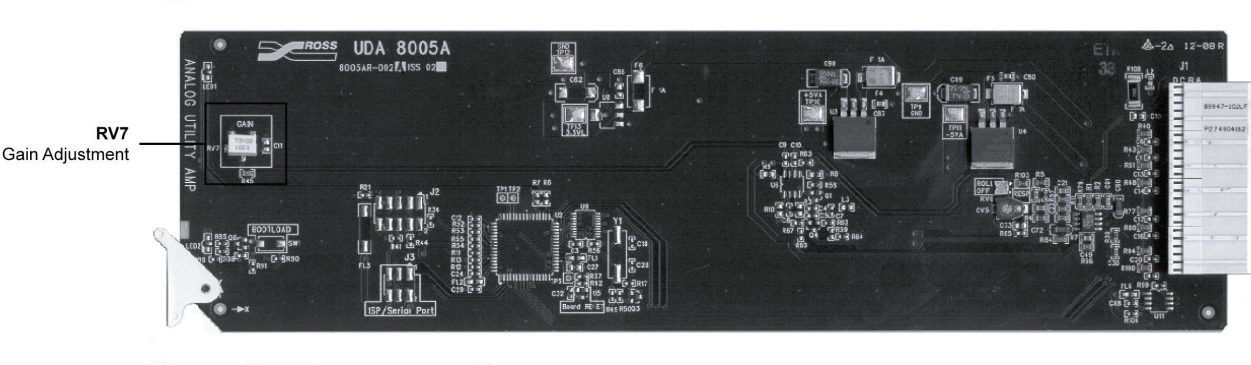


Figure 3. Potentiometer Locations

RV7 provides a wide gain range of +/-3dB.

Specifications

In This Chapter

This chapter contains the UDA-8005A Technical Specifications table.

UDA-8005A Technical Specifications

Table 1. Technical Specifications

Category	Parameter	Specification
Analog Input	Number Of Inputs	1
	Input Impedance	75Ω terminating
	Return Loss	40dB to 5MHz
	Nominal Signal Level	1Vpp
Analog Outputs	Number Of Outputs	8
	Output Impedance	75Ω
	Output Return Loss	45dB to 5MHz
	Output Isolation	45dB to 5MHz
	DC Offset	<30mV
	Frequency Response	±0.05dB to 10MHz
	Differential Phase	<0.1°
	Differential Gain	<0.1%
	RMS Noise (unweighted)	68dB
Performance (all outputs loaded)	Gain Range	±3dB
	Gain Stability	<0.1% per 10 °C
	Delay	4.66ns (6° @ 3.58MHz) (7.5° @ 4.43MHz)
	Chrominance-to-Luminance Delay	<2.0ns
	Line Rate Window Tilt	<0.2%
	Field Rate Window Tile	<0.2%
	Bandwidth	-3dB to 50MHz Typical
Power	Total Power Draw	<0.7W

Specifications are subject to change without notification.

Service Information

In This Chapter

This chapter contains the following sections:

- Troubleshooting Checklist
- Warranty and Repair Policy

Troubleshooting Checklist

Routine maintenance to this RossGear product is not required. In the event of problems with your UDA-8005A, the following basic troubleshooting checklist may help identify the source of the problem. If the module still does not appear to be working properly after checking all possible causes, please contact your Ross Video products distributor, or the Ross Video Technical Support department at the numbers listed under the “Contact Us” section at the end of this manual.

1. **Visual Review** – Performing a quick visual check may reveal many problems, such as connectors not properly seated or loose cables. Check the module, 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. **Reseat the Card in the Frame** – Eject the card and reinsert it in the frame.
4. **Check Control Settings** – Refer to the Installation and Setup section of the manual and verify all user-components.
5. **Input Signal Status** – Verify that source equipment is operating correctly and that a valid signal is being supplied.
6. **Output Signal Path** – Verify that destination equipment is operating correctly and receiving a valid signal.
7. **Card Exchange** – Exchanging a suspect card with a card that is known to be working correctly is an efficient method for localizing problems to individual cards.

Warranty and Repair Policy

The RossGear UDA-8005A 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 RossGear UDA-8005A 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 RossGear UDA-8005A has failed after your warranty period has expired, we will repair your defective product for as long as suitable replacement components are available. You, the owner, will bear any labor and/or component 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 RossGear UDA-8005A Utility Distribution Amplifier User Manual of our Analog Video Products line provides all pertinent information for the safe installation and operation of your RossGear Product. Ross Video policy dictates that all repairs to the RossGear UDA-8005A 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 RossGear UDA-8005A, 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 RossGear UDA-8005A. A temporary replacement module, if required, 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 this equipment.

Ordering Information

In This Chapter

This chapter contains ordering information for the UDA-8005A and related products.

UDA-8005A Video DA and Related Products

Standard Equipment

- **UDA-8005A** Utility Distribution Amplifier
- **8005ADR-004** Utility Distribution Amplifier User Manual

Optional Equipment

- **8005ADR-004** Utility Distribution Amplifier User Manual (additional User Manual)
- **DFR-8104A** Digital Products Frame and Power Supply (PS-8102) (1RU, holds 4 modules, includes 1 power supply)
- **DFR-8104A-C** Digital Products Frame with Cooling Fan Module and Power Supply (PS-8102) (1RU, holds 4 modules, includes 1 power supply)
- **DFR-8110A** Digital Products Frame and Power Supply (PS-8102) (2RU, holds 10 modules, includes 1 power supply)
- **DFR-8110A-C** Digital Products Frame with Cooling Fan Module and Power Supply (PS-8102) (2RU, holds 10 modules, includes 1 power supply)

Your **UDA-8005A Utility Distribution Amplifier** is part of the RossGear family of products. Ross Video offers a full line of RossGear terminal equipment including distribution, conversion, monitoring, synchronizers, encoders, decoders, keyers, switchers, as well as analog audio and video products.

Notes:

Notes:

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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