

SRA-8201A, SRA-8601A
MD-SDI Reclocking Amplifiers
User Manual



SRA-8201A, SRA-8601A • MD-SDI Reclocking Amplifiers User Manual

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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.



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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 appareil numérique de la 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

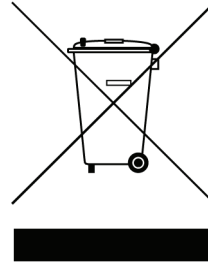
Routine maintenance to this openGear product is not required. This product contains no user serviceable parts. If the module does not appear to be working properly, please contact Technical Support using the numbers listed under the “Contact Us” section on the last page of this manual. All openGear products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

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Introduction

In This Chapter

This chapter contains the following sections:

- Overview
- Functional Block Diagram
- Documentation Terms

A Word of Thanks

Congratulations on choosing an openGear SRA-8201A and SRA-8601A MD-SDI Reclocking Amplifiers. Your SRA-8201A and SRA-8601A is part of a full line of Digital 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 card 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 card, 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 SRA-8201A and SRA-8601A are Multi-Definition SDI distribution amplifiers, capable of equalizing and reclocking all common serial digital signals. With support for both standard-definition and high-definition signals, the SRA-8201A and SRA-8601A are the ideal universal SDI distribution amplifiers.

The SRA-8201A equalizes the incoming SDI signal, compensating for greater than 300m of cable at 270Mbps and greater than 120m of cable at 1.485Gbps. The SRA-8601A equalizes the incoming SDI signal, compensating for greater than 300m of cable at 270Mbps, greater than 120m of cable at 1.485Gbps, and greater than 80m of cable at 2.97Gbps. The signal is then reclocked, with automatic rate detection for all popular data rates. LED indicators at the front of the card identify the presence of incoming video and the identified signal data rate.

The SRA-8201A and SRA-8601A operate as a 1x8 (one in, eight out) in the DFR-8310 series frames. In the DFR-8320 series frames, either card can be operated as the traditional 1x8, or it can operate as an independent 1x4 (one in, four out) using the split rear module configuration available in the DFR-8320 series frames. In the 1x4 configuration, the outputs are non-inverting making it an excellent ASI distribution amplifier.

Features

The following features make the either the SRA-8201A and the SRA-8601A the best solution for general SDI equalizing, reclocking, and distribution:

- One input with 8 outputs
- Equalizes and reclocks SDI signals of 270Mbps and 1.485Gbps (*SRA-8201A*)
- Equalizes and reclocks SDI signals of 270Mbps, 1.485Gbps, and 2.97Gbps (*SRA-8601A*)
- Equalizes greater than 300m of Belden 1694A cable at 270Mbps, or greater than 120m of cable at 1.485Gbps (*SRA-8201A*)
- Equalizes greater than 300m of Belden 1694A cable at 270Mbps, greater than 120m of cable at 1.485Gbps, or greater than 80m of cable at 2.97Gbps (*SRA-8601A*)
- Automatic detection of incoming data rate
- LED indicators for signal presence and data rate
- Excellent input and output return loss
- Fits DFR-8310 and DFR-8320 series frames
- High density with 20 cards per frame (4 outputs) in the DFR-8320 frames using Split Rear Modules
- Fully compliant with openGear specifications
- 5 year transferable warranty

Functional Block Diagram

This section provides a functional block diagram that outlines the workflow of the SRA-8201A and SRA-8601A.

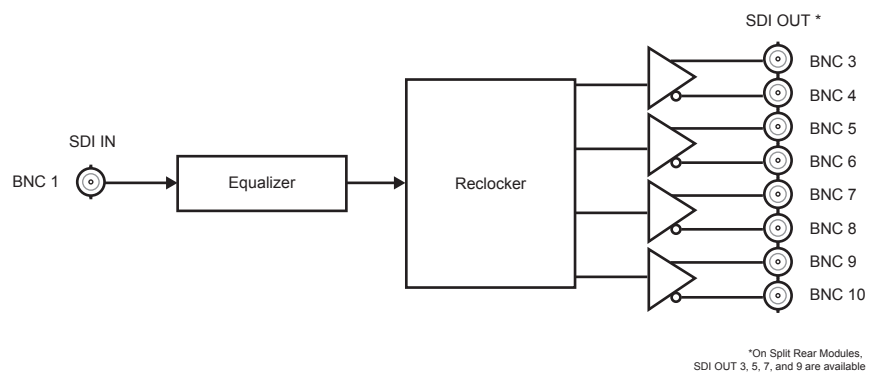


Figure 1.1 SRA-8201A and SRA-8601A — Simplified Block Diagram

Documentation Terms

The following terms are used throughout this manual:

- “**Frame**” refers to the DFR-8300 series frame that houses the card, as well as any openGear frames.
- All references to the DFR-8300 series frame also includes all versions of the 10-slot (DFR-8310) and 20-slot (DFR-8321) frames and any available options.
- All references to “**SRA-8201A**” also refer to the SRA-8601A unless otherwise noted.
- “**Operator**” and “**User**” both refer to the person who uses the SRA-8201A and/or SRA-8601A.
- “**Board**” and “**Card**” both refer to the SRA-8201A or SRA-8601A itself, including all components and switches.
- “**System**” and “**Video system**” both refer to the mix of interconnected production and terminal equipment in which the SRA-8201A and/or SRA-8601A operates.

Installation

In This Chapter

This chapter provides instructions for installing the rear modules for the SRA-8201A and SRA-8601A, installing the card(s) in the frame, and cabling details.

The following topics are discussed:

- Before You Begin
- Installing the SRA-8201A and SRA-8601A
- Cabling for the SRA-8201A and SRA-8601A

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 SRA-8201A and SRA-8601A 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 SRA-8201A and SRA-8601A

The SRA-8201A and SRA-8601A are compatible with the DFR-8310 and DFR-8321 series frames. The procedure for installing the Rear Module in your openGear frame is the same regardless of the frame, module, or card used.

Rear Modules for the SRA-8201A

The Rear Module for the SRA-8201A depends on the openGear frame you are installing the card into.

- **DFR-8310 frames** — When installing the SRA-8201A in a DFR-8310 series frame, the **8310AR-030** Rear Module (R1-8201A) is required. The SRA-8201A is also compatible with the DFR-8310-BNC frame.
- **DFR-8321 frames** — When installing the SRA-8201A in a DFR-8321 series frame, the **8320AR-031** Split Rear Module (R2S-8201A) or the **8320AR-030** Full Rear Module (R2-8201A) can be used.

Rear Modules for the SRA-8601A

The Rear Module for the SRA-8601A depends on the openGear frame you are installing the card into.

- **DFR-8310 frames** — When installing the SRA-8601A in a DFR-8310 series frame, the **8310AR-030** Rear Module (R1-8601A) is required. The SRA-8601A is also compatible with the DFR-8310-BNC frame.
- **DFR-8321 frames** — When installing the SRA-8601A in a DFR-8321 series frame, the **8320AR-041** Split Rear Module (R2-8601A) or the **8320AR-040** Full Rear Module (R2-8601A) is required.



Note — You must use the 8320AR-041 or 8320AR-040 Rear Modules with the SRA-8601A in order to equalize and reclock SDI signals of 2.97Gbps.

Installing a Rear Module

If you are installing the card in a DFR-8310-BNC frame, or the Rear Module is already installed, skip this section.

Use the following procedure to install the rear module in an DFR-8300 series frame:

1. Refer to the **DFR-8300 Series User Manual** to ensure that the frame is properly installed according to instructions.
2. On the rear of the frame, locate the card frame slot.
3. Remove the Blank Plate from the rear of the slot you have chosen for card installation.
4. As shown in **Figure 2.1**, seat the bottom of the rear module in the seating slot at the base of the frame's back plane.

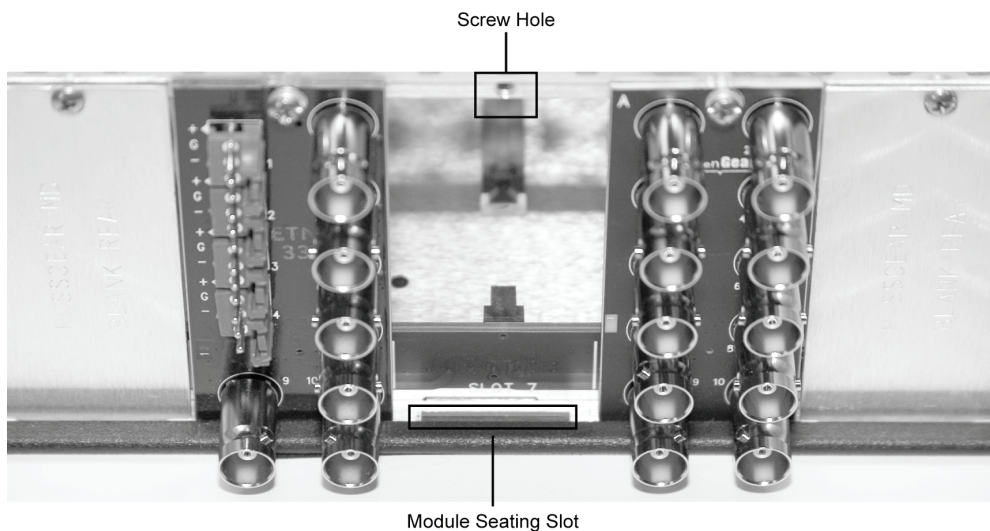


Figure 2.1 *Rear Module Installation in a DFR-8310 Series Frame (Cards not shown)*

5. Align the top hole of the rear module with the screw hole on the top edge of the frame back plane.
6. Using a Phillips screwdriver and the supplied screw, fasten the rear module to the back plane. Do not over-tighten.
7. Ensure proper frame cooling and ventilation by having all rear frame slots covered with rear modules or blank metal plates.

This completes the procedure for installing the rear module in a DFR-8300 series frame.

Board Installation

Use the following procedure to install the card in a DFR-8300 series frame:

1. Locate the Rear Module you installed in the procedure “**Installing a Rear Module**” on page 2-3.
2. Hold the 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 plugs are properly seated on the midplane and rear modules.
4. Affix the supplied Rear Module label to the BNC area on the rear of the rack frame.

This completes the procedure for installing the card in a DFR-8300 series frame.

Cabling for the SRA-8201A and SRA-8601A

This section provides instructions for connecting cables to the installed rear modules on your DFR-8300 series frame backplane. The inputs are internally terminated in 75ohms. It is not necessary to terminate unused outputs.

SRA-8201A Cabling Overview

The SRA-8201A is used with the following rear modules:

- **8310AR-030** Rear Module (R1-8201A) — Each card occupies one slot and provides an SDI input and eight SDI outputs. (**Figure 2.2**)
- **8320AR-030** Full Rear Module (R2-8201A) — Each card occupies two slots and provides an SDI input and eight SDI outputs. Ensure that the SRA-8201A card is installed in an even slot number. (**Figure 2.2**)
- **8320AR-031** Split Rear Module (R2S-8201A) — Each card occupies one slot and provides one SDI input, and four SDI outputs. Each Split Rear Module provides connections for two cards. (**Figure 2.3**)

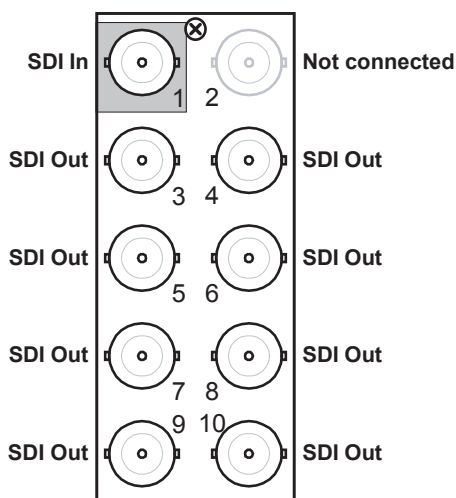


Figure 2.2 Cable Connections for the 8310AR-030 and 8320AR-030 Full Rear Modules

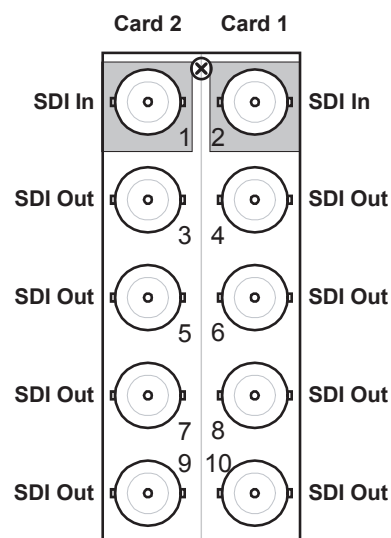


Figure 2.3 Cable Connections for the 8320AR-031 Split Rear Modules

SRA-8601A Cabling Overview

The SRA-8601A is used with the following rear modules:

- **8310AR-030** Rear Module (R1-8601A) — Each card occupies one slot and provides an SDI input and eight SDI outputs. (**Figure 2.2**)
- **8320AR-030** Full Rear Module (R2-8601A) — Each card occupies two slots and provides an SDI input, and eight SDI outputs. Ensure that the SRA-8601A card is installed in an even slot number. (**Figure 2.2**)
- **8320AR-031** Split Rear Module (R2S-8601A) — Each card occupies one slot and provides an SDI input, and four SDI outputs. Each Split Rear Module provides connections for two cards. (**Figure 2.3**)

User Controls

In This Chapter

This chapter provides a general overview of the user controls available on the SRA-8201A and SRA-8601A.

The following topics are discussed:

- Card Overview
- Control and Monitoring Features
- Reclocker Rate Selection

Card Overview

This section describes the jumpers on the SRA-8201A and SRA-8601A. Refer to **Figure 3.1** for jumper locations. Note that the locations are the same regardless of the card.



Figure 3.1 Card-edge Controls (SRA-8601A shown)

1) SW1 – Reclocker Rate Select Button	3) JP2 – Loss of Signal	5) SW4 – Bootload Button
2) JP1 – Card Control	4) JP3 – Bypass Mode	

1. SW1 – Reclocker Rate Select Button

The **Reclocker Rate Select** button (**SW1**) enables you to set the reclocking rate of the card.

Pressing **SW1** cycles through the following options:

- **AUTO** — Setting the reclocker rate to **Auto** enables automatic rate detection on the card. It will automatically lock to input at any supported data rate (143 Mbps, 270 Mbps, 360 Mbps, 540 Mbps, 1.5Gbps or 3Gbps¹). The Rate LEDs display the data rate of the input.
- **BYPASS** — When in Bypass Mode, the card passes any data rate without reclocking. The output is set to the HD slew rate except when the input is a valid SD data rate (143Mbps, 270Mbps, 360Mbps, or 540 Mbps).
- **270M** — This configures the card to reclock at a rate of 270Mbps (SD).
- **1.5G** — This configures the card to reclock at a rate of 1.5Gbps (HD).
- **3G** — This configures the SRA-8601A to reclock at a rate of 3Gbps (HD).

2. JP1 – Card Control

JP1 selects whether the card parameters are remotely editable (for example via DashBoard or SNMP).

Select one of the following options:

- **REMOTE** — The remote configuration is enabled. All parameters may be configured remotely. Data rate selection can also be configured locally using **SW1**, however the jumper settings (**JP2** and **JP3**) are ignored.
- **LOCAL** — The remote configuration is disabled. The card can only be configured using the card-edge controls (**SW1**, **JP2**, and **JP3**). The card status and configuration can still be monitored remotely when **JP1** is set to **LOCAL**. This option is useful to lock out remote configuration changes. This is the default setting.

3. JP2 – Loss of Signal

JP2 determines the card behavior on loss of input. This jumper is used in conjunction with **JP1** when **JP1** is set to **LOCAL**.

1. This is only available for the SRA-8601A.

Select one of the following options:

- **MUTE** — The card outputs are muted when the input equalizer is unable to detect a valid input signal, or when the reclocker is unable to lock to the input.
- **NO MUTE** — The card outputs are not muted on loss of input or lock. This is the default setting.

4. **JP3 – Bypass Mode**

The position of **JP3** determines the equalizer behavior when the reclocker is set to **Bypass**. Refer to the section “**Reclocker Rate Selection**” on page 3-6 for details. This jumper is used in conjunction with **JP1** when **JP1** is set to **LOCAL**.

Select one of the following options:

- **EQ** — The equalizer is always enabled.
- **NO EQ** — The equalizer is disabled when the **Reclocker Rate** is set to **Bypass**. This setting allows the card to pass signals that are outside the response band of the equalizer, such as <143MHz. This is useful for very low data rates such as DVB-ASI.

5. **SW4 – Bootload Button**

This button is used for factory service in the unlikely event of a complete card failure. The Bootload process is further described in the chapter, “**Service Information**” on page 6-1.

Control and Monitoring Features

The following sections describe the card-edge LEDs. Refer to **Figure 3.2** for LED locations.

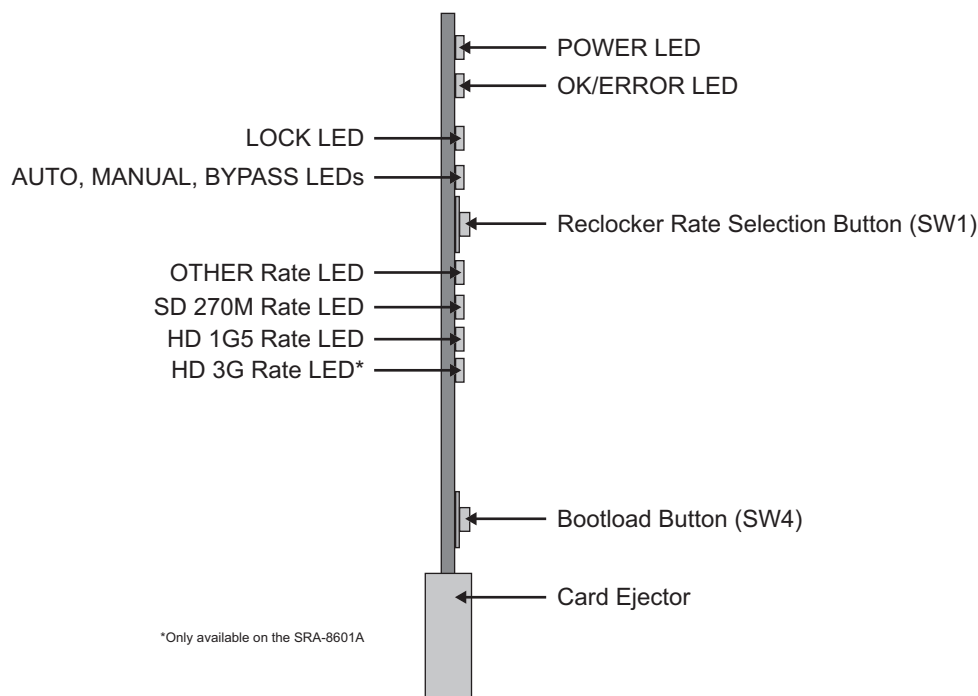


Figure 3.2 LED Locations

Status LEDs on the SRA-8201A and SRA-8601A

The front edge of the SRA-8201A and SRA-8601A has LED indicators for the power, video input status, and communication activity. Basic LED displays and descriptions are provided in **Table 3.1**.

Table 3.1 LEDs on the SRA-8201A and SRA-8601A

LED	Color	Display and Description
PWR	Green	When lit green, this LED indicates that the card is functioning normal and that no anomalies have been detected. The following conditions must be satisfied: • a valid input signal is present • a valid reference signal is present when a reference is required, and that the reference standard matches the input standard.
	Flashing Green	When flashing green, this LED indicates that the Bootload button was pressed, and the card is receiving a new software load from the frame.
	Flashing Green and Orange	When lit green with flashing orange, this LED indicates a signal or configuration problem. Verify the signal status and settings.
	Amber	When lit amber, this LED indicates the card is running internal diagnostics while powering up.

Table 3.1 LEDs on the SRA-8201A and SRA-8601A

LED	Color	Display and Description
PWR	Red	When lit red or flashing red, this LED indicates the card is not operational. Re-seat card in frame, check the rear module type and connections, or call Ross Video Technical Support.
	Off	When off, this LED indicates there is no power to the card.
OK/ERROR	Green	When lit, this LED indicates that a valid SDI input signal is present.
	Red	When red, this LED indicates that the SDI input signal is missing or invalid.
LOCK	Green	When lit green, this LED indicates that the reclocker is locked to the input signal.
	Red	When lit red, this LED indicates that the reclocker is unable to lock to the input. This typically indicates that the input data rate is different from the configured reclocking rate, or that the input is an unsupported data rate.
	Off	When off, this LED indicates that the reclocker is set to BYPASS . Refer to the section “ Reclocker Rate Selection Button ” for details.
AUTO^a		When lit, this LED indicates that the reclocker is configured to lock to any supported input data rate, using an automatic rate detection scheme.
MANUAL^a		When lit, this LED indicates that the reclocker is configured to a fixed data rate, or to Bypass . When configured to a fixed data rate, automatic data rate detection is disabled.
BYPASS^a		When lit, this LED indicates that the reclocker is manually configured to Bypass . The card output is not reclocked.
OTHER		When lit, this LED indicates that the reclocker is configured in Auto mode and is locked to an SD signal of 143, 360, or 540Mbps. The actual data rate is displayed in DashBoard.
SD 270M		When lit, this LED indicates that the reclocker is set to a fixed rate of 270Mbps (SD), or is configured in Auto mode and is locked to a 270Mbps SD signal.
HD 1G5		When lit, this LED indicates that the reclocker is set to a fixed rate of 1.5Gbps (HD), or is configured in Auto mode and is locked to a 1.5Gbps HD signal.
HD 3G		When lit, this LED indicates that the reclocker is set to a fixed rate of 3Gbps (HD), or is configured in Auto mode and is locked to a 3Gbps HD signal. This LED is only available on the SRA-8601A.

- a. These LEDs indicate the Reclocker mode configured using **SW1**. Either the **AUTO** LED or the **MANUAL** LED will be illuminated at one time.

Reclocker Rate Selection

This section describes the Reclocker Rate Selection button and LEDs. Refer to **Figure 3.2** for button and LED locations.

Reclocker Rate Selection LEDs

Table 3.2 provides information on the **Reclocker Rate Selection (SW1)** button and LED functions.

Table 3.2 Rate Selection and LED Functions

Date Rate LED Displays							Description
AUTO	MANUAL	BYPASS	OTHER	270M	1G5	3G	
							Auto mode, card searching for valid rate
							Auto mode, card detects and reclocks SD rate of 143Mbps, 360Mbps, or 540Mbps
							Auto mode, card detects and reclocks rate of 270Mbps
							Auto mode, card detects and reclocks rate of 1.5Gbps
							Auto mode, SRA-8601A detects and reclocks 3Gbps
							Card is configured for Bypass mode
							Card is set to reclock 270Mbps
							Card is set to reclock 1.5Gbps
							SRA-8601A is set to reclock 3Gbps

 = Illuminated LED

Menus

In This Chapter

This section provides a summary of the menus available for the SRA-8201A and/or SRA-8601A.

The following topics are discussed:

- SNMP Monitoring and Control
- DashBoard Control System

SNMP Monitoring and Control

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

Refer to your SRA-8201A and/or SRA-8601A Management Information Base (MIB) file for a breakdown of SNMP controls on your card.

Refer to your ***DFR-83200 Series User Manual*** and your ***MFC-8300 Series User Manual*** for additional information on SNMP Monitoring and Control.

DashBoard Control System

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 Network Controller Card. This section briefly summarizes the menus, items, and parameters available from DashBoard for the SRA-8201A and/or SRA-8601A. Default parameters are noted with an asterisk (*).

Status Menus

The following table summarizes the **Status Menu** options available in DashBoard.

Table 4.1 Status Tab Items

Tab Title	Item	Parameters	Description
Product (Read-only)	Product	SRA-8201A and/or SRA-8601A	
	Supplier	Ross Video Ltd.	
	Board Rev	##	
	Serial Number	#####	Indicates the card serial number
	Software Rev	##.##	Indicates the software version
Hardware (Read-only)	Voltage (mV)	#	Supply Voltage
	Current (mA)	#	Current consumption of card
	Rear Module	14.4	Indicates a Full Rear Module is installed
		15.4	Indicates a Split Rear Module is installed
	CPU Headroom	#	Processing power available
	RAM Available	##/##	On-board processing memory available
	EE Bank	#	Storage count
Signal (Read-only)	Signal Status	OK	Card is passing a valid signal
		No Input	No input is present
		Unlocked	Reclocker cannot lock to input (data rate is invalid)
	Output Status	Locked - 143Mbps	Output is valid and reclocked at 143Mbps
		Locked - 270Mbps	Output is valid and reclocked at 270Mbps
		Locked - 360Mbps	Output is valid and reclocked at 360Mbps
		Locked - 540Mbps	Output is valid and reclocked at 540Mbps
		Locked - 1.5Gbps	Output is valid and reclocked at 1.5Gbps
		Locked - 3Gbps ^a	Output is valid and reclocked at 3Gbps
		Bypass	Signal present but is not reclocked
		No Input	No input present
		No Input - muted	No input present and the output is muted

Table 4.1 Status Tab Items

Tab Title	Item	Parameters	Description
Signal (Read-only)		Unlocked	Input is present and the reclocker is unlocked. Output may be invalid.
		Unlocked - muted	Input is present, the reclocker is unlocked. Output is muted.

a. Only available for the SRA-8601A.

Setup Menus

The following table summarizes the **Setup Menu** options available in DashBoard.

Table 4.2 Setup Menu Items

Menu Title	Item	Parameters	Description
Setup	Reclock Rate	Auto*	Card automatically detects the incoming data rate
		Bypass	Card does not reclock the input
		270Mbps	Reclocker is set to 270Mbps
		1G5	Reclocker is set to 1.5Gbps
		3G ^a	Reclocker is set to 3Gbps
	Equalize on Bypass	Checkbox is selected*	Equalizer is always enabled
		Checkbox is unselected	Equalizer is disabled w hen the card is in Bypass Mode
	Mute on Loss of Input	Checkbox is selected	Output is muted on loss of the input
		Checkbox is unselected*	Output is not muted on loss of the input
	Notify on Loss of Input	Checkbox is selected*	DashBoard reports the loss of input
		Checkbox is unselected	DashBoard ignores the loss of input
	Edit Permission	Unlocked*	All configurable menu options are editable
		Locked	All configurable menu options, except this one, are locked and read-only
		Local Only	JP1 is set to LOCAL and all configuration parameters, including this one, are locked and read-only
	Factory Defaults	Reset	Defaults all parameters to the factory default values

a. Only available for the SRA-8601A.

Specifications

In This Chapter

This chapter includes the Technical Specifications for the SRA-8201A and SRA-8601A. Note that specifications are subject to change without notice.

The following topics are discussed:

- SRA-8201A Technical Specifications
- SRA-8601A Technical Specifications

SRA-8201A Technical Specifications

This section lists the technical specifications for the SRA-8201A.

Table 5.1 SRA-8201A Technical Specifications

Category	Parameter	Specification
SDI Input	Number of Inputs	1
	Data Rates and SMPTE Standards Accommodated	143Mbps, NTSC AFSC, SMPTE 259M-A 270Mbps, 525/625 Component, SMPTE 259M-C 360Mbps, 525/625 Component (wide screen), SMPTE 259M-D 520Mbps, 525/625 Component (EDTV), SMPTE 344M 1.5Gbps Component, SMPTE 292M
	Impedance	75Ω terminating
	Equalization	>300m of Belden 1694A cable @ 270Mbps >120m of Belden 164A cable @ 1.485Gbps
	Return Loss	>15dB to 1.485GHz
SDI Outputs	Number of Outputs	Full Rear Module: 8 Split Rear Module: 4
	Impedance	75Ω
	Return Loss	>15dB to 1.485GHz
	Signal Level	800mV ±10%
	DC Offset	0V ±50mV
	Rise & Fall Time (20-80%)	700ps typical (270Mbps) 120ps typical (1.485Gbps)
	Overshoot	<8%
Power	Total Power Consumption	2.9W

SRA-8601A Technical Specifications

This section lists the technical specifications for the SRA-8601A.

Table 5.2 SRA-8601A Technical Specifications

Category	Parameter	Specification
SDI Input	Number of Inputs	1
	Data Rates and SMPTE Standards Accommodated	143Mbps, NTSC AFSC, SMPTE 259M-A 270Mbps, 525/625 Component, SMPTE 259M-C 360Mbps, 525/625 Component (wide screen), SMPTE 259M-D 520Mbps, 525/625 Component (EDTV), SMPTE 344M 1.5Gbps Component, SMPTE 292M 3Gbps Component, SMPTE 424M
	Impedance	75 Ω terminating
	Equalization	>300m of Belden 1694A cable @ 270Mbps >120m of Belden 1694A cable @ 1.485Gbps >80m of Belden 1694A cable @ 2.97Gbps
	Return Loss	>15dB to 1.485GHz >10dB to 2.97GHz
SDI Outputs	Number of Outputs	Full Rear Module: 8 Split Rear Module: 4
	Impedance	75 Ω
	Return Loss	>15dB to 1.485GHz >10dB to 2.97GHz
	Signal Level	800mV $\pm$ 10%
	DC Offset	0V $\pm$ 50mV
	Rise & Fall Time (20-80%)	700ps typical (270Mbps) 120ps typical (1.485Gbps) 135ps typical (2.97Gbps)
	Overshoot	<8%
Power	Total Power Consumption	2.9W

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 SRA-8201A and/or SRA-8601A, 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 at the end of the manual.

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. **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.

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 SRA-8201A and/or SRA-8601A.

Use the following procedure to perform a complete software reload on the card:

1. Eject the card.
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.
 - Contact Ross Technical Support for the latest software load for your SRA-8201A and/or SRA-8601A.

Warranty and Repair Policy

The SRA-8201A and/or SRA-8601A 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 SRA-8201A and/or SRA-8601A 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 SRA-8201A and/or SRA-8601A 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 SRA-8201A and/or SRA-8601A 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 SRA-8201A and/or SRA-8601A 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 SRA-8201A and/or SRA-8601A, 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 SRA-8201A and/or SRA-8601A. 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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