



openGear

UDC-8625A Series User Guide

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9. We will go above and beyond in times of crisis. *If there's no one to authorize the required action in times of company or customer crisis - do what you know in your heart is right. (You may rent helicopters if necessary.)*

UDC-8625A Series · User Guide

- Ross Part Number: **8625ADR-004-13**
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Patents

Patent numbers US 7,034,886; US 7,508,455; US 7,602,446; US 7,802,802 B2; US 7,834,886; US 7,914,332; US 8,307,284; US 8,407,374 B2; US 8,499,019 B2; US 8,519,949 B2; US 8,743,292 B2; GB 2,419,119 B; GB 2,447,380 B; and other patents pending.

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Safety Notices

Refer to the “**Important Regulatory and Safety Notices**” document that accompanied your product.

Statement of Compliance

This product has been determined to be compliant with the applicable standards, regulations, and directives for the countries where the product is marketed.

Compliance documentation, such as certification or Declaration of Compliance for the product is available upon request by contacting techsupport@rossvideo.com. Please include the product; model number identifiers and serial number and country that compliance information is needed in request.

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 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 Ltd. could void the user's authority to operate this equipment.*

Canada

This Class "A" digital apparatus complies with Canadian ICES-003 and part 15 of the FCC Rules.
Cet appareil numerique de la classe "A" est conforme a la norme NMB-003 du Canada.

European Union

This equipment is in compliance with the essential requirements and other relevant provisions established under regulation (EC) No 765/2008 and Decision No 768/2008/EC referred to as the "New Legislative Framework".



Warning — *This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.*

Australia/New Zealand

This equipment is in compliance with the provisions established under the Radiocommunications Act 1992 and Radiocommunications Labeling (Electromagnetic Compatibility) Notice 2008.

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Class A equipment (Broadcasting and communications service for business use)

This device is a business-use (Class A) EMC-compliant device. The seller and user are advised to be aware of this fact. This device is intended for use in areas outside home.

Type of Equipment	User's Guide
A급 기기 (업무용 방송통신기자재)	이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.
Class A Equipment (Industrial Broadcasting & Communication Equipment)	This equipment is Industrial (Class A) electromagnetic wave suitability equipment and seller or user should take notice of it, and this equipment is to be used in the places except for home.

International

This equipment has been tested under the requirements of CISPR 22:2008 or CISPR 32:2015 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 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 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

This guide covers the installation, configuration, and use of the UDC-8625A series. The following chapters are included:

- **“Introduction”** summarizes the guide and provides important terms, and conventions.
- **“Before You Begin”** provides general information to keep in mind before installing and configuring your card.
- **“Hardware Overview”** provides a basic introduction to the hardware features including the cabling and monitoring features of the rear module.
- **“Physical Installation”** provides instructions for the physical installation of the card and its rear module into an openGear frame.
- **“Cabling”** provides an overview of connecting input and output devices to the rear module of the card.
- **“Getting Started”** outlines how to display the card interfaces in DashBoard.
- **“Basic Configuration”** provides instructions for configuring the card network settings, specifying the reference source for the card, setting the card output video format, and how to configure each GPI/Tally independently on the card.
- **“AFD”** outlines the AFD controls that the UDC-8625A series card.
- **“Ancillary Data”** provides an overview of ANC processing for the UDC-8625A series card.
- **“Audio Configuration”** provides instructions for configuring the audio features using the menus in DashBoard.
- **“Media File Management”** provides information on managing the images and animations using the DashBoard options available for the UDC-8625A series card.
- **“Operation”** outlines basic operation tasks, such as keying and transitions, on the UDC-8625A series cards.
- **“Software Upgrades”** outlines how to upgrade the card via DashBoard.
- **“DashBoard Interface Overview”** summarizes the menus and parameters in DashBoard.
- **“UDC-8625A Specifications”** provides the specifications for the UDC-8625A.
- **“UDC-8625A-A Specifications”** provides the specifications for the UDC-8625A-A.
- **“UDC-8625A-B Specifications”** provides the specifications for the UDC-8625A-B.
- **“ARC Setting Examples”** provides examples of configuring the options in the **ARC** tab with graphical examples of the input and output images.
- **“Cascade Feature”** presents one possible implementation of the Cascade feature.
- **“Software Licenses”** provides third-party software license information for your card.
- **“Service Information”** provides information on the warranty and repair policy for your card.
- **“Glossary”** provides a list of terms used throughout this guide.

Related Publications

It is recommended to consult the following Ross documentation before installing and configuring your UDC-8625A:

- ***DashBoard User Manual***, Ross Part Number: 8351DR-004
- ***MFC-OG3-N and MFC-8322-S User Manual***, Ross Part Number: 8322DR-004
- ***OG3-FR Series User Manual***, Ross Part Number: 8322DR-005
- ***OGX-FR Series User Manual***, Ross Part Number: 8322DR-204

Documentation Conventions

Special text formats are used in this guide to identify parts of the user interface, text that a user must enter, or a sequence of menus and sub-menus that must be followed to reach a particular command.

Interface Elements

Bold text is used to identify a user interface element such as a dialog box, menu item, or button. For example:

In the **Network** tab, click **Apply**.

User Entered Text

Courier text is used to identify text that a user must enter. For example:

In the **Language** box, enter `English`.

Referenced Guides

Text set in bold and italic represent the titles of referenced guides, manuals, or documents. For example:

For more information, refer to the ***DashBoard User Manual***.

Menu Sequences

Menu arrows are used in procedures to identify a sequence of menu items that you must follow. For example, if a step reads "**File** > **Save As**," you would click the **File** menu and then click **Save As**.

Important Instructions

Star icons are used to identify important instructions or features. For example:

- ★ Contact your IT department before connecting to your facility network to ensure that there are no conflicts. They will provide you with an appropriate value for the IP Address, Subnet Mask, and Gateway for your device.

Contacting Technical Support

At Ross Video, we take pride in the quality of our products, but if problems occur, help is as close as the nearest telephone.

Our 24-hour Hot Line service ensures you have access to technical expertise around the clock. After-sales service and technical support is provided directly by Ross Video personnel. During business hours (Eastern Time), technical support personnel are available by telephone. After hours and on weekends, a direct emergency technical support phone line is available. If the technical support person who is on call does not answer this line immediately, a voice message can be left and the call will be returned shortly. This team of highly trained staff is available to react to any problem and to do whatever is necessary to ensure customer satisfaction.

- **Technical Support:** (+1) 613-652-4886
- **After Hours Emergency:** (+1) 613-349-0006
- **E-mail:** techsupport@rossvideo.com
- **Website:** <http://www.rossvideo.com>

Before You Begin

If you have questions pertaining to the operation of your card, contact us at the numbers listed in “**Contacting Technical Support**”. Our technical staff is always available for consultation, training, or service.

Product Overview

The UDC-8625A series are feature rich 3G¹ / HD / SD SDI converters that support all traditional formats including 1080p, 1080i, 720p, 480i, and 576i. Audio and video synchronization is combined with a signal processor, offering full control of the 16 channels of audio, with gain, invert, shuffle and sample rate conversion. Video processing offers adjustment for luma / chroma gain plus black offset with ANC processing including AFD processing and insertion. Fill around Pillar bar / letter box (Wings) can be inserted from the external fill signal or internally from a logo inserter. A/B inputs can be configured to V-Fade or operate in an auto fail-safe mode selecting the secondary input on failure / absence of the primary input.

Keyer

The UDC-8625A series can be operated as a keyer using the external Key / Fill inputs to key over the Program input. The operation can be extended to allow for mixing of the background with V-Fade transitions behind the keyer by using the second background input.

Logo Inserter

The UDC-8625A series offer internal 2GB storage for logo insertion that supports static and animated playout with support for TGA, GIF, PNG, JPEG, and BMP file formats.

A/B Mixer

For downstream signal mixing, the UDC-8625A series offers a full audio / video mixing engine that can be configured to perform Fade-Fade, Take-Fade, or Fade-Take transitions with selectable rate control.

Combined UDC, Keyer, Logo Inserter, and A/B Mixer

Any combination, as required!

Control

The UDC-8625A series offer complete remote control and monitoring via the DashBoard Control System.

Discrete Audio Processing (UDC-8625A-A and UDC-8625A-B)

The UDC-8625A-A and UDC-8625A-B offer discrete audio processing using an audio daughter card and the 8320AR-052A, 8320AR-053A, or 8320AR-053B rear modules with 8 AES connections. DashBoard enables configuration of the 8 AES I/O as 8 AES inputs, 8 AES outputs, or 4 AES inputs / 4 AES outputs. The UDC-8625A-A and UDC-8625A-B also offer embedding, de-embedding and full discrete audio processing functions.

1. Not supported on the 8310AR-033 rear module.

The UDC-8625A-A unbalanced AES model is available with an 8 DIN rear module (8320AR-053A) or an 8 HD-BNC rear module (8320AR-053B). The UDC-8625A-B provides 8 balanced AES connections via WECO™ terminal blocks on the 8320AR-052A rear module.

Features

The following features are standard on the UDC-8625A series cards:

- Compliance with SMPTE 259M, SMPTE 292M, SMPTE 424M, SMPTE 272M-A 48kHz 24bit, and SMPTE 299M-2004 48kHz 24bit
- Passes SMPTE 291M formatted vertical ancillary data from input to output
- Up/Down/Cross Conversion of all traditional formats: 1080p¹, 1080i, 720p, 480i, and 576i
- Compatible with SmartConversion
- Detects the incoming video format, and converts to the assigned output format
- Built-in Frame Synchronizer times outputs to a selectable local or frame-wide reference
- Support for SD reference or tri-level sync
- Support for “cascade” output of Wings SDI input
- Additional input for A/B transitions or use as a backup input
- Supports Active Format Description (AFD)
- Supports RP 186-1995 and RP 186-2008 Video Index data
- Flexible aspect ratio control
- Ability to create and recall ARC configuration profiles
- Individual Proc Amps for each output
- Output can be dithered and clipped to SMPTE levels
- Provides DTVCC, and NTSC caption processing including frame rate conversion
- External key video and key alpha inputs for keyers
- 2GB animation store for keyers
- Ample input status, and output test pattern and tone generation for easy signal troubleshooting
- 16 channels embedded audio pass through with SRC and gain control
- Reports status and configuration remotely via the DashBoard Control System
- Compatible with DataSafe
- Fully compliant with openGear specifications
- 5-year transferable warranty

UDC-8625A-A and UDC-8625A-B Features

In addition to the standard features, the UDC-8625A-A and UDC-8625A-B also provide:

- Eight configurable AES connections
- Simultaneous discrete audio embedding and/or de-embedding
- Full discrete audio processing, delayed relative to the video
- Simultaneous discrete and embedded processing
- *UDC-8625A-A*: Rear module options available with DIN (8320AR-053A rear module) or with HD-BNC (8320AR-053B rear module) connections for AES inputs/outputs
- *UDC-8625A-B*: Rear module available with WECO™ (8320AR-052A) connections for AES inputs/outputs

1. Not supported on the 8310AR-033 rear module.

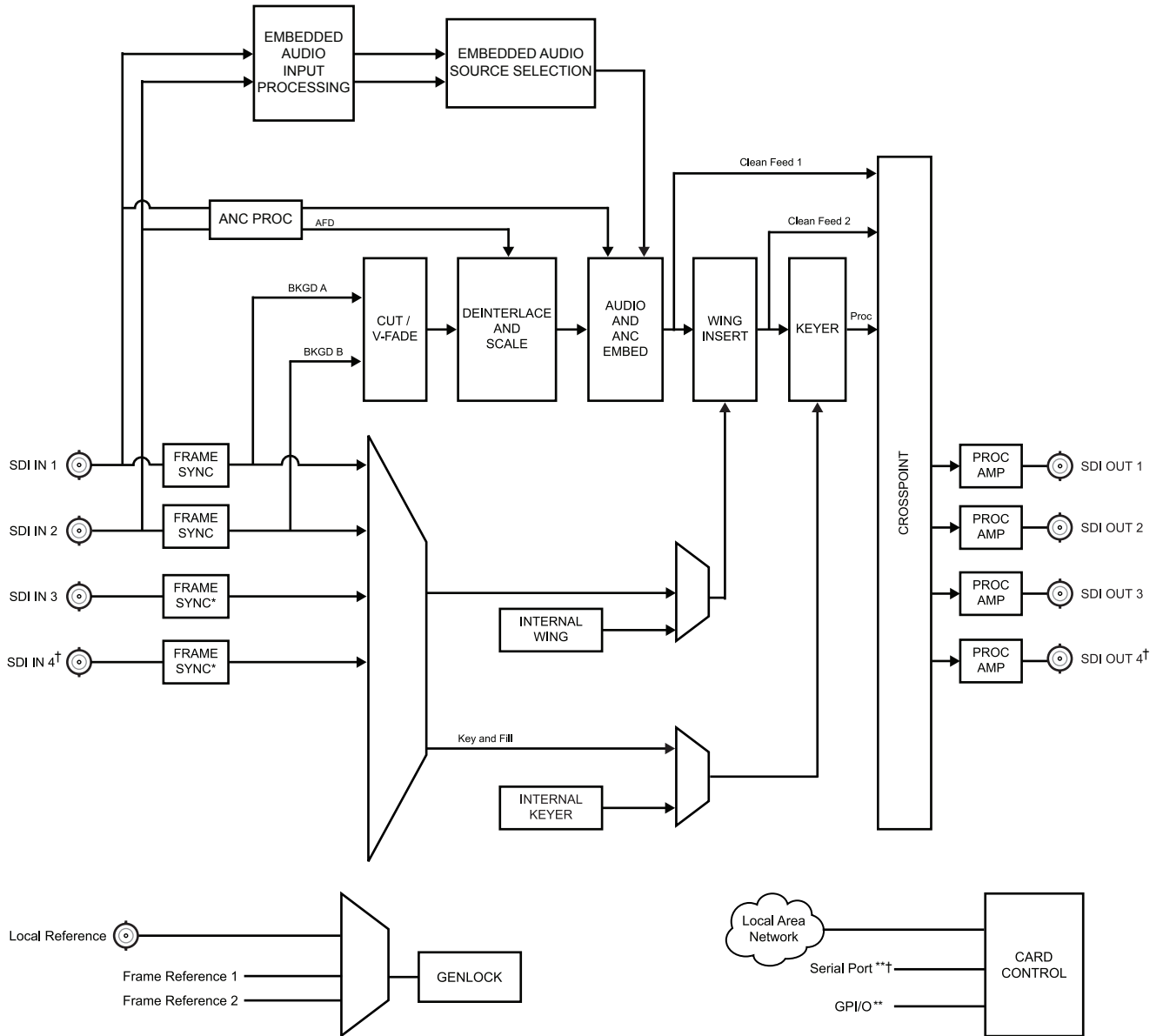
Functional Block Diagrams

This section provides functional block diagrams that outline the workflow of the UDC-8625A series.

★ The number of AES inputs and outputs is determined using the AES IO Config menu in DashBoard.

UDC-8625A Block Diagram

Figure 1 outlines the workflow of the UDC-8625A.



* Frame sync function is always enabled on SDI IN 1 and SDI IN 2. Note that SDI IN 3 and SDI IN 4 are limited to line sync when the output is 3G.

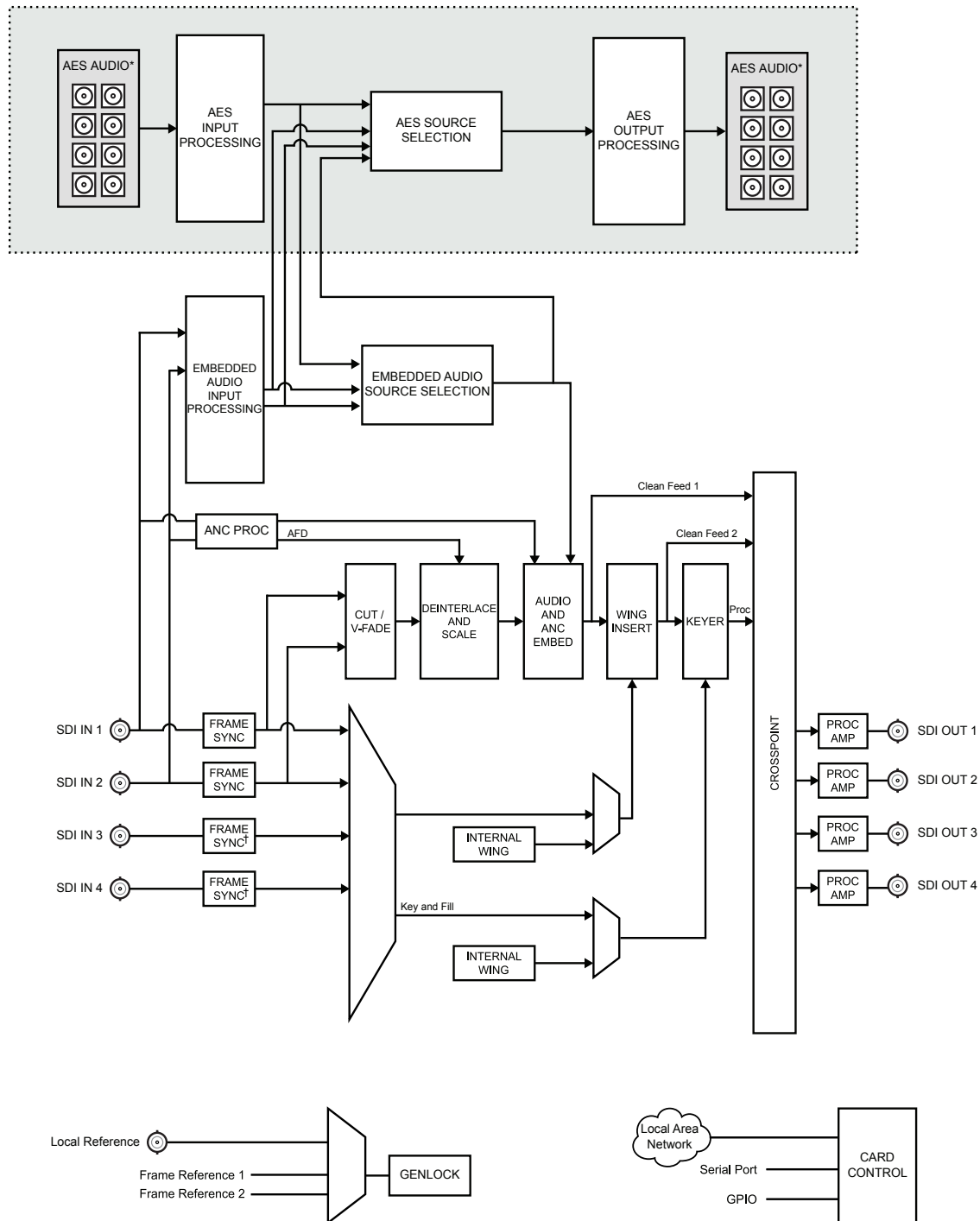
** Not available when using the 8320AR-041 rear module.

† Not available when using the 8322AR-065 rear module.

Figure 1 UDC-8625A — Simplified Block Diagram

UDC-8625A-A and UDC-8625A-B Block Diagram

Figure 2 outlines the workflow of the UDC-8625A-A when using the 8320AR-053A Rear Module. When using the 8320AR-053B Rear Module, HD-BNC connectors are available. When using the UDC-8625A-B, the 8320AR-052A Rear Module provides WECO™ connectors.



* Note that the number of AES inputs and outputs is dependent on how the AES IO Config is set: 8 in and 0 out, 4 in and 4 out, 0 in and 8 out.
 † Frame sync function is always enabled on SDI IN 1 and SDI IN 2. Note that SDI IN 3 and SDI IN 4 are limited to line sync when the output is 3G.

Requires the audio daughter card and the appropriate rear module.

Figure 2 UDC-8625A-A and UDC-8625A-B — Simplified Block Diagram

Format Conversion

The UDC-8625A series provides up-conversion, down-conversion, and cross-conversion. The card converts the incoming video to any supported video format and incorporates a video frame synchronizer to allow the output video to be timed to an external video reference.

The UDC-8625A series can cleanly switch between **SDI IN 1** and **SDI IN 2** for conversion. The two sources do not have to be the same format. **SDI IN 3** and **SDI IN 4** do not offer format conversion. Using advanced video de-interlacing algorithms, and full 10bit processing, format conversion is performed with the highest possible picture quality. As part of the format conversion process, a flexible aspect ratio converter allows the video to be re-sized to a number of standard aspect ratios.

Supported Format Conversions

This section provides a summary of the supported formats for conversion available for the UDC-8625A series. (**Table 1**)

- ★ If an unsupported format is received, an alarm message is displayed in the **Video Processing Output** field of the **Signal** tab.

Table 1 Supported Conversion Formats

Input Formats	Output Formats							
	480i 59.94	720p 59.94	1080i 59.94	1080p 59.94 Lvl A	576i 50	720p 50	1080i 50	1080p 50 Lvl A
480i 59.94	✓	✓	✓	✓				
720p 59.94	✓	✓	✓	✓				
1080i 59.94	✓	✓	✓	✓				
1080p 59.94 Lvl A	✓	✓	✓	✓				
576i 50					✓	✓	✓	✓
720p 50					✓	✓	✓	✓
1080i 50					✓	✓	✓	✓
1080p 50 Lvl A					✓	✓	✓	✓

Output Format Reference Compatibility

The UDC-8625A series locks the output video to an external reference. Reference compatibility is shown in **Table 2**. A check-mark indicates a supported output reference compatibility.

Table 2 Output/Reference Compatibility

Reference	Output							
	480i 59.94Hz	720p 59.94Hz	1080i 59.94Hz	1080p 59.94Hz	576i 50Hz	720p 50Hz	1080i 50Hz	1080p 50Hz
480i 59.94Hz	✓	✓	✓	✓				
720p 59.94Hz		✓		✓				
1080i 59.94Hz	✓	✓	✓	✓				
576i 50Hz					✓	✓	✓	✓
720p 50Hz						✓		✓
1080i 50Hz					✓	✓	✓	✓

User Interfaces

The UDC-8625A series includes the following user interfaces.

DashBoard

DashBoard enables you to monitor and control openGear frames and cards from a computer. DashBoard communicates with cards in the frame through the Network Controller Card. This controller card is required in order to use DashBoard to monitor the UDC-8625A series card. The DashBoard software and manual are available for download from our website

- ★ Ross Video recommends using the MFC-8320-N or MFC-OG3-N Network Controller Card for optimal performance especially when multiple UDC-8625A series cards are installed in one frame. An MFC-8320-S or MFC-8322-S Controller Card can be used, but you may encounter delays in updating settings in DashBoard and upgrading the card software.

For More Information on...

- setting up and using the Network Controller Card, refer to its user manual.
- the menus in DashBoard, refer to “**DashBoard Interface Overview**”.

Card-edge Controls

The front-edge of the card features LED indicators for input status and communication activity. The card-edge also includes a 3-position jumper block used to configure the termination on the local reference input.

For More Information on...

- using the card-edge controls, refer to “**Card Overview**”.
- the LEDs, refer to “**Card-edge LEDs**”.

SNMP Monitoring and Control

The Network Controller card in the openGear frame provides optional support for remote monitoring of your frame and the UDC-8625A series card using Simple Network Management Protocol (SNMP), which is compatible with many third-party monitoring and control tools.

For More Information on...

- enabling SNMP Monitoring and Control for your frame, refer to the ***MFC-OG3 Series User Manual***.
- SNMP controls for your card, refer to its Management Information Base (MIB) file.

Hardware Overview

This section provides an overview of the hardware features of the UDC-8625A series card.

Card Overview

Figure 3 is an example of a UDC-8625A card. If you have an UDC-8625A-A or an UDC-8625A-B, an audio daughter card is mounted on the card surface.



Figure 3 Components

1) CompactFlash™ Card	2) JP5, JP6
3) Board Reset Button (SW1)	4) Reference Termination (JP7)

1. CompactFlash™ Card

The CompactFlash™ card provides 2GB of flash memory to manage media files, such as stills and animations, for the UDC-8625A series card.

2. Board Reset Button (SW1)

Pressing this button resets the microprocessor and re-initializes the card. This is a hard reset of the card and unsaved settings are not retained. This may cause loss of data and should only be performed as advised by Ross Video Technical Support.

3. JP5, JP6

These jumpers are not yet implemented and must be left in the default position of **Pin 2** (center) and **Pin 3** (bottom).

4. Reference Termination (JP7)

JP7 is a 3-position jumper block used to configure the 75ohm termination on the local reference input on the rear module.

- › **Pin 1** (left) + **Pin 2** (center) position — In this position, the reference is terminated with a 75ohm resistor. This configuration is to be used for point-to-point cabling, or on the last card of a daisy chain topology. This is the default position. Refer to **Figure 4** for pin positions.

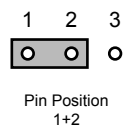


Figure 4 J7 — Default Position

- › **Pin 2** (center) + **Pin 3** (right) position — In this position, the 75ohm termination is removed and the reference is not terminated. This configuration is used in a daisy chain cabling topology where only the last card is to be terminated.

Card-edge LEDs

This section describes the card-edge LEDs. Refer to **Figure 5** for LED locations.

★ The Audio Daughter Card is only available on the UDC-8625A-A and UDC-8625A-B.

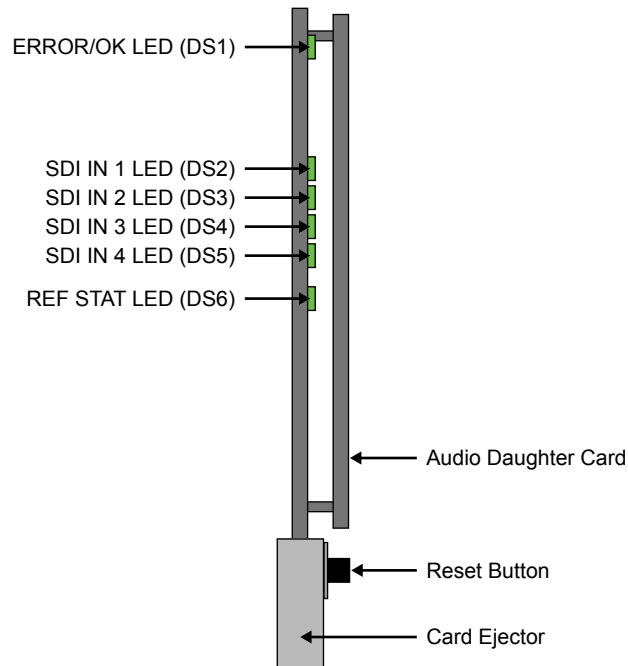


Figure 5 Card-edge LEDs

Table 3 LEDs on the Card-edge

LED	Color	Display and Description
ERROR/OK	Green	The card is in normal operation with no errors.
	Red	The card is experiencing internal errors.
	Off	There is no power to the card.
SDI IN 1	Green	The SDI IN 1 video input is valid.
	Red	The SDI IN 1 input is not present or is invalid.
SDI IN 2	Green	The SDI IN 2 video input is valid.
	Red	The SDI IN 2 input is not present or is invalid.
SDI IN 3	Green	The SDI IN 3 input is valid.
	Red	The SDI IN 3 input is not present or is invalid.
SDI IN 4	Green	The SDI IN 4 video input is valid.
	Red	The card is installed with a supported rear module but the SDI IN 4 input is not present or is invalid.
	Off	The card is installed with the 8322AR-065 rear module which only supports three SDI inputs.
REF STAT	Green	The reference signal is valid.
	Red	The reference signal is not present or is invalid.

UDC-8625A Rear Modules

This section outlines the rear modules that are supported by the UDC-8625A.

8310AR-033 Rear Module

The 8310AR-033 rear module is required when the UDC-8625A is installed in a **DFR-8310** series frame. The 8310AR-033 provides four SDI inputs, four SDI outputs, eight GPIOs, a reference input, a serial port, and an ethernet port. The 8310AR-033 includes a bypass relay between SDI IN 1 and SDI OUT 1. Due to this relay, this rear module is not suitable for 3G signals (1080p format).

This rear module occupies four slots in the frame and accommodates one card. (**Figure 6**)

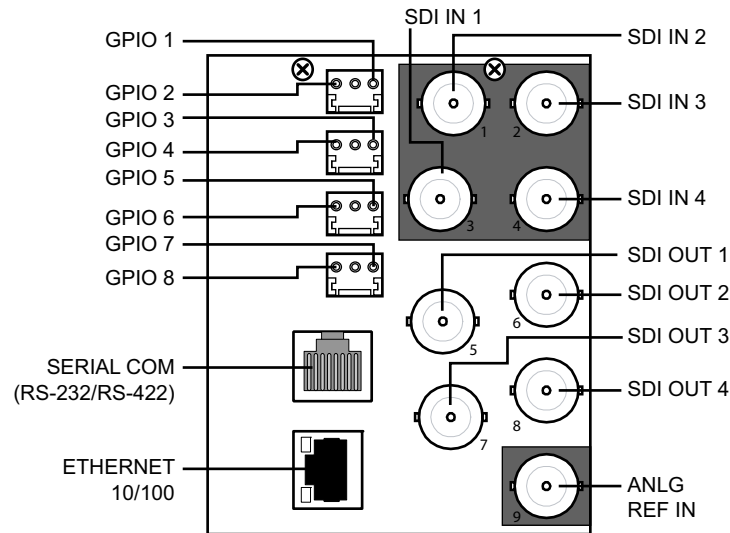


Figure 6 Cable Connections for the 8310AR-033

8320AR-033 Rear Module

The UDC-8625A can be used with the 8320AR-033 rear module when installed in the **DFR-8321**, **OG3-FR**, and **OGX-FR series frames**. This rear module provides four SDI inputs, four SDI outputs, eight GPIOs, a reference input, a serial port, and an ethernet port. The 8320AR-033 also include a bypass relay between SDI IN 1 and SDI OUT 1. Due to this relay, the 8320AR-033 rear module is not suitable for 3G signals (1080p format).

This rear module occupies four slots in the frame and accommodates one card. (**Figure 7**)

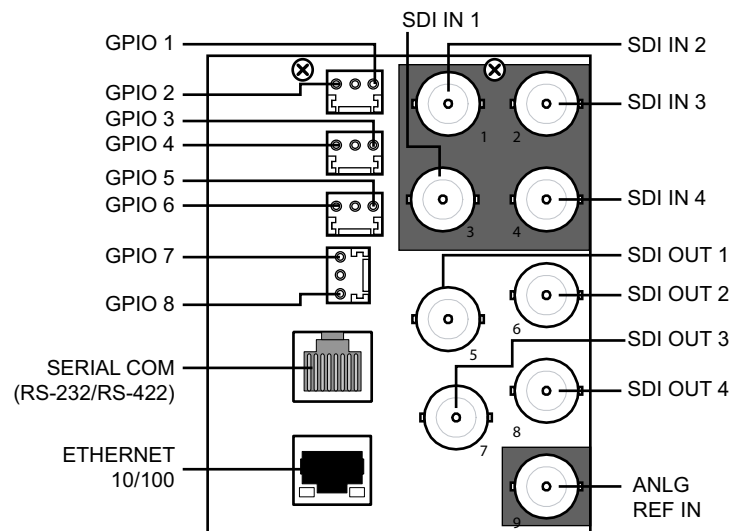


Figure 7 Cable Connections for the 8320AR-033

8320AR-041 Rear Module

The UDC-8625A can be used with the 8320AR-041 rear module when installed in the **DFR-8321**, **OG3-FR**, and **OGX-FR series frames**. This rear module provides four SDI inputs, four SDI outputs, and a reference input. This rear module occupies two slots in the frame and accommodates one card. (Figure 8)

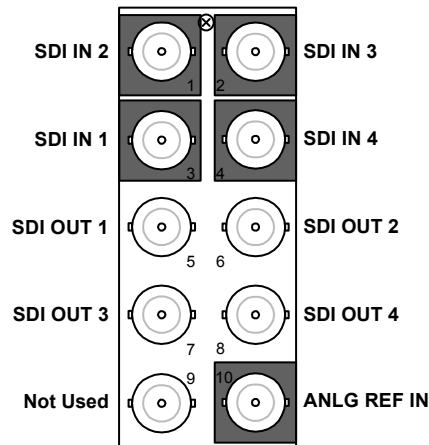


Figure 8 Cable Connections for the 8320AR-041

8320AR-052 Rear Module

The UDC-8625A can be used with the 8320AR-052 rear module when installed in the **DFR-8321**, **OG3-FR**, and **OGX-FR series frames**. This rear module provides four SDI inputs, four SDI outputs, eight GPIOs, a reference input, a serial port, and an ethernet port. This rear module occupies four slots in the frame and accommodates one card. (Figure 9)

★ The 8320AR-052 rear module does not have a bypass relay.

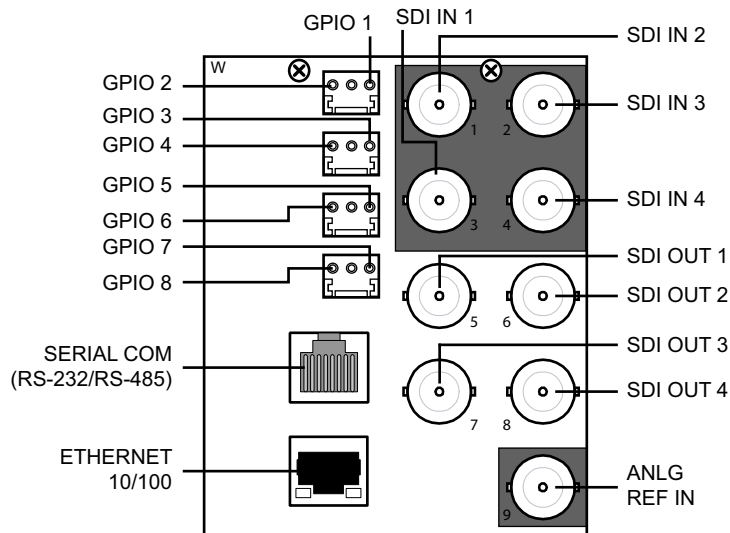


Figure 9 Cable Connections for the 8320AR-052

8320AR-055 Rear Module

The UDC-8625A can be used with the 8320AR-055 rear module when installed in the **DFR-8321**, **OG3-FR**, and **OGX-FR series frames**. This rear module provides four SDI inputs, four SDI outputs, eight GPIOs, a reference input, a serial port, and an ethernet port. The 8320AR-055 includes a

bypass relay between SDI IN 1 and SDI OUT 1. Due to this relay, the 8320AR-055 rear module is not suitable for 3G signals (1080p format).

This rear module occupies four slots in the frame and accommodates one card. **(Figure 10)**

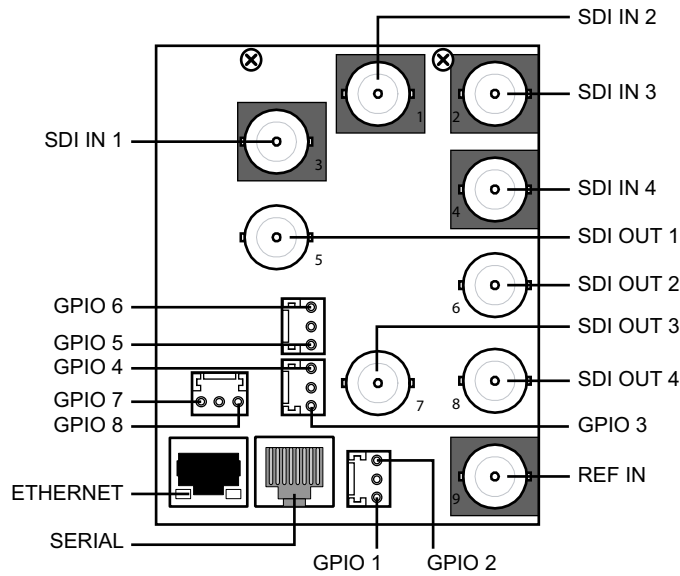


Figure 10 Cable Connections for the 8320AR-055

8322AR-065 Cabling

The UDC-8625A can be used with the 8322AR-065 rear module when installed in the **OG3-FR** and **OGX-FR series frames**. This rear module provides one analog reference input, three SDI inputs, three SDI outputs, and eight GPIOs. There is no bypass relay available on this rear module. This rear module occupies two slots in the frame and accommodates one card. **(Figure 11)**

★ This rear module is not compatible with the DFR-8321 series or DFR-8310 series frames.

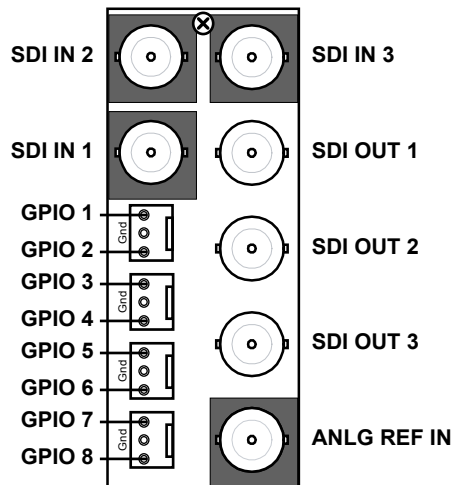


Figure 11 Cable Connections for the 8322AR-065

UDC-8625A-A Rear Modules

This section outlines the rear modules that are supported by the UDC-8625A-A.

- ★ When the UDC-8625A-A is configured as **4 in and 4 out**, the AES 1-4 connections are the inputs and the AES 5-8 connections are the outputs.

8320AR-053A Cabling

The UDC-8625A-A can be used with the 8320AR-053A rear module when installed in the **DFR-8321**, **OG3-FR** and **OGX-FR series frames**. This rear module provides one analog reference input, four SDI inputs, four SDI outputs, four GPIOs, eight AES-3id DIN connections, a serial port, and an ethernet port. (Figure 12)

- ★ There is no bypass relay available on this rear module.

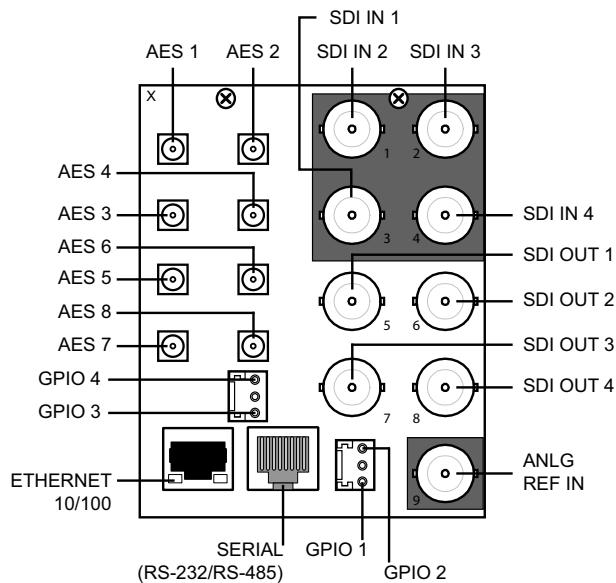


Figure 12 Cable Connections for the 8320AR-053A

8320AR-053B Cabling

The UDC-8625A-A can be used with the 8320AR-053B rear module when installed in the **DFR-8321**, **OG3-FR** and **OGX-FR series frames**. This rear module provides one analog reference input, four SDI inputs, four SDI outputs, four GPIOs, eight AES-3id HD-BNC connections, a serial port, and an ethernet port. T Figure 13 outlines the cabling designations when using the 8320AR-053B rear module.

- ★ There is no bypass relay available on this rear module.

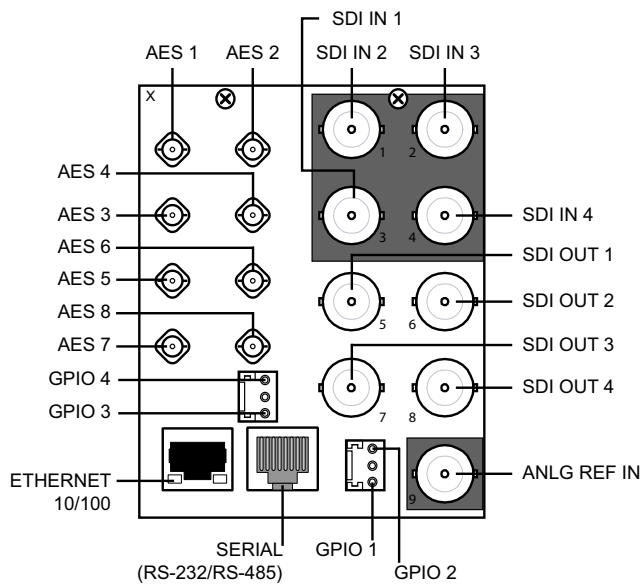


Figure 13 Cable Connections for the 8320AR-053B

UDC-8625A-B Rear Module

The UDC-8625A-B uses the 8320AR-052A rear module when installed in the **DFR-8321**, **OG3-FR** and **OGX-FR series frames**. This rear module provides one analog reference input, four SDI inputs, four SDI outputs, four GPIOs, eight AES/EBU WECO™ connections, a serial port, and an ethernet port. Each rear module occupies four slots in the frame and accommodates one card. (Figure 14)

- ★ There is no bypass relay available on this rear module.
- ★ When the UDC-8625A-B is configured as **4 in and 4 out**, the AES 1-4 connections are the inputs and the AES 5-8 connections are the outputs.

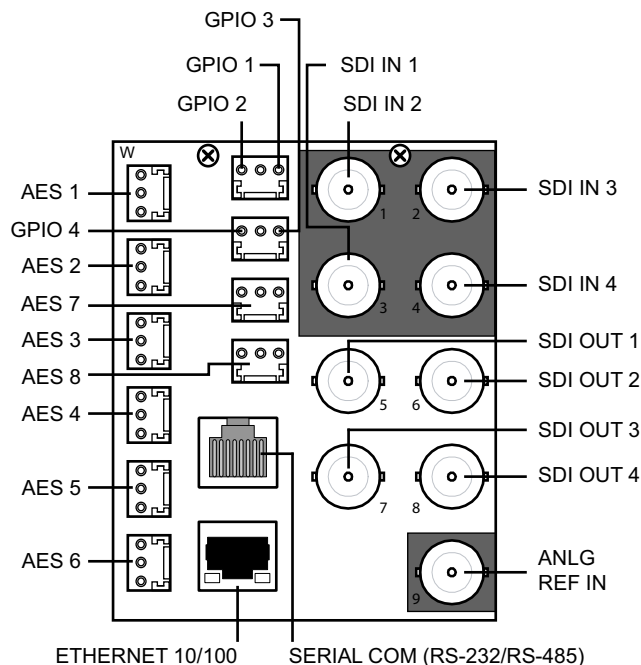


Figure 14 Cable Connections for the 8320AR-052A

Physical Installation

This chapter provides instructions for the basic physical installation of your UDC-8625A series card.

Before You Begin

Before you begin, ensure that you are using DashBoard version 6.2.0 or higher. The DashBoard Control System software and user manual are available to download from the Ross Video website.

★ The DFR-8310 series frame does not support the UDC-8625A-A or the UDC-8625A-B.



Caution — Do not install the 8320AR-041 or 8322AR-065 rear module in slots 19 and 20 of the openGear frame. Doing so will damage the UDC-8625A, the Network Controller card, or both.



Caution — The 8322AR-065 rear module is only compatible with the OG3-FR series frames. Installing this rear module in a frame other than the OG3-FR will damage the rear module.

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 card 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.

Card Installation

This section provides a brief overview of the physical installation of the UDC-8625A series cards. The procedure for installing a rear module and card is the same regardless of the rear module and frame used. However, the rear module you install depends on the frame and the features you require. If the rear module is already installed, proceed to **“To install the card in an openGear frame”**.

To install the rear module in an openGear frame

1. Ensure that the openGear frame is properly installed. Refer to the manual that accompanied your frame for details.
2. When installing the 8320AR-041 or 8322AR-065 rear module, use the following slot combinations:
 - Slots 1, 2, • Slots 7, 8 • Slots 13, 14
 - Slots 3, 4 • Slots 9, 10 • Slots 15, 16
 - Slots 5, 6 • Slots 11, 12 • Slots 17, 18

3. When installing a rear module other than the 8320AR-041 or 8322AR-065, use the following slot combinations:
 - Slots 1, 2, 3, 4
 - Slots 5, 6, 7, 8
 - Slots 9, 10, 11, 12
 - Slots 13, 14, 15, 16
 - Slots 17, 18, 19, 20
4. Remove the Blank Plates from the rear of the selected card frame slots.
5. Seat the bottom of the rear module in the seating slot at the base of the frame's backplane.
6. Align the top hole of the rear module with the screw hole on the top-edge of the frame backplane.
7. Verify that the card aligns with the rear module before fully tightening any of the slot screws.
8. Using a Phillips screwdriver and the supplied screw, fasten the rear module to the backplane.
- ★ Do not over tighten.
9. Ensure proper frame cooling and ventilation by having all rear frame slots covered with rear modules or Blank Plates.

To install the card in an openGear frame

1. When using the 8320AR-041 or 8322AR-065 rear module, install the card in an even numbered slot (e.g. slot 2, 4, 6 etc.).
- ★ The slot number is dependent on the slot combinations you installed the rear module in. This allows adequate spacing to avoid damaging the card, the cards installed in the neighboring slots, or both.
2. When using a rear module other than the 8320AR-041 or 8322AR-065, install the card in slot 2, 6, 10, 14, or 18.
3. Hold the card by the edges and carefully align the card edges with the rails in the frame.
4. Fully insert the card into the frame until the card is properly seated in the rear module.

Cabling

This chapter provides an overview of connecting input and output devices to the rear module of the card.

Video Cabling Overview

This section provides information on cabling the video inputs and outputs for your card.

For More Information on...

- equalization specifications when using Belden 1694A or equivalent coaxial cable for SDI connections, refer to “**UDC-8625A Specifications**”.

Power Fail Relay (8310AR-033, 8320AR-033, and 8320AR-055)

There is a power fail relay from the **SDI IN 1** to **SDI OUT 1** on the 8310AR-033, 8320AR-033, and 8320AR-055 rear modules only. The purpose of this relay is as follows:

- When the card is removed from the frame, the relay passes video from the SDI IN 1 to SDI OUT 1 of the card. This allows the card to be serviced with minimum interruption to the video signal.
- If the card loses power, or the frame loses power, the video still passes through.
- When the card boots, the relay will be left in Bypass mode until the card can generate a valid output. Once the card is functional, the relay is disabled.

SDI Input Cabling Overview

There are more input functions than there are SDI IN connections. Before cabling the card, consider the functionality and limitations provided in **Table 4**.

Table 4 Input Designations

Function	SDI IN			
	1 ^d	2	3	4 ^f
Conversion Source ^a	✓	✓		
Primary Source ^a	✓			
Backup Source ^a		✓		
Relay Source ^b	✓			
Wing Source	✓ ^e	✓ ^e	✓ ^c	✓ ^c
Key Video Source			✓ ^c	
Key Alpha Source				✓ ^c

Table Notes

- When the Auto Change Over feature is enabled in the On Air Control tab, SDI IN 1 is the primary format conversion source, and SDI IN 2 is the backup format conversion source. When SDI IN 1 is unavailable, the card will automatically switch to SDI IN 2. When the Auto Change Over feature is disabled, either SDI IN 1 or SDI IN 2 can be used as a format conversion source, and the user can cleanly transition between them.
- When using the 8310AR-033, 8320AR-033, or the 8320AR-055 rear modules, the Bypass Relay source will be routed to SDI OUT 1 if the card is unavailable. You may want to provide a valid input of the desired output format on SDI IN 1.
- SDI IN 3 and SDI IN 4 only provide Line Sync functionality when the output format is 1080p (3G). SDI IN 3 and SDI IN 4 provide Frame Sync capability for other output formats.
- When using the 8310AR-033, 8320AR-033, or 8320AR-055 rear modules, SDI IN 1 and SDI OUT 1 are connected to a Bypass Relay, and do not meet 3G return loss specifications.

- e. When using SDI IN 1 or SDI IN 2 for the Wings source, the Wings will be fed before the format converter. (**Figure 1**)
- f. SDI IN 4 is unavailable when using the 8322AR-065 rear module.

Cabling a Reference Source

This section provide information on cabling the reference signal for your card.

To cable the reference source for your card

1. If you wish to use the frame reference input, connect the reference input to the **REF1** or **REF2** input on the openGear frame.
2. If you wish to use an local reference input, connect the reference input source to the **REF IN** connector on your rear module.
3. If you are using the local reference input on the rear module, you must also configure **J7** on the card-edge. Choose from the following:
 - **Pin 1** (left) + **Pin 2** (center) position — In this position, the reference is terminated with an 75ohm resistor. This configuration is to be used for point-to-point cabling, or on the last card of a daisy chain topology. This is the default position. (**Figure 4**)
 - **Pin 2** (center) + **Pin 3** (right) position — In this position, the 75ohm terminator is removed and the reference is not terminated. This configuration is used in a daisy chain cabling topology where only the last card is to be terminated.

For More Information on...

- configuring your reference source in DashBoard, refer to “**Selecting the Reference Source**”.

Audio Cabling Overview

This section provides audio cabling information for the UDC-8625A-A and UDC-8625A-B.

UDC-8625A-A Cabling

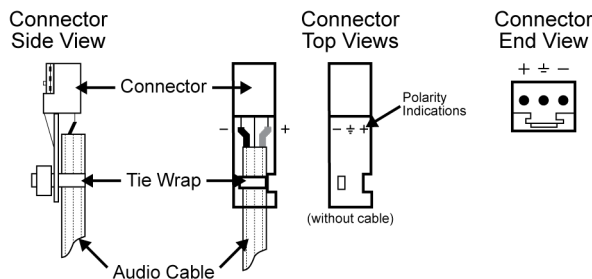
Both the 8320AR-053A and 8320AR-053B rear modules each provide eight unbalanced connections for AES sources. Depending on the rear module type, you will have DIN connections (8320AR-053A) or HD-BNC connections (8320AR-053B). Refer to “**UDC-8625A-A Rear Modules**” for details.

UDC-8625A-B Cabling

The 8320AR-052A rear module provides 3-pin audio terminal blocks with removable connectors. Each connector has locations for the positive, negative, and grounded wires of a balanced AES audio cable.

To wire the AES audio for the UDC-8625A-B

1. Insert an AES audio wire to the designated polarity slot on the connector of the rear module.



2. Use a tweaker screwdriver to tighten the corresponding capture screw.

3. Repeat steps 1 and 2 for each wire on each connector.
4. Once the cables are wired to the connectors, install the connectors on the terminal blocks for the rear module.

Ethernet Port Cabling

The **Ethernet** port on the rear module is used to connect to an ethernet network for communications, software upgrades using DashBoard, media file management via an FTP client, and for viewing thumbnails.

★ The 8320AR-041 and the 8322AR-065 rear modules do not include an Ethernet port.

This section presents a general overview of the ethernet connection process. The exact steps for connecting your card to your facility via an ethernet network depend on the network requirements of your facility.

Ethernet Communication Cabling

★ Contact your IT Department before connecting the card to your facility network to ensure that there are no conflicts. They will provide you with an appropriate value for the IP Address, Subnet Mask, and Gateway for the card.

In order to properly complete this procedure, you need a standard network CAT-5 cable to connect the card to your facility network. You can use a standard straight-through ethernet cable, with no need for a crossover cable as the card includes an Auto-MDIX ethernet PHY that will switch from straight to crossover automatically as needed. Ross Video does not supply this cable.

Refer to **Figure 15** for a cabling example using the 8320AR-033 rear module installed in an OG3-FR series frame.

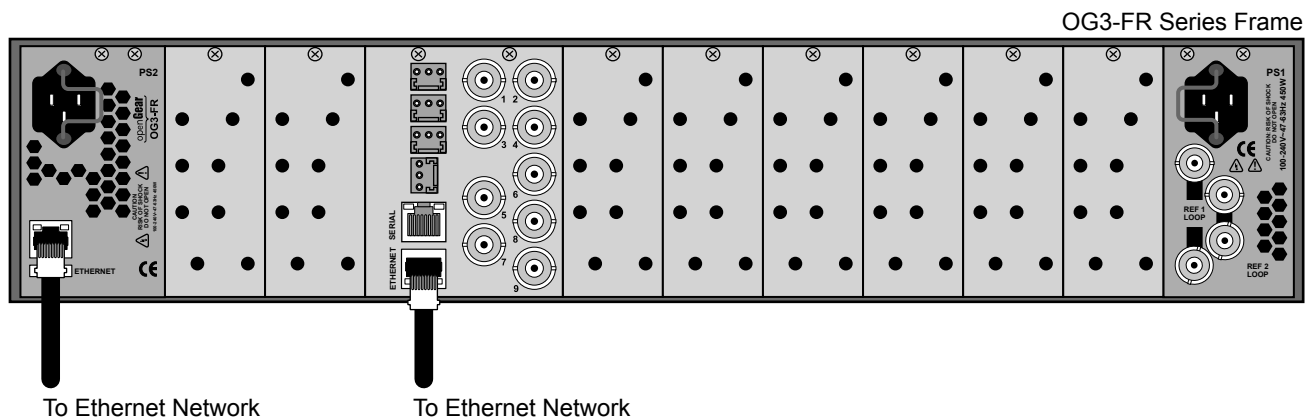


Figure 15 Ethernet Cabling — 8320AR-033 Rear Module

For More Information on...

- configuring the ethernet communications for the card, refer to “**Ethernet Communication Setup**”.

GPIO Cabling

The UDC-8625A series provides up to eight General Purpose Input (GPI) and Tally pins to interface with external equipment. The number of GPI/Tallies available depends on the rear module type and the card model you are using.

★ The 8320AR-041 rear module does not include GPIO ports.

The GPI ports are available on 3-pin connectors located on the rear module. The 3-pin mating connectors are provided with the rear module. Ports are user programmable to be either an input (GPI) or an output (Tally). Electrically, the ports are set up for contact closure to ground, with 4.75Kohm pull-up resistor to +5V, so they default to a logical high state.

The default state for the GPI/O contacts is active low signaling. This way, if the card is removed from the openGear frame, no external events will be inadvertently asserted by the card. This also means that if a GPI cable is absent from the rear module, no GPI or Tally will be triggered and executed inadvertently by the card.

8310AR-033 Rear Module

The 8310AR-033 provides eight GPI and Tally pins to interface with external equipment. **(Figure 16)**

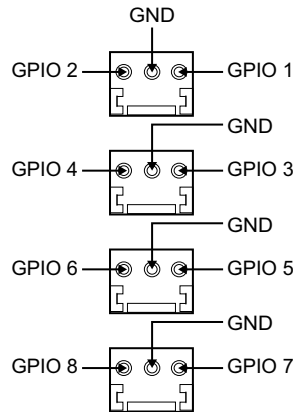


Figure 16 8310AR-033 GPIO Connections

8320AR-033 Rear Module

The 8320AR-033 provides eight GPI and Tally pins to interface with external equipment. **(Figure 17)**

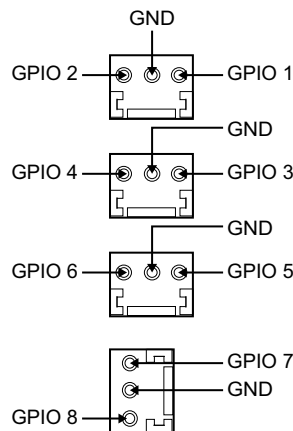


Figure 17 8320AR-033 GPIO Connections

8320AR-052 Rear Module

The 8320AR-052 provides eight GPI and Tally pins to interface with external equipment. **(Figure 18)**

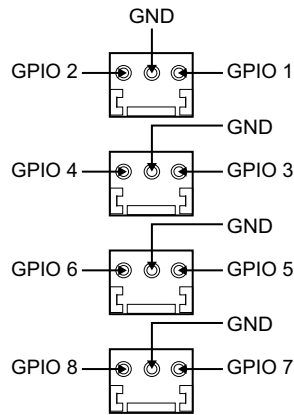


Figure 18 8320AR-052 GPIO Connections

8320AR-052A Rear Module

The 8320AR-052A provides four GPI and Tally pins to interface with external equipment. **(Figure 19)**

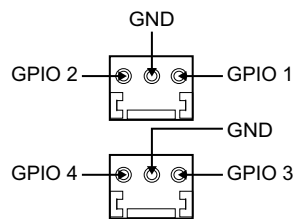


Figure 19 8320AR-052A GPIO Connections

8320AR-053A and 8320AR-053B Rear Modules

The 8320AR-053A and 8320AR-053B each provide four GPI and Tally pins to interface with external equipment. **(Figure 20)**

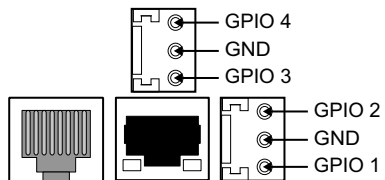


Figure 20 8320AR-053A and 8320AR-053B GPIO Connections

8320AR-055 Rear Module

The 8320AR-055 provides eight GPI and Tally pins to interface with external equipment. **(Figure 21)**

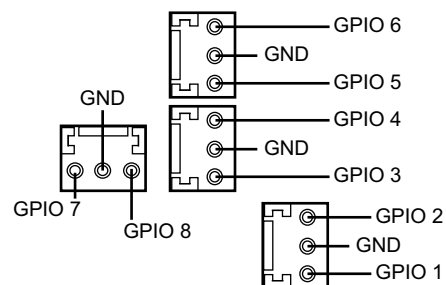


Figure 21 8320AR-055 GPIO Connections

8322AR-065 Rear Module

The 8322AR-065 provides eight GPI and Tally pins to interface with external equipment. (**Figure 22**)

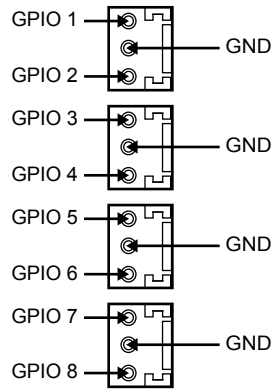


Figure 22 8322AR-065 GPIO Connections

Getting Started

This chapter provides instructions for launching DashBoard and accessing the UDC-8625A series interfaces in DashBoard.

If you have questions pertaining to the operation of your card, contact us at the numbers listed in **“Contacting Technical Support”**. Our technical staff is always available for consultation, training, or service.

Before You Begin

Ensure that:

- The openGear frame that houses the card displays in the Basic Tree View of DashBoard.
- The card displays as a sub-node in the openGear frame tree.
- Your facility IT Department provided the required network settings to be assigned to the card.
- the DashBoard software is installed on a PC connected to your facility network. The DashBoard software and user manual are available from the Ross Video website.

Launching DashBoard

DashBoard must run on a computer that has a physical wired ethernet connection. Wireless connections do not allow device discovery.

For More Information on...

- downloading and installing the DashBoard client software, refer to the ***DashBoard User Manual***.
- the UDC-8625A interfaces in DashBoard, refer to the chapter

To launch DashBoard

1. Ensure that you are running DashBoard software version 8.4.0 or higher.
2. Launch DashBoard by double-clicking its icon on your computer desktop.

Accessing the Card Interfaces in DashBoard

Once you install the card, you can access interfaces in DashBoard. These interfaces provide options for configuring, monitoring, and operating your card in DashBoard.

For More Information on...

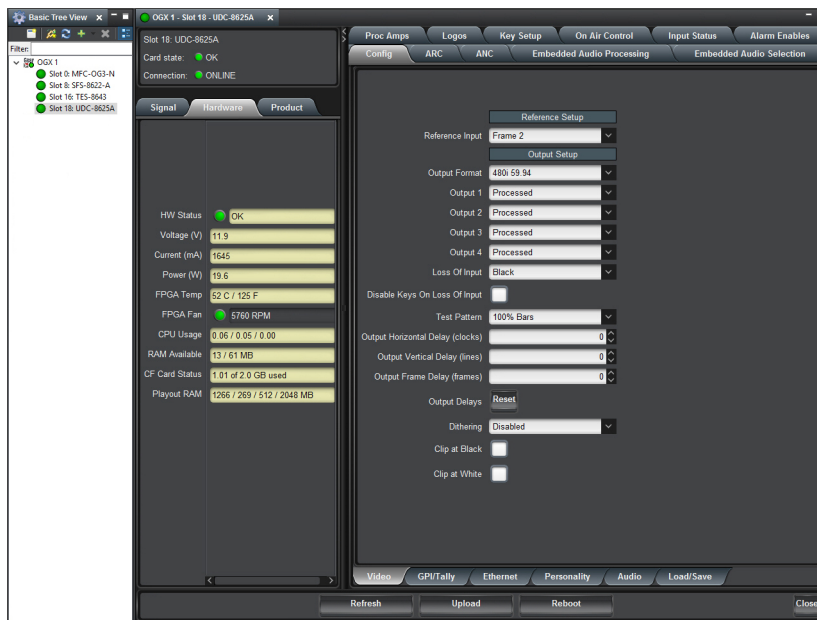
- the tabs and menus in DashBoard, refer to **“DashBoard Interface Overview”**.

To display the Global interface in DashBoard

1. Launch DashBoard.
2. In the Basic Tree View of DashBoard, locate the openGear frame the card is installed in.
3. Expand the openGear frame node to display a list of sub-nodes.
4. Locate the card node in the frame tree.
5. Double-click the card node.

The UDC-8625A interface opens in the right pane of the DashBoard window.

In the following example, the user selected the UDC-8625A in slot 18.



Basic Configuration

This chapter provides instructions for configuring the UDC-8625A series cards using the options available in DashBoard. For information on configuring the AES sources and embedded audio groups, refer to “**Audio Configuration**”.

- ★ Wait 30 seconds after the last setting change to ensure all changes are saved to the non-volatile card memory.

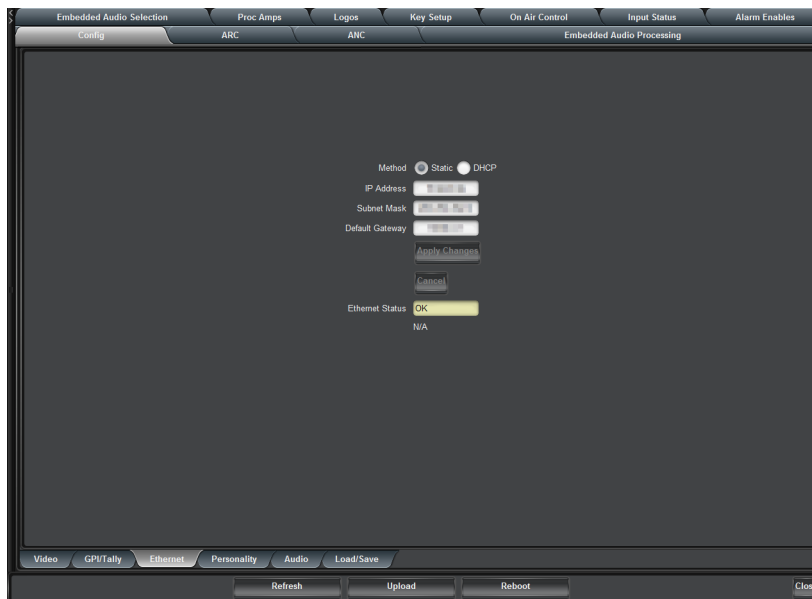
Ethernet Communication Setup

If your rear module includes an **Ethernet** port, you can use it to connect to an ethernet network for communications, software upgrades using DashBoard, media file management via an FTP client, and for viewing thumbnails. To use the rear module **Ethernet** port, the card must be configured with valid ethernet settings. The settings can be specified manually (**Static**) or may be obtained automatically from a server on your network (**DHCP**).

- ★ Connect the card to the same network as your DashBoard client computer or to a network that has a route to the network your DashBoard client computer is on. Refer to “**Ethernet Port Cabling**” for installation details.

To set up ethernet communications for the card

1. From the **Device View**, select the **Config** tab.
2. Select the **Ethernet** tab located at the bottom of the **Config** tab.



3. To obtain network settings automatically, select **DHCP** from the **Method** area.
 4. To manually configure the ethernet settings:
 - a. Select **Static** from the **Method** area.
 - b. Enter the **IP Address**, **Subnet Mask**, and **Default Gateway** settings for the card.
 5. Click **Apply Changes** to save the new settings. Click **Cancel** to revert to the previous settings.
- ★ The **Ethernet Status** field in the **Ethernet** tab displays the current status of your connection. Refer to **Table 18** for a list of the messages.

Selecting the Reference Source

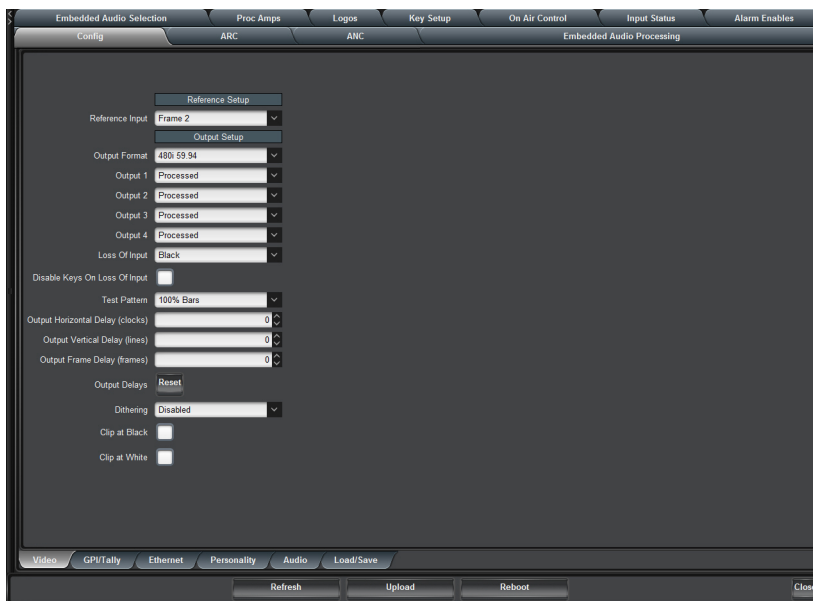
The openGear frames support a distributed frame reference, allowing incoming reference signals to feed timing information to all cards in that frame. Thus, a single composite or tri-level sync signal can be used for multiple UDC-8625A series cards. Alternatively, each card accepts a reference signal on the rear module to provide additional system timing flexibility. This section provides information for specifying the reference source for your card.

For More Information on...

- cabling the reference source for your card, refer to “**Cabling a Reference Source**”.

To select the reference source for the card

1. From the **Device View** in DashBoard, select the **Config** tab.
2. Select the **Video** tab located at the bottom of the **Config** tab.



3. Select a reference input from the **Reference Setup** area. Refer to **Table 14** for a list of options.

Configuring the Video Outputs

The **Output Setup** menus in the **Config** tab enable you to specify the format for all the card outputs, configure what to output, and adjust the timing of all outputs.

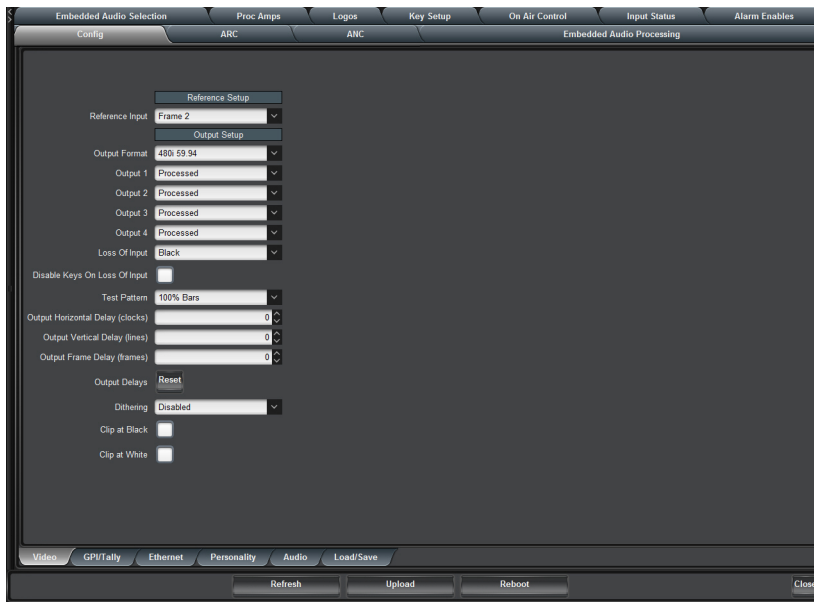
- ★ The Wings, Key Video, and Key Alpha sources must be the same format as the output format. Refer to **Table 14** for a list of available formats.

For More Information on...

- input status alarms, refer to “**Input Status Menus**”.
- enabling alarms, refer to “**Alarm Enables Menus**”.
- input status fields in the **Signal** tab, refer to “**Signal Tab**”.

To configure your video outputs on the card

1. From the **Device View** in DashBoard, select the **Config** tab.
2. Select the **Video** tab located at the bottom of the **Config** tab.



3. From the **Output Format** menu, select the video format. The output must be compatible with the selected reference.
- ★ The menus and parameters for Output 4 are not implemented when using the 8322AR-065 rear module.
4. Configure each output by selecting an option from its **Output** menu:
 - **Processed** — The output is processed, with Wings and key inserted (if selected).
 - **Clean Feed 1** — The output is processed. The keyer and Wings are not included with this output.
 - **Clean Feed 2** — The output is processed, with Wings inserted (if selected). The keyer is not included with this output.
 - **Test Pattern** — Select this option to assign a test pattern to the selected output. You can specify a test pattern to use by selecting an option from the **Test Pattern** menu.
 - **External Wings** — Select this option to output a copy of the Key 1 - Wings source (input 1, 2, 3, or 4). Refer to “**Cascade Feature**” for details on this feature.
5. To specify a test pattern for the output, select a type from the **Test Pattern** menu.
6. To adjust the timing (affects all outputs):
 - Use the **Horizontal Delay** to specify the horizontal delay in clocks, relative to the selected reference. Refer to **Table 14** for information on the range of delay values on this tab.
 - Use the **Vertical Delay** to specify the vertical delay in lines, relative to the selected reference.
 - Use the **Frame Delay** to specify the delay in number of frames. Note that the actual processing delay is displayed in the **Output Frame Delay** field of the **Signal** tab.
 - Click the **Reset** button to reset to the minimum delay values.
7. From the **Dithering** field, select the type of dithering you want to apply to all the outputs. Refer to **Table 14** for a list of options.
8. Enable the Clip White or Clip Black feature as outlined in **Table 14**.
9. If you selected Processed or a Clean Feed in 4, you can specify the audio group(s) to include in the output of the card as follows:
 - a. From the **Device View**, select **Config > Audio**.
 - b. From the **Processed Output Audio** area, select the associated group **Enable** box.

Setting up GPI/Tally Communications

This section explains how to configure communications for GPIs and Tallies on the card using the menus and options available in DashBoard. Each of the GPI/O ports can be configured as a GPI or Tally output.

GPI Overview

When configured as a GPI, a port behaves as an input, and can be used to trigger actions such as Cut/Dissolve the Key and/or Background. A push-button switch, or an ON-OFF switch, may be directly connected between the port and the adjacent ground pin. Alternatively, an external device may drive a low level. Minimum pulse duration is 1ms, anything shorter will be filtered out.

Typically, users will configure the GPI for Edge trigger. This means that the action is carried out either on the falling edge (button is pushed), or rising edge (button is released), depending on which Polarity is selected. Alternatively, users may configure the GPI for Level trigger. In this mode, the action is carried out on both the rising and falling edges, so there are effectively two states. The Polarity control can be used to invert the behavior. Regardless of the trigger type, GPI commands may be overridden by other command inputs such as serial protocols.

Edge

This option enables the GPI to act as a latching trigger. Edge triggers are used when you want to toggle between settings. This option enables the GPI to execute a specific function.

- If configured for Falling Edge, the selected function is executed when the GPI input signal transitions from High to Low.
- If configured for Rising Edge, the selected function is executed when the GPI input signal transitions from Low to High.
- Edge triggered GPI signals are sampled once a frame and the associated function is executed only once per frame. The minimum pulse width is 1 millisecond.
- Typically, the edge triggered GPI is driven by external equipment that generates one pulse per event.

Level

Level triggers are used when you want to assert a particular state for a setting. You define the on-air state of the function as being either Level High or Level Low. Therefore, if the on-air state of the Key is defined as Level High for example, when the GPI is a Level High signal, the Key will stay on air. If a Level Low is received, the Key will be taken off air.

- If configured for Active Low, the selected function is executed when the GPI input signal is driven Low.
- If configured for Active High, the selected function is executed when the GPI input signal is driven High.

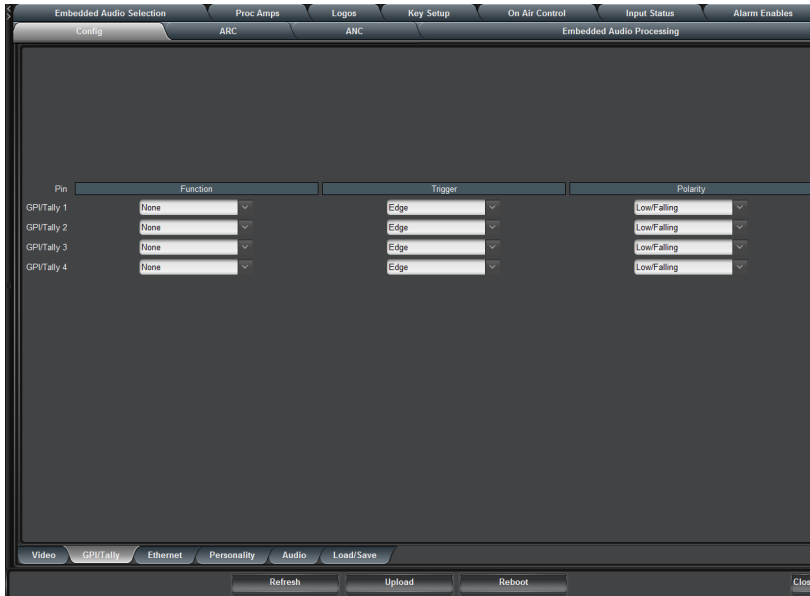
Tally Overview

When configured as a Tally, a port becomes an output, providing a status indicator. Typically this is used to indicate which input(s) are on-air at any given moment. Each tally output on the card can be configured to be active when any of the four inputs are on air. They can be configured as Active High or Active Low. The Trigger type (Edge or Level) is only relevant for GPI inputs and has no effect on Tally outputs. The tally outputs defaults to a logical high level when inactive. When the tally becomes active, for example the signal is on-air, then the output is driven low.

To set up GPI/Tally communications

★ The 8320AR-041 rear module does not include GPI/O ports. You can still configure the settings in the GPI/Tally tab, but your changes will not take effect.

1. From the **Device View** in DashBoard, select the **Config** tab.
2. Select the **GPI/Tally** tab located at the bottom of the **Config** tab.



3. To configure a port as a GPI:
 - a. Assign a transition event to a GPI by selecting an option from the **Function** field next to the GPI in the **GPI/Tally** area. Refer to **Table 16** for a list of options.
 - b. Select a trigger for the GPI from the **Trigger** column.
 - c. Select a polarity for the GPI from the **Polarity** column.
4. To configure a port as a Tally:
 - a. Select what will drive the tally output when the input is on-air by selecting the function next to the **Tally** in the **GPI/Tally** area. Refer to **Table 17** for a list of options.
 - b. Select the polarity of the tally from the **Polarity** column.

Configuring the Transition Buttons

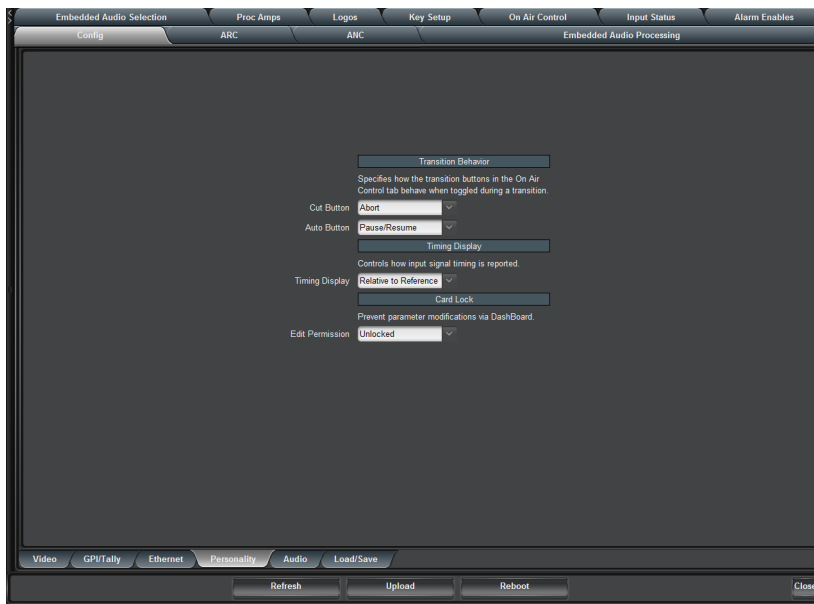
The **Transition Behavior** option enables you to specify how the **Cut** and **Auto** buttons, located in the **On Air Control** tab, behave when toggled during a transition.

For More Information on...

- the behavior options, refer to **Table 19**.

To configure the transition buttons

1. From the **Device View**, select the **Config** tab.
2. Select the **Personality** tab located at the bottom of the **Config** tab.



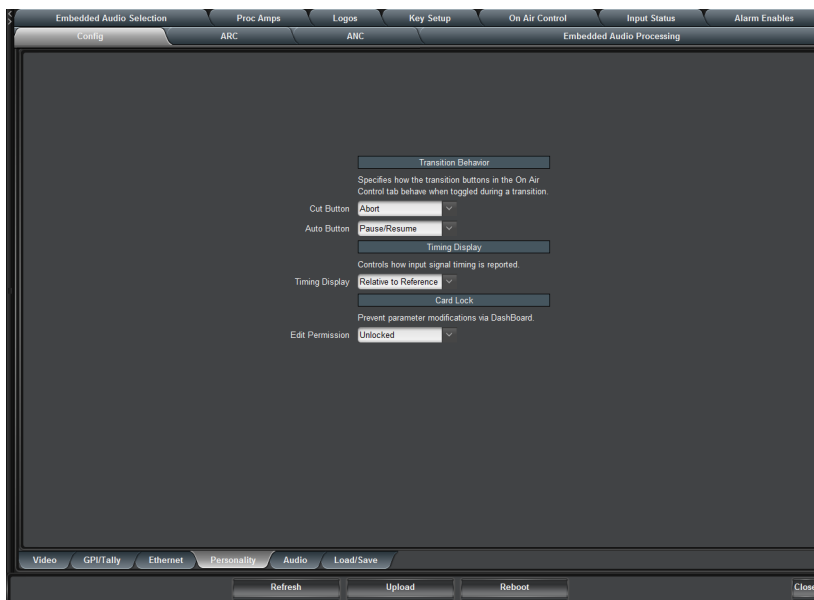
3. Configure the **Cut** button behavior by choosing an option from the **Cut Button** field.
4. Configure the **Auto** button behavior by choosing an option from the **Auto Button** field.

Configuring the Input Signal Timing Display

The **Timing Display** feature enables you to configure how the input signal timing is reported by Dashboard. This information is displayed in the individual **Input Timing** fields of the **Signal** tab. The timing display reports the delay of the input signals in output format clocks and lines.

To configure the input signal timing for your card

1. From the **Device View** in Dashboard, select the **Config** tab.
2. Select the **Personality** tab located at the bottom of the **Config** tab.



3. Configure how the signal timing by selecting one of the following options from the **Timing Display** menu.
 - **Relative to Reference** — Select this option to display the timing offset values of the SDI inputs relative to the selected reference as follows:
 - › A negative offset value indicates that the SDI signal is earlier than the reference.
 - › A positive value indicates that the SDI signal is later than the reference.
 - **Input to Output** — Select this option to display the timing offset values of the SDI inputs relative to the SDI output of the card as follows:
 - › A negative offset value indicates that the SDI input signal is earlier than the SDI output signal.
 - › A positive value indicates that the SDI input signal is later than the SDI output signal.

Configuring the Loss of Input Behavior

You can specify what the card outputs should a loss of input signal occur, or during a change of input format.

Specifying the Output during a Loss of Input

Use the Loss Of Input setting to specify what the card outputs until the input signal is stable or returns. Note that the embedded audio will also go silent.

For More Information on...

- the options in the Loss Of Input menu, refer to **Table 14**.

To specify the output during a loss of input

1. From the **Device View** in DashBoard, select the **Config** tab.
2. Select the **Video** tab located at the bottom of the **Config** tab.
3. Use the **Loss Of Input** menu to specify the output during a loss of input, or during a change of input format.
4. Select the **Disable Keys on Loss of Input** box if you wish to hide the key overlays when a loss of input signal occurs.

Configuring a Trouble Slide

In addition to the Black, Blue, and Freeze options, the UDC-8625A series can display a Trouble Slide on a loss of input signal. The Trouble Slide is configured via a sub-tab located at the bottom of the Logos tab and can be previewed via the On Air Control interface in DashBoard.

To configure the Trouble Slide

1. From the **Device View** in DashBoard, select the **Logos** tab.
2. Select the **Trouble Slide** tab located at the bottom of the **Logos** tab.
3. If the Trouble Slide file was added or re-named using an FTP connection, click **Rescan** to update the list of directories and filenames.
4. Select a media file to load to the Trouble Slide channel as follows:
 - a. From the **Directory** menu, select the directory you wish to load a file from.
 - b. From the **Filename** menu, select the file.
5. Follow the instructions in "**Logo Setup**" to adjust the on air properties of the selected media file.

To assign the Trouble Slide as the output during a loss of input

1. From the **Device View** in DashBoard, select the **Config** tab.
2. Select the **Video** tab located at the bottom of the **Config** tab.
3. Select **Trouble Slide** from the **Loss Of Input** menu.

Previewing the Loss of Input Setting

Toggle the **Loss Of Input** button the On Air Control interface to preview what the card outputs during a loss of input signal. The button is lit red, the label changes to **Preview: ON AIR**, and the Background displays the selection made in the **Config > Video > Loss Of Input** menu.

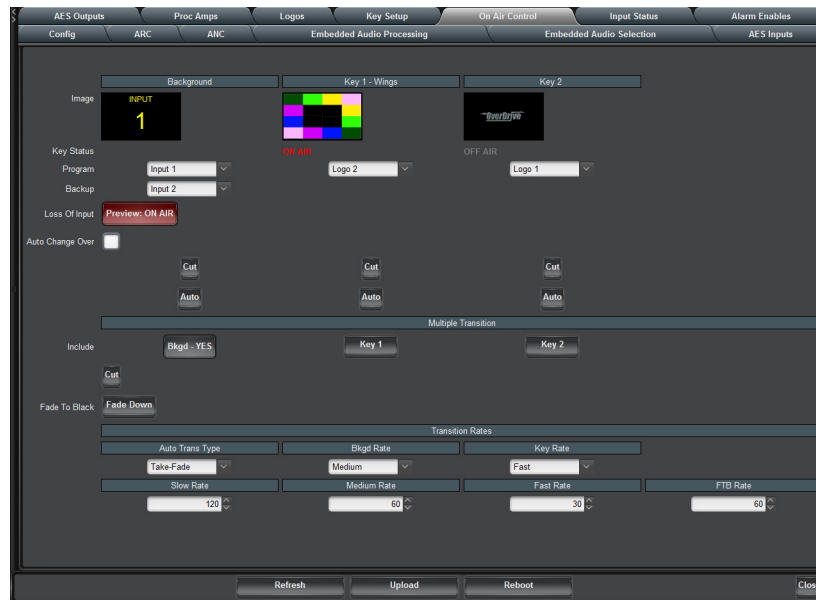


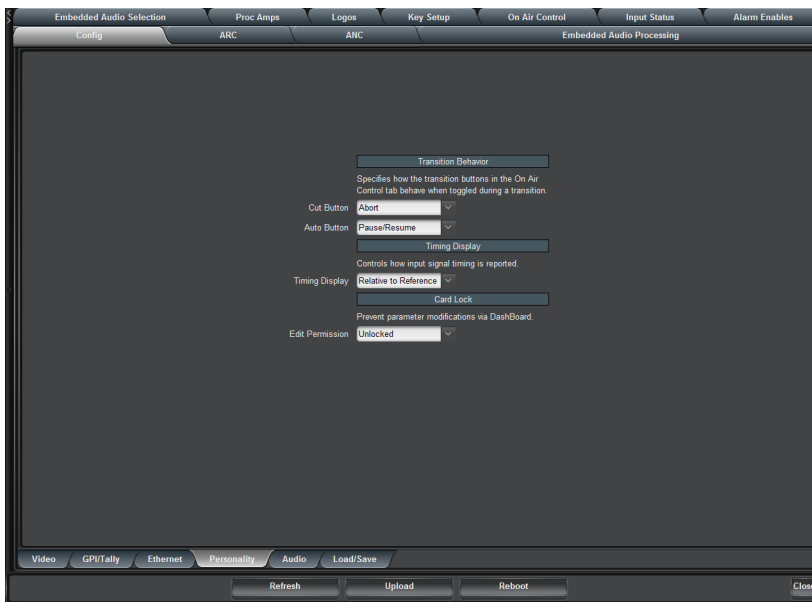
Figure 23 On Air Control Tab — Previewing the Loss of Input Setting

Configuring the Edit Permissions

The **Personality** tab in DashBoard enables you to lock the card permissions so that parameters are read-only and cannot be changed.

To configure the card edit permissions

1. From the **Device View**, select the **Config** tab.
2. Select the **Personality** tab located at the bottom of the **Config** tab.



- Configure the edit permission by choosing an option from the **Edit Permission** menu. Refer to **Table 19** for a list of options.

Loading the Factory Defaults

If required, the card menu parameters can be reset to the factory default values using the option available in the **Load/Save** tab.

★ Ethernet settings, reference selection, and the output formats are not reset using this method.

To reset the card to the factory default configuration in Dashboard

- From the **Device View**, select the **Config** tab.
- Select the **Load/Save** tab located at the bottom of the **Config** tab.
- From the **Global Settings** area, click **Load Factory Defaults** to display the **Confirm** dialog.
- Click **Yes** to load the factory default values for all menu parameters, or **No** to cancel the load and close the dialog.

Using DataSafe

DataSafe enables you to load and store card parameters automatically, or you can load from and store to a single file in Dashboard. Ensure that you are loading parameters to the same model of card. The DataSafe feature is available for openGear frames using the MFC-8320-N or MFC-OG3-N cards only. For details on using the DataSafe feature, refer to the **MFC-OG3 Series User Manual** and the **Dashboard User Manual**.

However, the following card parameters are not restored/saved using DataSafe:

- Ethernet setup settings
- Filenames on the CF Card
- Temporary on-air controls, such as fade to black

AFD

Active Format Description (AFD) is data that is embedded in the ancillary area to describe the picture format (e.g. 4:3, 16:9) and how it has been converted from one format to another. This information is intended to define how the video of one aspect ratio will display when another aspect ratio is used (SMPTE 2016-1). This chapter outlines the AFD controls that the UDC-8625A series card provides.

Overview

The UDC-8625A series card uses the input and output AFD settings to configure the Aspect Ratio Converter (ARC). The UDC-8625A series card uses the AFD to:

- determine where in the coded frame the active content is,
- define the protected area of the active content, and
- determine how to best display the active content in 16:9 or 4:3 format

The protected area is the section of the active content that must be displayed. The unused portion of the image outside this protected area, such as the edges at the sides or the top, can be discarded without affecting the overall content.

For More Information on...

- ARC examples, refer to “ARC Setting Examples”.

Figure 24 provides an illustrative example of how an image in a 4:3 coded frame is defined by the applicable AFD Codes.

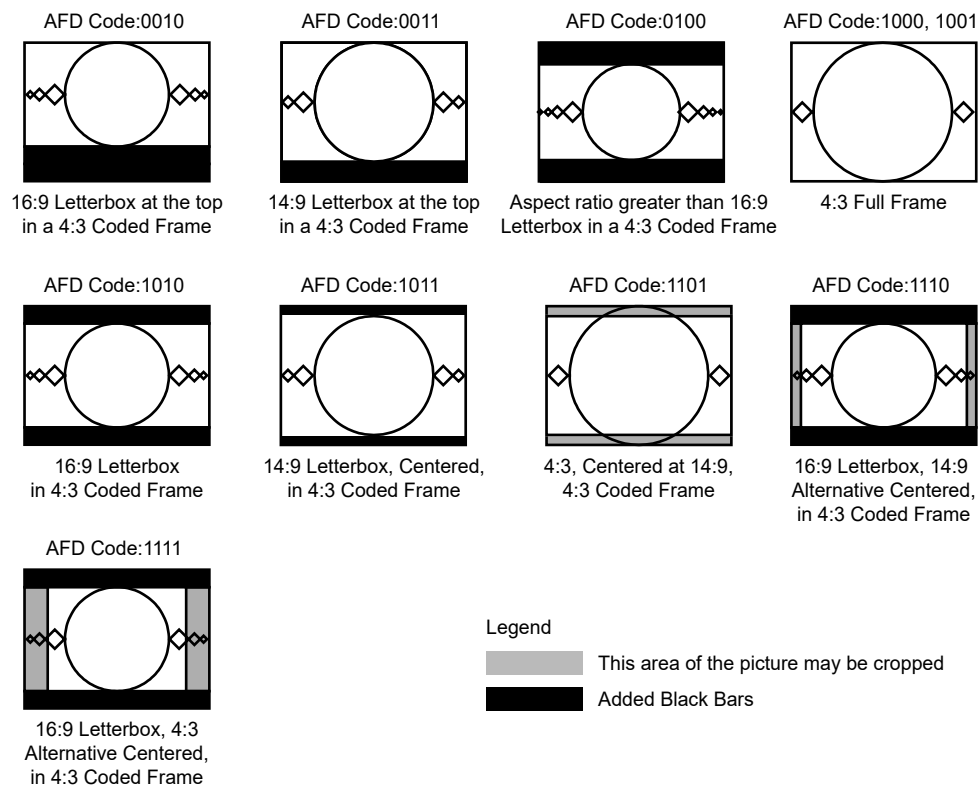


Figure 24 Graphical Example of 4:3 Coded Frame Images

Figure 25 provides an illustrative example of how an image in a 16:9 coded frame is defined by the applicable AFD Codes.

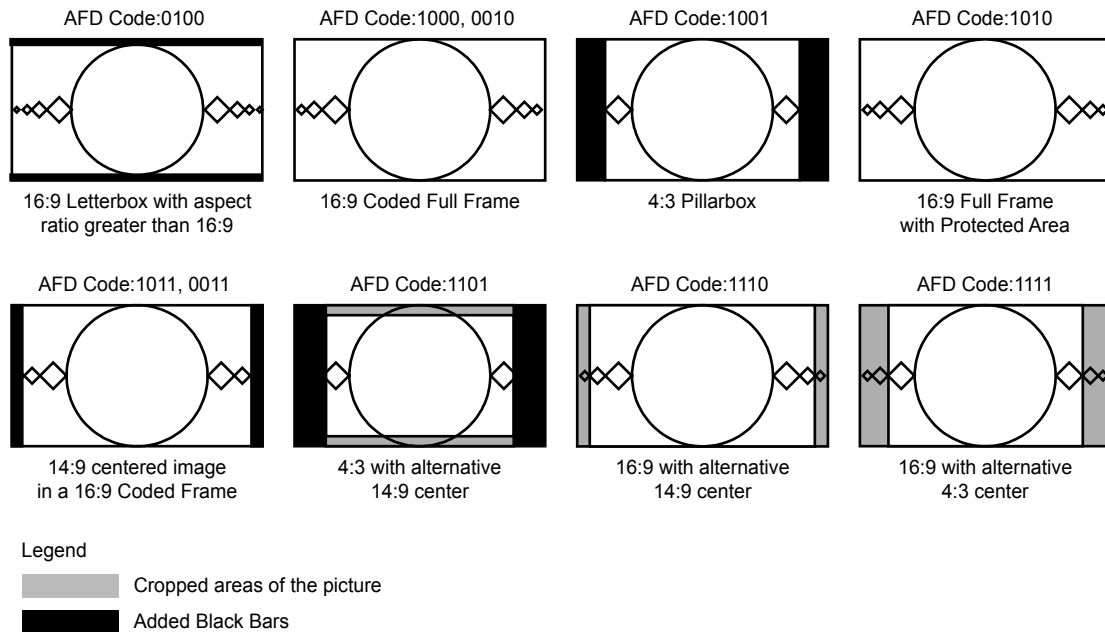


Figure 25 Graphical Example of 16:9 Coded Frame Images

Selecting an ARC Mode

This section provides information to help you select an ARC mode for your UDC-8625A series card.

Auto Output ARC Mode - Auto AFD

When the card is configured for Auto Output ARC mode - Auto AFD, the output AFD is based on the input AFD Code. Note that only the bold AFD indicate a change in AFD code.

4:3 Mode

Table 5 provides the Output AFD information when the input uses a 4:3 aspect ratio.

Table 5 Input AFD is 4:3

Input AFD		Output AFD	
4:3 Coded Frame		4:3 Coded Frame	16:9 Coded Frame
4:3 0010	⇒	4:3 0010	16:9 1000
4:3 0011	⇒	4:3 0011	16:9 1011
4:3 0100	⇒	4:3 0100	16:9 0100
4:3 1000	⇒	4:3 1000	16:9 1001
4:3 1001	⇒	4:3 1001	16:9 1001
4:3 1010	⇒	4:3 1010	16:9 1000
4:3 1011	⇒	4:3 1011	16:9 1011
4:3 1101	⇒	4:3 1101	16:9 1101
4:3 1110	⇒	4:3 1110	16:9 1110
4:3 1111	⇒	4:3 1111	16:9 1111

16:9 Mode

Table 6 provides the Output AFD information when the input uses a 16:9 aspect ratio.

Table 6 Input AFD is 16:9 Coded Frames

Input AFD		Output AFD	
16:9 Coded Frame		4:3 Coded Frame	16:9 Coded Frame
16:9 0010	⇒	4:3 1010	16:9 0010
16:9 0011	⇒	4:3 1011	16:9 0011
16:9 0100	⇒	4:3 0100	16:9 0100
16:9 1000	⇒	4:3 1010	16:9 1000
16:9 1001	⇒	4:3 1000	16:9 1001
16:9 1010	⇒	4:3 1010	16:9 1010
16:9 1011	⇒	4:3 1011	16:9 1011
16:9 1101	⇒	4:3 1101	16:9 1101
16:9 1110	⇒	4:3 1110	16:9 1110
16:9 1111	⇒	4:3 1111	16:9 1111

Using the Force AFD Option

You must configure the Input Settings when the input AFD is absent or you have chosen the **Force AFD** option for the ARC Mode:

Table 7 Force AVD Option

Input ARC Mode is	Output ARC Mode is	Result
Force AFD	Auto AFD	Card ignores any AFD data on the input and applies the settings specified in the AFD Code menu in the Input Settings column. Card automatically determines the most suitable ARC method for the Output AFD as defined by SMPTE 2016-1.
Force AFD	Force AFD	Card ignores any AFD data on the input. The settings specified in the AFD Code menu in the Input Settings column are applied. The output AFD is set in the AFD Code menu in the Output Settings column.
Auto AFD	Force AFD	Card automatically detects and uses the input AFD as defined by SMPTE 2016-1. If the input AFD is not present, the settings specified in the AFD Code menu in the Input Settings column are applied. The Output AFD is set in the AFD Code menu in the Output Settings column.

Table 7 Force AVD Option

Input ARC Mode is	Output ARC Mode is	Result
Auto AFD	Auto AFD	Card automatically detects and uses the input AFD as defined by SMPTE 2016-1. Card also automatically determines the most suitable ARC method for the Output AFD as defined by SMPTE 2016-1. If the AFD is not present, the AFD Code Input Settings are applied. This is the recommended setting.

Blank Number of Active Lines

You can choose to remove encoded signals, like closed caption data and timecode, that may appear at the top of the active video in SD inputs. This only applies to SD inputs with AFD 1000. The remaining lines are processed through the scaler to fill the production aperture, except for SD to SD with no ARC. For SD inputs with an AFD code other than 1000, the AFD specification is adhered to. Note the AFD specification indicates 480i has 480 lines starting at Line 6 (SMPTE 125M allows 480i to have 487 active lines).

Refer to **Table 8** for the first line of processed video.

Table 8 Blank Number of Active Lines

Blank Number of Active Lines	First Line of Processed Video			
	525		625	
	F1	F2	F1	F2
0	20	20 (283)	23	336
1	21	20 (283)	24	336
2	21	21 (284)	24	337
3	22	21 (284)	25	337
4	22	22 (285)	25	338
5	23	22 (285)	26	338
6	23	23 (286)	26	339

Managing the Profiles for ARC

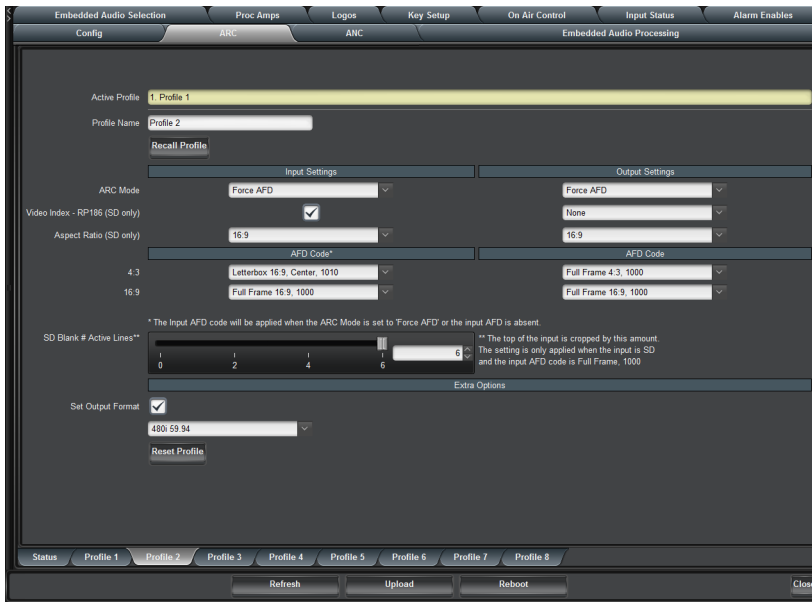
The Aspect Ratio Conversion (ARC) is configured by creating profiles for recalling the AFD settings using the options in the **ARC** tab in DashBoard Control System™.

Configuring a Profile

A profile specifies the ARC mode, the AFD Code, and aspect ratio for input and output of the card. This enables you to configure up to eight profiles independently of each other.

To configure a profile

1. From the **Device View** in DashBoard, select the **ARC** tab.
2. Select the sub-tab for the profile that you want to configure.



3. Type a unique identifier in the **Profile Name** field. This name displays in the Active Profile fields, the list of available profiles on the Status sub-tab. The sub-tab name is also updated.
4. For the input and output settings:
 - a. Specify how the card detects and uses AFD by selecting an option from the **ARC Mode** menu in the **Input Settings** and the **Output Settings** columns.
 - b. Refer to **Table 23** for a list of options.
- ★ Auto AFD will detect and use AFD code (SMPTE 2016) of the input video. If not present, Force AFD settings are enabled and used. Forced AFD allows you to configure the input of the ARC process.
 - c. Specify the SD input aspect ratio by selecting an option in the **Aspect Ratio** field located in the **Input Settings** column.
5. If you selected **Force AFD** option for the input settings:
 - For input 4:3 formats — specify where the active content is displayed by selecting one of the options from the **4:3 AFD Code** menu located in the **Input Settings** column.
 - For input 16:9 formats — specify where the active picture is displayed by selecting one of the options from the **16:9 AFD Code** menu located in the **Input Settings** column.
6. If you selected **Force AFD** option for the output settings:
 - For output 4:3 formats — specify where the active content is displayed by selecting one of the options from the **4:3 AFD Code** menu located in the **Output Settings** column.
 - For output 16:9 formats — specify where the active picture is displayed by selecting one of the options from the **16:9 AFD Code** menu located in the **Output Settings** column.
7. Select the **Video Index - RP186** box to enable the card to detect and react to the RP186 Class 1.1 (data octets 1-3) packets in the input signal¹. The card searches for the presence of RP186 packets if AFD packets are not present. Note you cannot prioritize VI packets over AFD packets.

1. For example, assume RP186-1995 is present on the input and the ARC profile we are using is set to react to incoming VI (the Video Index - RP186 box is selected). In the same profile we set the output VI to RP186-2008. We will not see RP186-1995 data on the output, we will see RP186-2008 because that is how the output VI is set in the active profile.

- ★ If RP186 packets are present on the input and the Video Index - RP186 box is selected on the input side in the ARC profile, the VI input data will not be passed directly to the output.
 - If a RP186-1995 packet is detected, the aspect ratio information is used and an AFD code of Full Frame is assumed.
 - If a RP186-2008 packet is detected, the aspect ratio and AFD information is used.
 - If no AFD/VI packets are detected, the Force Settings is used.
 - The Video Index settings are ignored when using 3G or HD signals.
- 8. Specify if the card will encode RP186 packets containing Class 1.1 (data octets 1-3) into SD outputs by selecting an option from the **Video Index - RP186** menu in the **Output Settings** area. The card encodes the packets with the AFD (ST2016-1) packets. Choose from the following:
 - **RP186-1995** — The card encodes RP186-1995 packets into SD outputs. The RP186-1995 packets include the video format and the aspect ratio only. Select this option when using legacy equipment that does not support RP186-2008.
 - **RP186-2008** — The card encodes RP186-2008 packets into SD outputs. The RP186-2008 packets include the video format, aspect ratio, and the AFD Code and is backwards compatible with legacy equipment. Select this option when you are unsure what VI your equipment supports. This is the recommended setting.
- 9. To remove encoded signals, use the **SD Blank # Active Lines** slider to select the number of lines at the top of the active picture to blank.
- 10. To automatically set the output format when the profile is recalled:
 - a. Select the **Set Output Format** box in the **Extra Options** area.
 - b. Choose a video format to output from the provided drop-down menu.
- ★ If the Set Output Format box is selected and the video format is changed in the provided drop-down menu, the new output video format will not change until the Recall Profile button is clicked.

Recalling a Profile

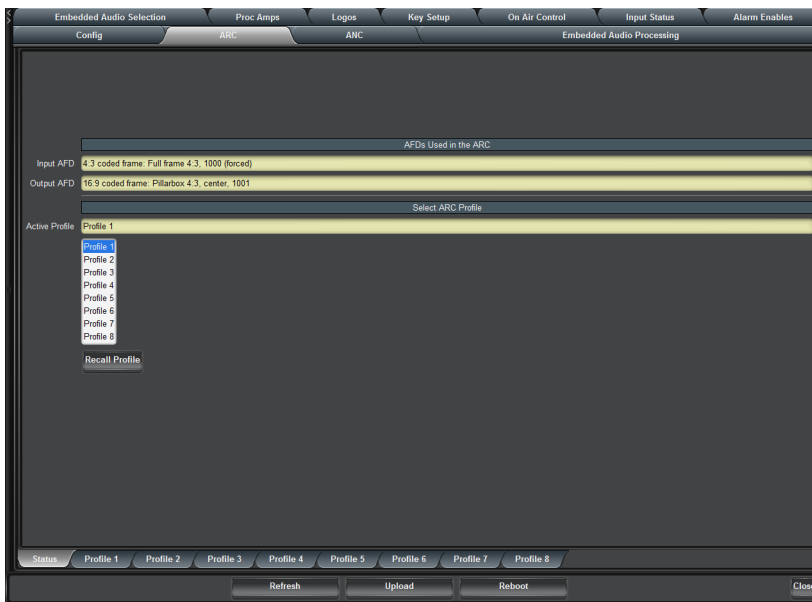
You can recall a profile via a button on the **Status** sub-tab located on the **ARC** tab, or via GPI. ARC profile recalls are performed within 1 frame.

For More Information on...

- configuring a GPI, refer to “**Setting up GPI/Tally Communications**”.

To recall a profile

1. From the **Device View** in DashBoard, select the **ARC** tab.
2. Select the **Status** sub-tab.



3. Select a profile from the provided list.
4. Click **Recall Profile**.

AFD and ARC Status

The following fields and tabs provide status information on the ARC and/or AFD:

- **Video Processing Input** — This field in the Signal tab indicates the status of the input. Information such as the format, aspect ratio, coded frame, and the detected AFD code (four digit AFD code and whether AFD is enabled) is also displayed. Refer to **Table 11** for details.
- **Video Processing Output** — This field in the Signal tab indicates the status of the output AFD, whether it is enabled, the aspect ratio, and the four digit AFD code if the AFD is enabled. Refer to **Table 11** for details.
- The **ARC** tab includes the **AFDs Used in the ARC** fields. These fields display the Input AFD and Output AFD codes used in the ARC. Refer to **Table 23** for details.
- The **Input Status** tab includes the **AFD** field that indicates whether the AFD Code is present in a specified input. Refer to **Table 34** for details.

Ancillary Data

Ancillary Data (ANC) is the non-video data that can be embedded within the SDI signal, such as audio, audio metadata, timecode, closed caption data, AFD, and payload identification. This chapter provides an overview of ANC processing for the UDC-8625A series card.

Overview

There are two areas in which ancillary data may be found:

- **HANC** — ANC packets that are found in the horizontal blanking region.
- **VANC** — ANC packets that are found in the vertical blanking region.

This section outlines how to view incoming status in the **Input Status** and **Input Status:Audio** tabs and configure the UDC-8625A series card to manage HANC and VANC data using the options in the **ANC** tab of DashBoard.

HANC and VANC Status

The **Input Status** tab in DashBoard provides HANC and VANC status details:

- **352M** — This field indicates whether the 352M data is detected on the input, and displays the four bytes.
- **AFD, Video Index, Closed Captioning, Timecode, Audio Metadata, OP-47, Other Packets** — These fields indicate the status of the specified packet, such as whether it is detected or not on the input. For more information, refer to “**Input Status Menus**”.
- **Embedded Audio** — This field indicates the information extracted from the channel status, such as PCM/Non-PCM, 20bit or 24bit. If there is PCM data, a level in dB is also displayed. When this field is blank, the packet for the specified group is absent.
- **Details** — Toggling this button to **Show**, enables the card to report information about the detected timecode such as the field the timecode is detected in, type of timecode, and a timestamp. This information is displayed in the following format:

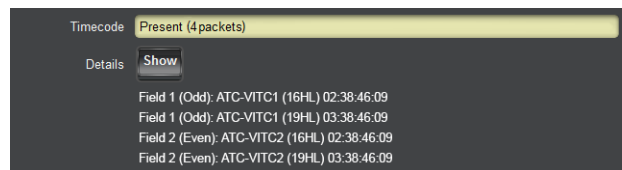


Figure 26 Example of Timecode Details

Where each message includes the following information:

- › **Field #** — indicates which field the timecode was detected in (e.g. Field 1 (Odd))
- › **Type** — indicates the type of timecode (e.g. ATC-VITC1)
- › **Line #** — indicates the specific line the timecode data was detected in (e.g. 16)
- › **Location** — indicates timecode is in the HANC (H), or VANC (<blank>)
- › **Channel** — indicates timecode is in the luma (L), or chroma (C) channel

HANC Pass Through or VANC Pass Through

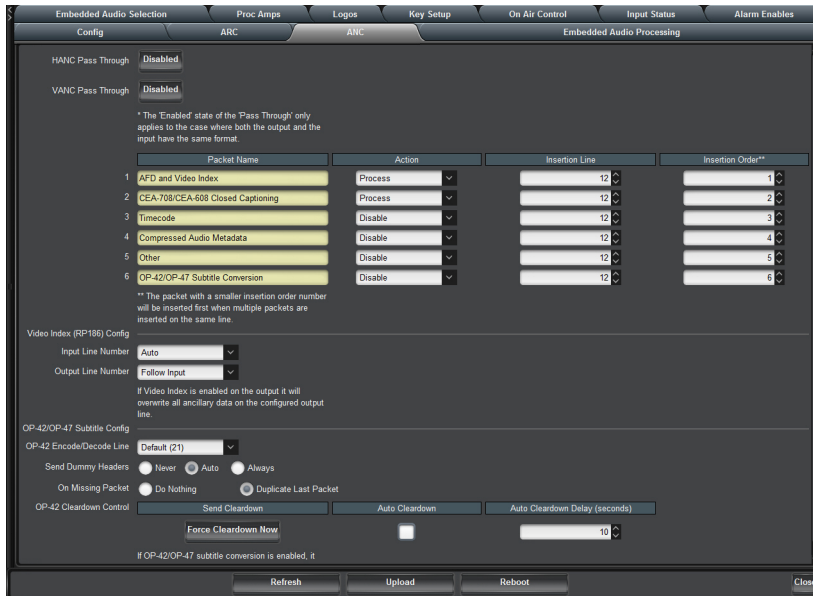
The **HANC Pass Through** and **VANC Pass Through** settings only apply when the output and the input have the same format. If the input is not synchronous to the output, entire frames of data are duplicated or dropped as part of the frame sync behavior. This feature will pass the entire HANC

and/or VANC region without modification except for very limited error correction to keep the video stream within specification (values of 0x000 or 0x3FF will be clipped if not part of a packet header, and EDH is re-generated).

★ If this feature is enabled, and the input format changes, there will be a discontinuity that can cause errors such as the audio to click, audio CRC errors, or closed captioning errors.

To enable the card to pass through HANC or VANC

1. From the **Device View** in DashBoard, select the **ANC** tab.



2. Toggle the **HANC Pass Through** and/or **VANC Pass Through** button(s) as outlined in **Table 24**.
 3. If you selected **Disabled**, proceed to **“Specific ANC Processing”** to specify how the HANC and/or VANC data is processed.
- ★ If you notice that the HANC or VANC is not passed after toggling the HANC Pass Through or VANC Pass Through buttons to Enabled, verify that the card input and output formats match.

Specific ANC Processing

The remainder of the **ANC** tab controls how ancillary data is inserted in the output when HANC and/or VANC pass through is not enabled.

ANC Processing Overview

For each packet type the user can control the insertion position.

To configure the processing of specific ANC types

1. From the **Device View** in DashBoard, select the **ANC** tab.
 2. For each packet, select how the card processes the ANC data by selecting an option from the **Action** field. Refer to **Table 24** for a list of options.
- ★ It is recommended to set the Time Code and Audio Metadata fields to Disable when converting between interlace and progressive video.

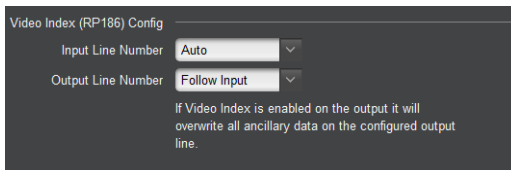
3. Specify the line to insert the ANC data packet as follows:
 - Use the **Insertion Line** menu to select a line to insert the specified ANC packet on. The default is 12 for each packet. Note that all packets are inserted in VANC, except for timecode in non-SD formats which are inserted in the HANC.
 - Note that if more than one packet is to be inserted in the same line, the packet with the lowest insertion order number will be inserted first.
4. Specify the insertion order for the data packet as follows:
 - Use the **Insertion Order** menu to define the hierarchy of the packets insertion.
 - Note that the lower the number, the higher priority the packet is given. For example, by default, the AFD packet is set to be inserted first (1), and Compressed Audio Metadata is inserted fourth (4).

Video Index (VI) Processing

The UDC-8625A supports Video Index (RP-186-1995 and RP-186-2008) processing.

To configure the VI data processing

1. From the **Device View**, select the **ANC** tab.
2. Locate the **Video Index (RP186) Config** area on the **ANC** tab.



3. Use the **Input Line Number** menu to specify which line to search in the input signal for Video Index (VI) data. Choose from the following:
 - **Auto** — The card searches each line in the input signal for the VI.
 - **Default** — The card searches only line 11 in the input signal for the VI.
 - **Line #** — The card searches only the specified line in the input signal for the VI.
 4. Use the **Output Line Number** menu to specify which line in the output to insert the VI Data on. Choose from the following:
 - **Follow Input** — The card inserts the VI data on the line the incoming data was on.
 - **Default** — The card inserts the VI data on line 11 of the output.
 - **Line #** — The card inserts the VI data on the specified line of the output.
- ★ If you select any line option other than Follow Input or Default, (default for 525 line video is line 14, 625 line defaults to line 11), they will overwrite any VANC data that may already be present on that line.

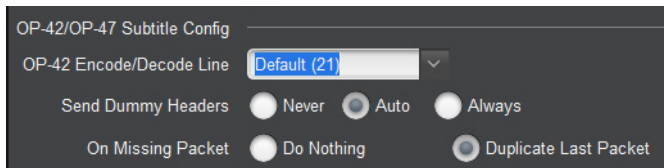
OP-42 Processing

The UDC-8625A supports the transmitting captions on PAL systems via the OP-42 specification.

★ When enabled, OP-42 conversion will override the Video index function.

To configure the conversion of OP-42 sub-titles

1. From the **Device View**, select the **ANC** tab.
2. Locate the **OP-42 Subtitle Config** area on the **ANC** tab.



3. Use the **OP-42 Encode/Decode Line** menu to specify which line to search for the OP-42 subtitles data in the input signal. Choose from the following:
 - **Default (21)** — Only Line 21 is searched for OP-42 subtitles data
 - **#** — Searches only the specified line for OP-42 subtitles data.
- ★ OP-47 must be encoded on Line 21.
4. Use the **Send Dummy Headers** button to determine whether a time filling header (dummy header) is sent whenever valid captions are not detected. Choose from the following:
 - **Never** — A dummy header is not inserted even if captions are missing or not detected.
 - **Auto** — If captions are missing or not detected, the card automatically sends a dummy header in place of the missing captions.
 - **Always** — The card continuously fills unused bandwidth with dummy headers regardless of the input. Select this option if you want to remove upstream subtitles and still fill the bandwidth.
5. Use the **On Missing Packet** menu to determine what is inserted when the card detects only one valid OP-47 packet per frame. Choose from the following:
 - **Do Nothing** — The card ignores the OP-47 missing packet and does not insert anything in its place.
 - **Duplicate Last Packet** — The card replaces the missing packet with the last valid OP-47 packet detected.

To enable OP-42 Cleardown control

1. From the **Device View**, select the **ANC** tab.
2. Locate the **OP-42 Cleardown Control** area on the **ANC** tab.



3. Select the **Auto Cleardown** box to allow the UDC-8625A series card to insert a blank page with a clear down signal when no OP-42 subtitles are detected on Line 21 (or the value specified in the **OP-42 Encode/Decode Line** menu). This button is used in conjunction with the **Auto Cleardown Delay** duration.
 4. Use the **Auto Cleardown Delay** field to specify the amount of time that an absence of data occurs before the card inserts the blank page with a clear down signal. The default setting is 10 seconds.
- ★ Click **Force Cleardown Now** to immediately insert a blank page with a clear down signal.

CEA-708/CEA-608 Closed Captioning

When disabled, closed captioning (packet and line 21) is not inserted. Otherwise, this section summarizes the closed caption processing of the card.

The UDC-8625A series card:

- ensures continuity of CEA-608 data and/or DTVCC data during frame drop or repeat.
- receives the packet, processes it, and inserts a new packet into the specific line.
- monitors the CDP sequence number of incoming CEA-708 data to detect discontinuities in the DTVCC transport stream, and propagates any sequence-number discontinuity to the outgoing DTVCC data, to alert downstream equipment of the change.

Note that Line 21 may also be treated as part of the input picture, depending on how the **Blank # Active Lines** setting is configured in the **Video** tab of DashBoard.

Captioning Priority

There are three supported types of closed captioning data: native CEA-708, CEA-608 embedded in CEA-708, and CEA-608 from Line 21 (480i inputs only). The order of preference for output CEA-708 data is as follows:

1. CEA-708
2. Up-converted CEA-608 embedded in CEA-708
3. Up-converted CEA-608 from Line 21
4. Null content

The order of preference for output CEA-608 data is as follows:

1. CEA-608 embedded in CEA-708
2. CEA-608 from Line 21
3. Null content

★ Note that CEA-708 is not down-converted to CEA-608.

The card decodes any CEA-708 caption distribution packets (CDP) from the input video and embeds the same data in the output video. The CDP is re-formatted as required based on the frame rate, to maintain the correct CEA-708 transport channel data rate (9600bps) as specified by SMPTE 334-2. The UDC-8625A series card removes any timecode information in the CDP. If there is no native CEA-708, then CEA-608 is translated to native CEA-708 DTVCC format, and embedded along with the original CEA-608 data in the output CDPs.

- CC1 is translated and encoded as DTVCC Service #1.
- CC3 is translated and encoded as DTVCC Service #2.
- CC2 and CC4 are not translated.
- such translation follows **CEA-708-C section 8.11** and supports the standard character sets described in **CEA-608-D section 6.4.1**.

Other Data Types

This section provides additional information on other data types that the UDC-8625A series manages.

AFD and Video Index

Keep the following in mind when configuring the AFD and VI options:

- When disabled, the aspect ratio conversion still occurs as specified in the **ARC** tab, but there is no AFD packet inserted in the output. Otherwise it is inserted according to the **ARC** tab.
- If **AFD and Video Index** is set to **Disable**, and the **Output Line Number** value in the **Video Index Config** area differs from the insertion line used for the **AFD and Video Index** packet, VI will be

inserted on the line specified in the **Output Line Number** drop-down menu. This means that if the output line is anything other than **Follow Input** or **Default**, any other VANC data on that line will be overwritten.

For More Information on...

- the VI data configuration options, refer to “**Video Index (VI) Processing**” and “**Configuring a Profile**”.

Timecode

The user can specify whether timecode is passed or disabled:

- If the input is not synchronous to the output, select **Disable** from the **Action** menu of the **ANC** tab.
- If converting between progressive and interlaced, select **Disable** from the **Action** menu of the **ANC** tab.
- When pass is enabled, the timecode will be inserted in VANC for SD outputs, and HANC for all other formats.
- If the input is not synchronous to the output, data will be dropped (but not duplicated¹) as part of the frame sync behavior.

Compressed Audio Metadata

Compressed Audio Metadata can be passed or disabled as follows:

- If the input is not synchronous to the output, select **Disable** from the **Action** menu of the **ANC** tab.
- If converting between progressive and interlaced formats, select **Disable** from the **Action** menu of the **ANC** tab.
- If the input is not synchronous to the output, data will be dropped (but not duplicated¹) as part of the frame sync behavior.

Other Packets

All remaining packets can be passed or disabled. When pass is enabled, the packets will be inserted in VANC on the specified line in the same order as they were received. If they do not fit on the specified line, they will continue on the next line. Approximately up to 250 packets, or 1500 bytes of data, can be passed this way. If the input is not synchronous to the output, data will be dropped (but not duplicated¹) as part of the frame sync behavior.

1. When a frame of video is duplicated, no packet is inserted in the duplicate frame.

Audio Configuration

This chapter provides instructions for configuring the audio features using the menus in DashBoard. Note that the features described in this chapter are not available on the UDC-8625A. You must have an UDC-8625A-A or an UDC-8625A-B for discrete audio processing.

Selecting an AES Configuration

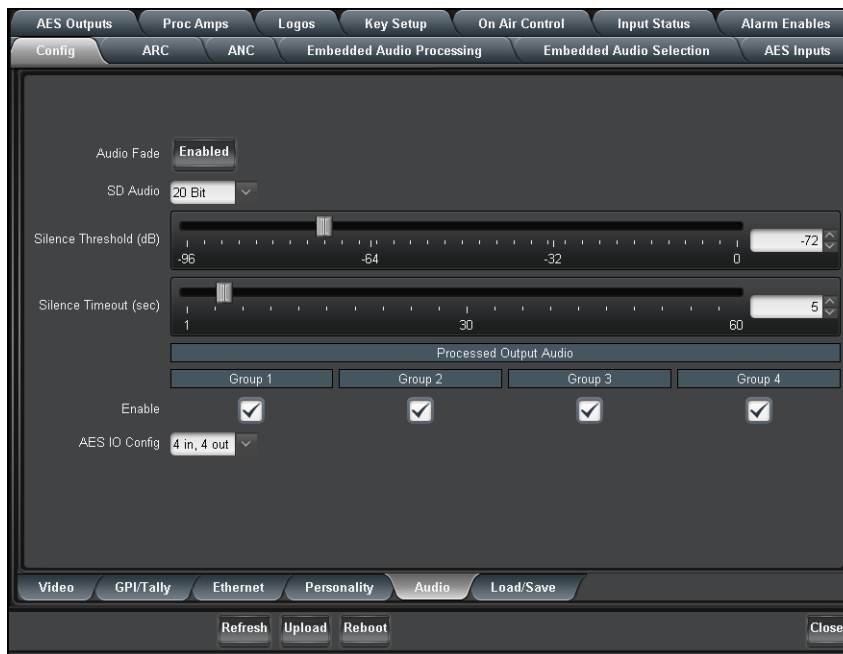
The UDC-8625A-A and UDC-8625A-B enable you to configure the 8 AES inputs/outputs in one of the following configurations: 8 inputs (default), 4 inputs and 4 outputs, or 8 outputs.

For More Information on...

- the menus and parameters available in the **Audio** tab, refer to **Table 20**.
- alarm options for AES sources, refer to **Table 35**.

To specify the AES configuration

1. From the **Device View**, select the **Config** tab.
2. Select the **Audio** tab located at the bottom of the Config tab.



3. The silence detect is configured globally with separate threshold and period settings. Set the **Silence Threshold** and **Silence Timeout** values as required. You can monitor the status of the audio using the fields in the **Input Status** tab.
4. Toggle the **Audio Fade** to **Enabled** to allow for clean audio transitions (V-Fade) when performing cuts or transitions in the **On-Air Control** tab. However, it is recommended to disable this feature when passing non-PCM audio such as Dolby®.
5. Specify how the audio is embedded for SD outputs by selecting an option from the **SD Audio** menu.
6. Specify the configuration for your card by selecting an option from the **AES IO Config** menu.
7. If you have selected a configuration with inputs, proceed to **“To configure the AES inputs”**.
8. If you have selected a configuration with outputs, proceed to **“To configure the AES outputs”**.

Configuring the AES Inputs

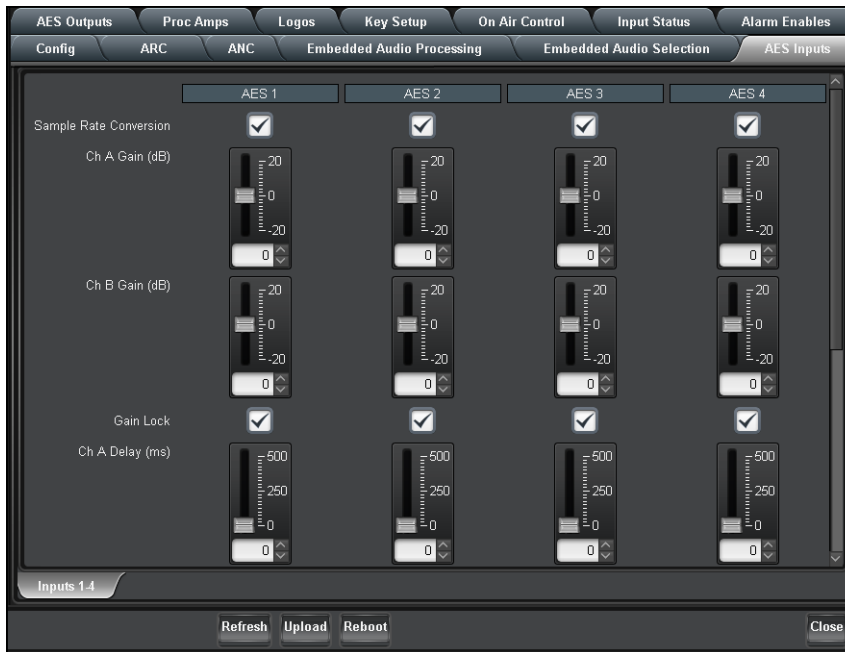
This section briefly summarizes how to configure the options in the AES Inputs tab when the AES I/O Config is set to 8 in, 0 out or 4 in, 4 out.

For More Information on...

- the options available in the AES Inputs tab, refer to **Table 27**.

To configure the AES inputs

1. From the **Device View**, select the **AES Inputs** tab.



2. If required, select the sub-tab that includes the AES source you wish to configure.
3. To set the gain for a channel of an AES source, use the associated **Ch # Gain** slider to select a value between -20dB and 20dB.
4. To set the delay for a channel of an AES source, use the associated **Ch # Delay** slider to select a value between 0ms and 500ms.
5. To invert a channel of an AES source, select the associated **Ch # Invert** box.
6. To sum the input (A+B/2) of the AES source, select the **Sum** box.
7. Repeat steps 2- 6 for each AES source you wish to configure.
8. To enable the SRC of the AES source, select the **Sample Rate Conversion** box.

Configuring the AES Outputs

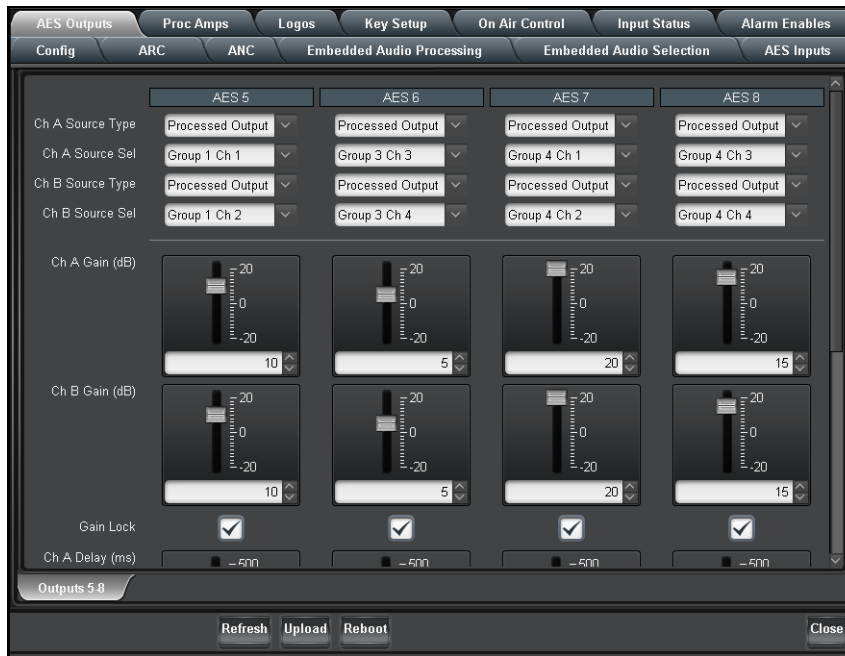
This section briefly summarizes how to configure the options in the AES Outputs tab when the AES I/O Config is set to 0 in, 8 out or 4 in, 4 out.

For More Information on...

- the options available in the AES Outputs tab, refer to **Table 28**.

To configure the AES outputs

1. From the **Device View**, select the **AES Outputs** tab.



2. If required, select the sub-tab that includes the AES source you wish to configure.
3. To specify the channel source of an AES output:
 - Use the associated **Ch# Source Type** and menu to select the source type that is used for the AES output. Note that the parameter selected in this menu determines what is available in the Ch# Source Sel menu.
 - Use the associated **Ch# Source Sel** menu to specify a source.
4. To set the gain for a channel of an AES output, use the associated **Ch # Gain** slider to select a value between -20dB and 20dB.
5. To set the delay for a channel of an AES source, use the associated **Ch # Delay** slider to select a value between 0ms and 500ms.
6. Repeat steps 2- 5 for each AES output you wish to configure.

Setting up the Embedded Audio

The **Embedded Audio** tabs includes options for enabling sample rate conversion (SRC) of the embedded audio, enabling audio fading, configuring how audio is embedded for SD outputs, and channel mapping. There are two Embedded Audio tabs in Dashboard:

- The **Embedded Audio Processing** tab provides options for processing the incoming embedded audio (Input 1 and/or Input 2).
- The **Embedded Audio Selection** tab provides options for overriding embedded audio with AES for one or both inputs, and to shuffle the embedded channels.

This section briefly outlines how to configure the options in the **Embedded Audio** tabs.

For More Information on...

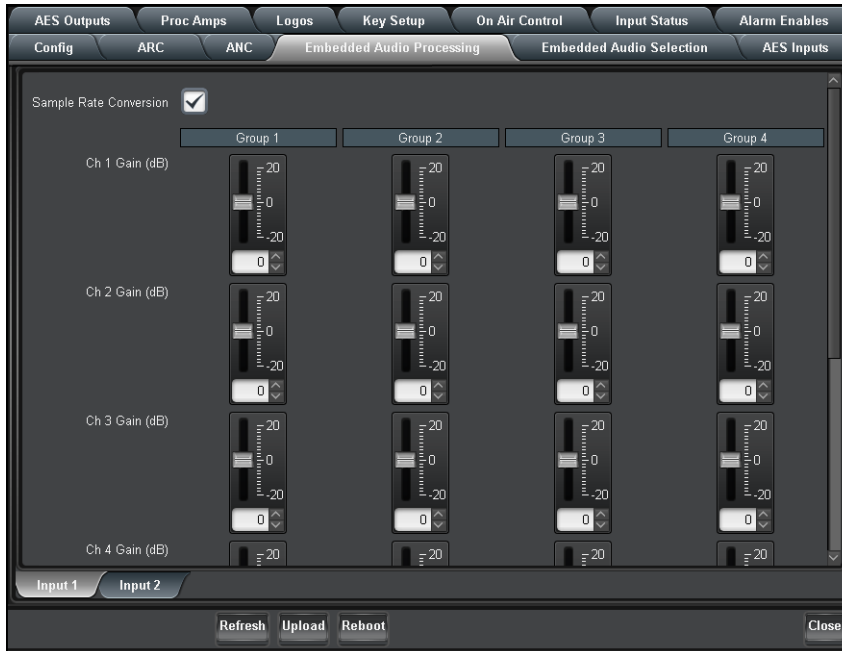
- the options in the **Embedded Audio Processing** tab, refer to **Table 25**.
- the options in the **Embedded Audio Selection** tab, refer to **Table 26**.
- alarm options for embedded audio, refer to **Table 35**.

Processing the Embedded Audio Input

When passing non-PCM data (e.g. Dolby E®), ensure that input and output are synchronous and all audio modifying settings (such as SRC, gain, and invert) are disabled or set to zero (0).

To set up processing of the embedded audio input

1. From the **Device View**, select the **Embedded Audio Processing** tab.



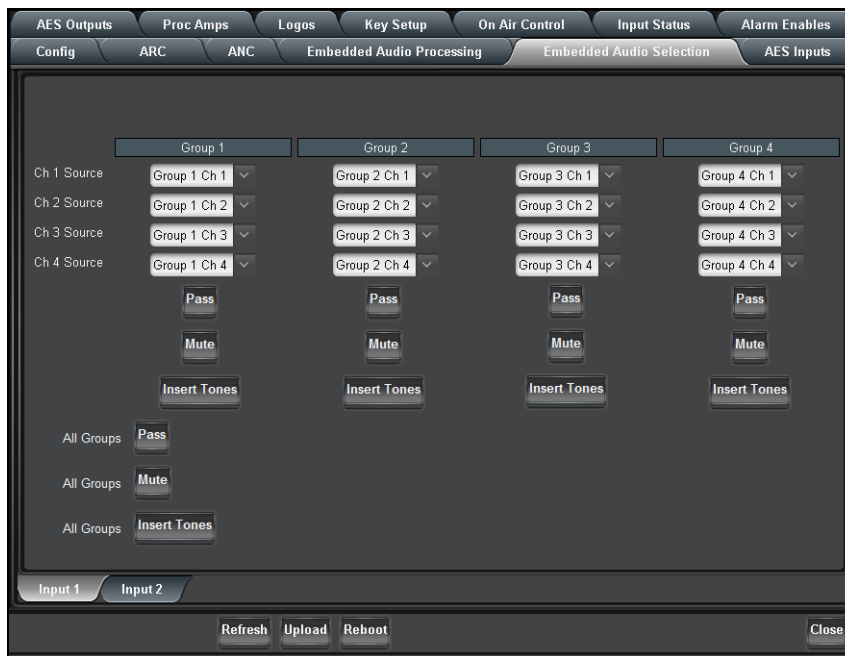
2. From the **Embedded Audio Processing** tab, select the sub-tab for the input source you wish to process.
3. To enable the SRC of the embedded audio, toggle the **Sample Rate Conversion** to **On**.
4. To apply a gain to a channel, use the associated **Ch #** slider to select a value between -20dB and 20dB. Repeat for each channel you wish to configure.
5. To invert a channel, select the associated **Ch # Invert** box.
6. If required, repeat steps 2 to 5 for the second input.

Configuring the Audio Groups

The embedded output channels are configured per processed input to allow different audio mapping that will track the currently processed input. For example, you may choose to embed audio from AES inputs when processing Input 1, but pass embedded audio when processing Input 2.

To configure embedded audio for an input source

1. From the **Device View**, select the **Embedded Audio Selection** tab.



2. From the **Embedded Audio Selection** tab, select the sub-tab for the input source you wish to configure.
3. To map a channel, select an audio source from the associated **Ch # Source** menu.
 - ★ If the selected source is not present on the input video, silence is embedded.
4. To reset the settings of a group to pass the input channels to the output channels, click **Pass** for the specific group.
 - ★ Channel status bits are only passed when a left/right pair are not separated. Otherwise, a standard channel status will be inserted. When channel status is passed, it may not reflect a change between 20bit and 24bit.
5. To insert test tones:
 - Click **Insert Tones** to insert test tones into the specified group; or
 - To insert test tones into all groups, click **Insert Tones** in the **All Groups** area.
6. To mute a specific group, click **Mute**. To mute all groups, click **Mute** in the **All Groups** area.
7. Repeat steps 3 to 6 for each group/channel pair you wish to configure of the selected SDI input.
8. If required, repeat this procedure for the second SDI input.

Media File Management

This chapter provides information on managing the images and animations using the DashBoard options available for the UDC-8625A series card.

Overview

This section provides a general overview of the media file management features of the UDC-8625A series.

DashBoard enables you to select and configure the two Logo channels that are loaded in the UDC-8625A series card. Each Logo channel allows you to assign a media file to the specified logo, view a thumbnail that represents the media file currently loaded, and adjust on-air properties.

The following tips and restrictions apply when managing your media files:

- Ensure the **Ethernet** port on the rear module is configured as required.
- ★ The 8320AR-041 and 8322AR-065 rear modules do not include an Ethernet port. Refer to the **UDC-8625A Release Notes** for information on accessing the media files stored on your CompactFlash™ card.
- Media files, such as stills and animations, are transferred to and from the UDC-8625A series card using FTP protocol. The media files are stored on a CompactFlash that is installed on the UDC-8625A series card.
- If you select an image size that is larger than the current video format, only a portion of the image may be displayed.
- When a media file is loaded, metadata such as X/Y position is also loaded, if it exists. Otherwise, default values are used. For animations, parameters are recalled after the last frame is loaded.
- When using Mac OS X™ to transfer files to the CompactFlash Card via an FTP server, you may only have read-only access. Refer to your Mac OS X™ documentation for details.

For More Information on...

- cabling the **Ethernet** port, refer to “**Ethernet Port Cabling**”.
- configuring the **Ethernet** port, refer to “**Ethernet Communication Setup**”.

Media File Basics

Media files, such as animations and still images, can be transferred to and from the CompactFlash Card using an FTP connection. Once transferred to the CompactFlash Card, you use the options in the **Logos** tab to load the files and assign them to a Logo channel.

This section outlines the specifications for media files and provides general information on using the CompactFlash Card and an FTP connection.

For More Information on...

- assigning media files to Logo channels, refer to “**Loading a Media File**”.

Connection using FTP

You can create an FTP connection to copy still images or animations to and from the CompactFlash Card on the UDC-8625A series card. You can also use an FTP client to delete images on the CompactFlash Card and re-name images.

To access the UDC-8625A series card via FTP:

1. Ensure an ethernet cable is plugged into the UDC-8625A series rear module. Refer to “**Ethernet Port Cabling**” for connection details.
2. Have the IP address from the **Config > Ethernet** menu of the card.
3. Note that the Factory Defaults and DataSafe features do not modify the IP address.

The following information is required to establish an FTP connection:

- **User Name** — **user**
- **Password** — **password**

Connection using RossLinq

RossLinq enables you to transfer still images directly from XPression to an UDC-8625A series card Logo channel. You can transfer files into any of the directories for any of the Logo channels on the card. There are two directories, each corresponding to a specific Logo channel on the card. The file can be a format as listed in **Table 9**. Note that the transfer of animations is not supported at this time.

- ★ The RossLinq channel in XPression must be set as a passive FTP connection in order to set up communications between XPression and the UDC-8625A series card. Refer to the XPression documentation for details.

To connect to XPression via RossLinq, you must establish an FTP connection using the following information:

- **IP Address** — Have the IP address from the **Config > Ethernet** menu in DashBoard for your card.
- **User Name** — **xpression**
- **Password** — **password**

CompactFlash Card

The CompactFlash Card is 2GB in size, but the number of files you can store depends on the type of file. The **CF Card Status** field in the **Hardware** tab displays how much space is available on the CompactFlash Card.

Notes on using the CompactFlash Card

- The UDC-8625A series card can be operated without the CompactFlash Card installed, but it is not hot-swappable. Do not insert or remove the CompactFlash Card when the UDC-8625A series card is installed in the frame.
- The UDC-8625A series card uses ext3 formatting for the CompactFlash. It does not support FAT formatted CompactFlash cards.

Image Specifications

Media files used on the UDC-8625A series card must meet the specifications outlined in **Table 9**. Note that if larger images are used, the images will be clipped to the dimensions listed in **Table 9**.

Table 9 Media File Specifications

Parameter	Specification
File Type	BMP, GIF, JPG, PNG, TGA
Compression	compressed and uncompressed
Interlaced Formats (1080i, 480i, 576i)	Max. Image Width: 32,768 pixels
	Max. Image Height: dependent on available memory
Progressive Formats (1080p, 720p)	Max. Image Width: 65,536 pixels
	Max. Image Height: dependent on available memory
Animation Maximum Length	10,000 frames

File Naming Specifications

The name can contain letters, numbers, and spaces, but cannot contain symbols such as ! @ # & * () ? / , ' " .

If you are naming an animation, each file must be numbered in the sequence that it will play out. The following restrictions apply to file names for animations:

- The file names must be suffixed with an underscore followed by three or more digits, then the period (.), and then the file type suffix.
- Each file in the sequence must have the same numbering scheme, and numbering must be continuous.
- The UDC-8625A series card loads files in numerical order.

The following is an example of a 10-frame animation using a typical numbering scheme:

- DTVB_000.tga
- DTVB_001.tga
- ...
- DTVB_009.tga

Loading Media Files

The UDC-8625A series features two Logo channels (Logos 1 and 2) into which you can load files from the CompactFlash Card physically installed on the UDC-8625A series card. Each card has 2GB of DDR, 1.5GB of which is available as playout memory. **Table 10** provides an estimation of how many frames (uncompressed) can fit into the playout memory of the UDC-8625A series card.

Table 10 Full Frame Animation

Format	Image Size	No Alpha	With Alpha
1080i	1920x1080	291	194
1080p	1920x1080	291	194
720p	1280x720	654	436
576i	720x576	1456	970
480i	720x486	1726	1150

For More Information on...

- the Trouble Slide channel, refer to "**Configuring a Trouble Slide**".

Loading a Media File

From the **Directory** menu in each **Logos** sub-tab, files may be loaded from the following locations:

- **[RAM CACHE]** — A virtual directory that displays media files that are already loaded in the playout memory. Selecting this directory enables you to quickly access a pre-loaded file from the memory.
- **[ROOT]** — This is the default directory and represents the top-most directory on the CompactFlash Card. You can manage files on the CompactFlash Card using an FTP connection. Refer to “**Media File Basics**” for details.
- **User created directories** — A list of directories, created by the user with an FTP connection.

To load a media file into a Logo channel

1. From the **Device View** in DashBoard, select the **Logos** tab.
 2. From the **Logos** tab, select the tab for the Logo channel you want to load the media file for.
 3. If files were added or re-named using an FTP connection, click **Rescan** to update the list of directories and filenames.
 4. Select a media file to load to the Logo channel as follows:
 - a. From the **Directory** menu, select the directory you wish to load a file from.
 - b. From the **Filename** menu, select the file.
- ★ If there is insufficient RAM space available to load a new file, an error message displays. In order to make RAM space available, you can set the filename to None. This will replace the logo with black if it is currently on-air, but enables the RAM to be available to load a new file.

Operation

This chapter outlines basic operation tasks, such as keying and transitions, on the UDC-8625A series cards.

External Key and Internal Key Features

This section provides a brief summary of the External Key and Internal Key features.

External Key Overview

The External Key feature provides the following:

- Both Wings and the Logo can be sourced from SDI inputs.
- If any output is 1080p, the frame sync on **SDI IN 3** and **SDI IN 4** are disabled.
- Key video is required to be on **SDI IN 3**, and unless self keying, the Key Alpha is required to be on **SDI IN 4**.
- The video format of the Wings video input and Key 2 must match the output format selected on the card.
- If there is a mismatch between the video format of the Wings or Key 2 video input and the selected output format, an error is indicated in the **Signal** tab of DashBoard and the card-edge, and Black is used instead.

Internal Key Overview

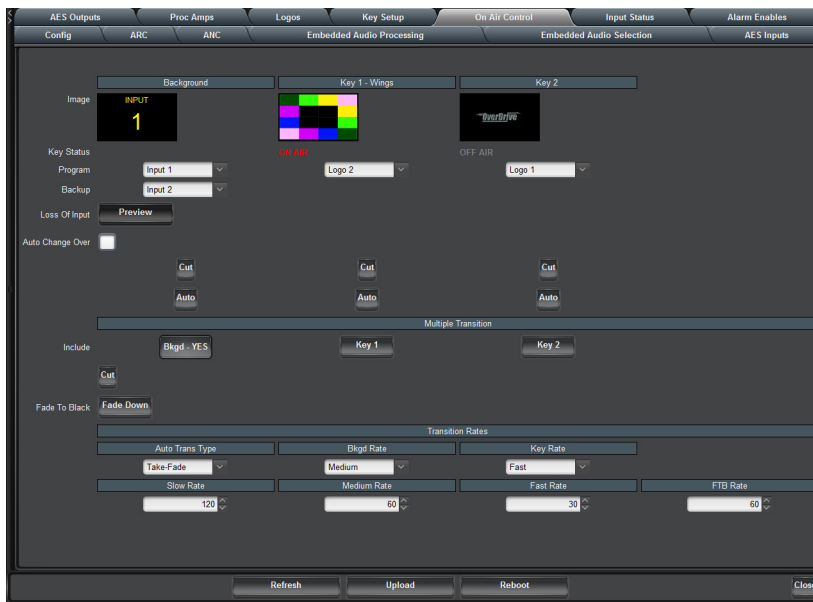
Both Wings and Logo can be sources from the internally stored logo channels (Logo 1 or Logo 2). For information on loading media files to a logo channel, adjusting on-air properties of logo channels, and tips on managing your media files, refer to “**Media File Management**”.

Key 1 Wings Setup

- ★ Key 1 Wings does not have options in the **Key Setup** tab because the Mask is automatically set according to the aspect ratio conversion.

To set up the Key 1 Wings for your UDC-8625A series card

5. If using an internal source, configure the logo channels as outlined in “**Logo Setup**”.
6. If using an external source, ensure the video format of the Wings video input matches the output format selected in the **Output Format** field of the **Video** tab.
7. From the **Device View** in DashBoard, select the **On Air Control** tab.
8. Locate the **Key 1** area in the **On Air Control** tab. This area provides the options for configuring the Wings feature of your card output.
9. From the **Key 1 Source** menu, specify a source for the Wings feature. Refer to **Table 32** for a list of options.



Key 2 Setup

This section briefly describes how to set up the second keyer typically used for Logos. Setup can include Key Alphas, Auto Keys, adjusting the clip and gain values, and applying a box mask to Key 2.

To configure Key 2

1. If using an internal source, configure the logo channels as outlined in **“Logo Setup”**.
2. If using an external source, ensure the video format of the Wings video input matches the output format selected in the **Output Format** field of the **Video** tab.
3. Select a key source for Key 2 as follows:
 - a. From the **Device View**, select the **On Air Control** tab.
 - b. In the **Key 2** area, use the **Source** menu to specify a source. Choose from the following:
 - **Black** — Sets the source for the Key 2 to Black.
 - **Input 3** — Sets SDI IN 3 and SDI IN 4 as the source for the Key Video and Key Alpha respectively. If you select this option when using the 8322AR-065 rear module, you must also set the Key Type to Self.
 - **Logo #** — Sets the indicated Logo as the source for Key 2.
4. From the **Device View**, select the **Key Setup** tab.
5. Set the **Key Type** by choosing one of the following from the **Key Type** menu:
 - **Auto Select** — An Auto Select Key is a key in which two video signals are required to insert the key. The Key Alpha is used to cut the hole in the video, and the Key Video is used to fill that hole. Note that the **Key Alpha Type** is automatically set to **Shaped**.
 - **Self** — A Self Key is a key in which the luminance, or brightness, values of the key video are used as the key alpha. Note that the **Key Alpha Type** is automatically set to **Unshaped**.
- ★ You must set the Key Type to Self when using the 8322AR-065 rear module.
6. If required, select the key fill from the **Key Alpha Type** menu. Choose from the following:
 - **Unshaped** — Select this option to set the Key Alpha to unshaped. With an Unshaped Key, the Key Alpha luminance value mixes linearly the Key Video with the Background. Shades of gray,

in the Key Alpha, are translated into transparency levels. Self Keys are set to **Unshaped** by default.

- **Shaped** — Select this option to set the Key Alpha to shaped. With a Shaped Key, the Key Alpha cuts a hole in the Background based on the luminance value of the Key Alpha and adds the Key Video to the Background hole. Shaped Key alphas are sometimes used with Character Generators to cut very precise holes for the Key Video fill.
7. Adjust the **Clip** and **Gain** values of the key using the provided sliders. To reset the values to the factory default settings, click **Make Linear**.
 8. Adjust the **Transparency** level of the key using the provided slider.
 9. To invert the key, select the **Key Invert** box.
- ★ The **Key Invert** feature reverses the polarity of the Key Alpha. A Key Invert can be applied to any key type.

Masking a Key

The Box Mask uses a simple box shape to mask the key and can be adjusted for size and location, but cannot be rotated. All key types can be masked. Note that this feature is only available for Key 2.

For More Information on...

- the Box Mask options in the Key Setup tab, refer to **Table 31**.

To apply a box mask to Key 2

1. From the **Device View**, select the **Key Setup** tab.
2. Set the **Box Mask** by choosing an option from the **Key Type** menu.
3. Adjust the position of the mask using the **Mask Top Edge**, **Mask Bottom Edge**, **Mask Left Edge**, and **Mask Right Edge** sliders.

Logo Setup

The **Logos** tab in DashBoard allows you to adjust the position and play modes of media files. The following features are supported:

- ★ Refer to the **UDC-8625A Release Notes** for information on managing the media files on your CompactFlash™ card.
- **Auto Play** — When enabled, the animation will play from the first frame when it is brought to air. When disabled, bringing the animation to air does not affect playback.
- **Looping** — When enabled, the animation will cycle continuously (from the last frame back to the first) in an endless loop. When disabled, the animation plays once, and freezes on the last frame.
- **Hold Time** — When enabled, the animation will play, but before looping back (if looping is enabled), it pauses on the last frame, for the specified Hold Time (in frames).

For More Information on...

- the options in the Logos tab, refer to **Table 30**.

To adjust the on-air properties of a media file

1. Load a media file as outlined in “**Loading a Media File**”.
2. Adjust the position of a still image in the viewing area of the screen using the **X Position** and **Y Position** sliders.

3. Adjust the characteristics of an animation using the **Auto Play**, **Looping**, and **Hold Time** options.
 4. Specify how an image is displayed by selecting an option from the **Play Mode** menu.
- ★ The **Play Mode** feature only applies to Interlaced video formats and has no effect when using Progressive video formats.

Adjusting the Proc Amp Controls

Each output on the card has a Proc Amp that can adjust the black offset, the video gain, the C_r gain, and the C_b gain. This section briefly outlines how to adjust the options available in the **Proc Amps** tab.

For More Information on...

- the options in the Proc Amps tab, refer to **Table 29**.

To adjust an output using a Proc Amp

1. From the **Device View**, select the **Proc Amps** tab.
 2. Select the **Out** tab for the output signal you want to adjust. The **Out** tabs are located at the bottom of the **Proc Amps** tab.
- ★ The Out 4 tab is not implemented when using the 8322AR-065 rear module.
3. Select the **Enable** box to ensure the color adjustments are applied. The **Enable** box must be selected in order for any color correction to take effect on the selected output. Note that the Proc Amp controls for applied to outputs that are assigned as an External Wings or Test Pattern.
 4. Use the **Video Gain** slider to adjust the video gain. This gain control affects the luminance (Y) and the color difference signals (Cr and Cb).
 5. Use the **Chroma Gain** slider to adjust the chrominance video signal components (Cr and Cb) simultaneously.
 6. Use the **CB Gain** slider to adjust the Cb component of the chrominance video signal.
 7. Use the **Black Offset** slider to adjust the Black Offset you want to apply.
- ★ To reset the Proc Amps settings to the default values, click **Reset** > **Yes** in the Confirm dialog.

Performing Transitions

Signal layering is in the following order: format converted source, Key 1-Wings, then Key 2. Note that the format converted source may take the entire active picture area so that Wings are not visible.

The UDC-8625A series also includes an Auto Change Over feature which enables you to select a backup source for the Background should the original source be lost.

For More Information on...

- using the Auto Change Over feature, refer to “**Auto Change Over Setup**”.
- triggering transitions via GPIs, refer to “**Setting up GPI/Tally Communications**”.

Transitions Setup

This section provides general instructions on setting up the transition options and rates for the card using the options available in the **On Air Control**. Refer to **Table 32** for a list of available transition setup options.

To set up the transition options on the card

1. Set up your Key(s) as required.
 2. From the **Device View** in DashBoard, select the **On Air Control** tab.
 3. Specify what is on the output background by selecting an option from the **Source** menu in the **Background** area of the tab.
 4. Select what the background will transition to by selecting an option from the **Backup** menu in the **Background** area of the tab.
 5. If you are using the Auto Change Over feature, configure the settings as outlined in “**Auto Change Over Setup**”.
 6. Select the source for Key 1-Wings using the **Source** menu provided in the **Key 1-Wings** area. Choose from the following:
 - **Black** — Sets the source for Key 1-Wings to Black.
 - **Input #** — Select this option to assign the specified input source to Key 1-Wings.
 - **Logo #** — Select this option to assign the specified Logo to Key 1-Wings.
 7. Select the source for Key 2. Remember that Key 2 is configured using the options in the **Key Setup** tab. Choose from the following:
 - **Black** — Sets the source for Key 2 to Black.
 - **Input 3** — Select this option to assign SDI IN 3 as the source for the key video and SDI IN 4 as the source for the alpha. If you select this option when using the 8322AR-065 rear module, you must also set the Key Type to Self.
 - **Logo #** — Select this option to assign the specified Logo to Key 2.
- ★ The Background, Key 1-Wings, and Key 2 areas each have independent **Cut** and **Auto** buttons to initiate a transition for each element.
8. If you are performing a transition with multiple keys, toggle the required **Include** button(s) in the **Multiple Transition** area. This area also has a **Cut** button to initiate a transition, and the master **Fade To Black** button to fade all outputs to black.
 9. Select an **Auto Trans Type** from the **Transition Rates** area.

Transition Rates

Transition rates set how much time, in frames, the card takes to perform an Auto Transition. You can set rates for the Background and Key transitions using the options in the **On Air Control** tab.

- ★ Transition rates are in frames. The values are not re-calculated when changing formats. For example, if you change an output format from 720p to 1080i, the time (in seconds) to complete the transition doubles.

To set the Background and Key transition rates

1. From the **Device View** in DashBoard, select the **On Air Control** tab.
2. Set the **Background Transition Rate** as follows:
 - a. From the **Bkgd Rate** menu, select a transition rate.
 - b. Specify the rate, in number of frames, as required, in the **Slow Rate**, **Medium Rate** and **Fast Rate** fields.
3. Set the **Key Transition Rate** as follows:
 - a. From the **Key Rate** menu, select a transition rate.
 - b. Specify the rate, in number of frames, as required, in the **Slow Rate**, **Medium Rate** and **Fast Rate** fields.

Auto Change Over Setup

The **Auto Change Over** feature enables you to select a backup source for the Background should the original source be lost. In this mode, SDI IN 1 is automatically assigned as the main source and SDI IN 2 as the backup source. If the SDI IN 1 signal is lost, the card switches to the backup source. The output stays on the backup source until the SDI IN 1 source returns for 30 seconds, at which time the card will switch back to the SDI IN 1 source. Note that the Cut and Auto options are disabled in this mode.

To configure and apply the Auto Change Over feature

1. From the **Device View** in DashBoard, select the **On Air Control** tab.
2. Select the **Auto Change Over** box. The **Source** menu is now read-only, displaying Input 1 as the Background source and Input 2 as the Backup source.

Performing a Cut Transition

Before proceeding, verify how the **Cut** button behaves during a transition as set in the **Personality** tab. Note that clicking the **Cut** button while a transition is already in progress can either abort, or instantly finish the transition depending on the option selected in the **Personality** tab. Refer to “**Configuring the Transition Buttons**” for details. The procedures in this section assume that the **On Air Control** tab is already displayed in DashBoard.

To perform a Cut transition between Background sources

1. Select a source for the Background from the **Source** menu in the **Background** area.
2. Select a backup for the Background from the **Backup** menu in the **Background** area.
3. Click **Cut** located below the **Background** thumbnail.

The selections for the sources swap.

- ★ If the two conversion sources are of different formats, the output picture will not be affected. However, the ANC and audio may have errors. The severity of the errors depends on the mismatch (e.g. switching between PCM audio and non-PCM audio).

To perform a Cut transition for Key 1 or Key 2

1. Click the corresponding **Cut** button for the Key located below the applicable thumbnail.
2. The specific Key is transitioned on or off air.
3. The **Key Status** field(s) indicates the on-air status of the key.

To perform a Cut transition between multiple sources

1. Select the sources for the output using the options in the **Source** menus for each Key.
2. From the **Multiple Transition** area, select the **Include** button(s) for any Key or Background sources to be included in the transition.
3. Click **Cut** in the **Multiple Transition** area.

- ★ A cut takes six frames to allow for audio V-Fading. Three frames are used for the audio fade down, the video is then cut, followed by a three frame audio fade up.

Performing an Auto Transition

The speed at which the Auto transition is performed, in number of frames, is determined by the Transition Rate (Slow, Medium or Fast) set in the **Transition Rate** area.

- ★ Clicking **AUTO** while a transition in progress can either pause, ignore, or reverse the transition depending on the option selected in the **Personality** tab. Refer to “**Configuring the Transition Buttons**” for details.

To perform an Auto transition on the card

1. From the **Device View** in DashBoard, select the **On Air Control** tab.
2. If required, configure the **Auto** button behavior during a transition as specified in “**Configuring the Transition Buttons**”.
3. Ensure the **Auto Trans Type** is set to the desired type in the **Transition Rate** area.
 - If the **Auto Trans Type** is set to **Fade-Fade**, it fades to black then to the next Background source.
 - If the **Auto Trans Type** is set to **Take-Fade**, it cuts to black, then fades up to the next Background source.
 - If the **Auto Trans Type** is set to **Fade-Take**, it fades from one Background source to black and then cuts to the next Background source.
4. If you want to select a different transition rate, set it according to “**Transition Rates**”.
5. To perform an Auto Background transition:
 - Click **Auto** located below the **Background** thumbnail.
 - The selections for the Source and Backup menus swap in anticipation of the next transition.
6. To perform an Auto Key transition:
 - Click the corresponding **Auto** button for the Key located below the applicable thumbnail.
 - The Key is transitioned on or off air.
 - The **Key Status** field(s) indicate the on-air status of the key.

Performing a Fade to Black

The **Fade to Black** feature allows you to fade to black, where the output is faded to black at the Background Rate.

To perform a Fade to Black

1. From the **Device View** in DashBoard, select the **On Air Control** tab.
 2. Toggle the **Fade to Black** button in the **Multiple Transition** area.
 - **Fade Down** — When the button displays this label, clicking it performs an Auto transition to black. The button label changes to **Fade Up**.
 - **Fade Up** — When the button displays this label, clicking it performs an Auto transition from black. The button label changes to **Fade Down**.
- ★ If the Fade Down/Fade Up button is clicked while a Fade to Black is in transition, the transition can be paused, ignored, or reversed depending on how the Transition Behavior option in the Personality tab is configured.

For More Information on...

- configuring the Transition Behavior option, refer to “**Configuring the Transition Buttons**”.

Notes on Transitions with Audio

Keep the following in mind when performing transitions:


- Audio will go through silence when V-Fading video.
- When video performs a cut, then audio performs a one frame fade.
- Audio will go to silence when the video transitions with a Fade to Black.
- Audio will go through silence when changing sources.
- Audio will be mixed and faded at the rate(s) specified in the Transitions Rates area in the On Air Control tab (matches video transition rates).

Software Upgrades

The card can be upgraded in the field via the **Ethernet** port on the rear module (if available), or via the Network Controller card in your openGear frame. The instructions in this section are applicable to both methods. Note that DashBoard version 3.0.0 or higher is required for this procedure.

- ★ Ross Video recommends that you connect and configure the Ethernet port on the rear module before upgrading. Without this connection, the upgrade process can take several minutes especially when upgrading multiple cards. Refer to “**Ethernet Port Cabling**” for setup details.

To upgrade the software on a card

1. Contact Ross Technical Support for the latest software version file.
2. If you are upgrading via the **Ethernet** port on the rear module:
 - a. Ensure the ethernet cable is properly connected to the **Ethernet** port. Refer to “**Ethernet Port Cabling**” for details.
 - b. Verify that the **Ethernet Status** field in the **Network** tab displays **OK**.
- ★ If an error is reported in this field, the upgrade is automatically performed via the Network Controller card and upgrade times may be affected.
3. Display the **Device View** of the card by double-clicking its status indicator in the **Basic Tree View**.
4. From the **Device View**, click **Upload** to display the **Select file for upload** dialog.
5. Navigate to the ***.bin** upload file you wish to upload.
6. Click **Open**.
7. If you are upgrading a single card:
 - a. Click **Finish** to display the **Uploading to Selected Devices** dialog.
 - b. Proceed to step 9.
8. If you are upgrading multiple cards:
 - a. Click **Next >** to display the **Select Destination** menu. This menu provides a list of the compatible cards based on the card selected in step 3.
 - b. Specify the card(s) to upload the file to by selecting the check box(es) for the cards you wish to upload the file to.
 - c. Verify that the card(s) you wish to upload the file to. The **Error/Warning** fields indicate any errors, such as incompatible software or card type mismatch.
 - d. Click **Finish** to display the **Uploading to Selected Devices** dialog.
9. Monitor the upgrade.
 - a. Use the **Uploading to Selected Devices** dialog to monitor the upgrade process.
 - b. Make a note that each card is listed in the dialog with a  button. This button is replaced with a **Reboot** button once the software file is loaded to that card.
- ★ Avoid clicking the individual **Reboot** buttons until all cards have successfully completed the file upload process and the **OK** button, located in the bottom right corner of the dialog, is enabled.
 - c. Click **OK** to re-boot all the cards listed in the **Uploading to Selected Devices** dialog.
The **Reboot Confirm** dialog displays, indicating the number of cards that will re-boot.
 - d. Click **Yes** to continue the upgrade process.

- ★ Note that clicking **Cancel** or **No** returns you to the **Uploading to Selected Devices** dialog without rebooting the card(s).
 - e. Wait while the card(s) are temporarily taken off-line during the re-boot process.
 - f. Verify that the process is complete once the status indicators for the **Card State** and **Connection** fields return to their previous status.

Troubleshooting

If you encounter problems when upgrading your card software, verify the following:

- Your network settings on the card are valid. Refer to **Table 18** for a list of available settings.
- The ethernet cable is properly connected if you are uploading the file via a network connection.
- The file you are attempting to load is a ***.bin** file that is for the card you are upgrading.
- If you are upgrading to version 1.3 or higher from an earlier version, DataSafe will only recall settings for Input 1 on the Embedded Audio Selection and Embedded Audio Processing tabs and apply default values to Input 2. This only occurs until the next reboot of the card, when DataSafe is able to recall the saved settings for each specific Input.

DashBoard Interface Overview

This chapter provides a brief summary of the menus available for the UDC-8625A series. Default values are indicated with an asterisk (*).

★ Before proceeding, ensure that you are running DashBoard software version 6.2.0 or higher. The DashBoard software and user manual are available to download from the Ross Video website.

Status Tabs

This section summarizes the read-only information displayed in the **Status** tabs. The fields in the **Status** tabs vary in severity from green (valid), yellow (caution), to red (alarm). DashBoard reports the most severe alarm for a single field. Alarm colors are noted within the tables as text set in brackets next to the menu parameter name.

Signal Tab

Table 11 summarizes the read-only information displayed in the **Signal** tab.

Table 11 Signal Tab Items

Item	Parameter	Description
Reference Status	No Reference	No signal detected on the selected reference input
	Incompatible: ###	A reference signal is detected but the format is incompatible with the current output mode
	Unlocked: ###	A reference signal is detected but the card is not locked to it
	###	Indicates the reference format detected
Video Processing Input ^a	Input # - Black	The source of the background on the On Air Control tab is selected as Black
	Input # - Input 1	The source of the background on the On Air Control tab is selected as Input 1
	Input # - Input 2	The source of the background on the On Air Control tab is selected as Input 2
	Format - ### (Green)	Indicates the input signal format
	Format - No Signal (Red)	Indicates the input signal is not detected
	Coded Frame - 16:9	Indicates that the input AFD is detected and its coded frame is 16:9
	Coded Frame - 4:3	Indicates that the input AFD is detected and its coded frame is 4:3
	Coded Frame	A blank field indicates that the input AFD is not detected
	AFD Code - #	Indicates the four-digit AFD code if the input AFD is detected
	AFD Code	A blank field indicates that the input AFD is not detected

Table 11 Signal Tab Items

Item	Parameter	Description
Video Processing Input	Audio Status - Audio Absent (Yellow)	There is an audio group absent in the input; Input Audio Group # Absent alarm is enabled
	Audio Status (Green)	A blank field indicates that all audio groups in the input are present or the corresponding alarm is disabled
Video Processing Output ^b	Format #	Indicates the output format
	Conversion errors # (Red)	Indicates an unsupported conversion; output is black. Refer to “ Format Conversion ” for details.
	Output Status - Black	The input is absent and the Loss of Input is set to Black. A red indicator is displayed if the corresponding Input # Loss alarm is enabled.
	Output Status - Blue	The input is absent and the Loss of Input is set to Blue. A red indicator is displayed if the corresponding Input # Loss alarm is enabled
	Output Status - Freeze	The input is absent and the Loss of Input is set to Freeze. A red indicator is displayed if the corresponding Input # Loss alarm is enabled.
	Output Status	A blank field indicates correct operation
	Coded Frame - 16:9	The output AFD is enabled and its coded frame is 16:9
	Coded Frame - 4:3	The output AFD is enabled and its coded frame is 4:3
	Coded Frame	A blank field indicates that the output AFD is disabled
	AFD Code - #	Displays the four-digit AFD code if the output AFD is enabled
	AFD Code	A blank field indicates that the output AFD is disabled
	Program Audio missing/async (Yellow)	Indicates that the audio to embed on the Program output is not detected. The Program Source Absent/Async alarm is enabled in the Alarms Enable tab.
	Backup Audio missing/async (Yellow)	Indicates that the audio to embed on the Backup output is not detected. The Program Source Absent/Async alarm is enabled in the Alarms Enable tab.

Table 11 Signal Tab Items

Item	Parameter	Description
Video Processing Output	Error - Audio Absent (Yellow)	There is an audio group absent in the input and the corresponding alarm is enabled; only applies to inputs that can be selected as conversion sources.
	Error	A blank field indicates correct operation (or no signal)
Input # Status	Format # (Green)	Indicates the detected input format
	Format # - No Signal (Red)	The input signal is not detected and the corresponding Input # Loss alarm is enabled
	Error - Unsupported (Red)	The input format is incompatible with the output format and the corresponding Input # Loss alarm is enabled
	Error - Incompatible (Yellow)	The input format is incompatible with its selected function (Wings, key video, key alpha) such as the input format does not match output format. If an input is not selected for one of these functions, no error is indicated. The corresponding Input # Loss alarm is enabled.
	Alarm Suppressed	Displayed if one or more of the first three error conditions above exist, but the corresponding alarm is disabled
Output Frame Delay (frames)	0-3 ^c	Indicates the current processing time of the card
AES Status	OK (Green)	Indicates the status of the audio source. Information reported in this field is dependent on the options configured in the Alarms tab.
	Input Absent (Yellow)	
	Channel Silent (Yellow)	
	Output Source Absent (Yellow)	
Timing Display	Relative to Reference	The Input Timing fields display the input signal timing values relative to the selected reference
	Input to Output	The Input Timing fields display the input signal timing values relative to the SDI output of the card
Input # Timing	## Clocks ## lines	Indicates the timing of the specified SDI input to what is selected in the Personality tab. The display is in output format clocks and lines.
Output Timing	## Clocks ## lines	Indicates the relative timing of the output to the selected reference signal

a. This field displays information in the format of <Input #>, <Format>, <Coded Frame>.

b. This field displays information in the format of <Format>, <Output Status>, <Coded Frame>, <AFD Code>.

- c. The Output Frame Delay field may display a delay value of 1 even if the Output Frame Delay option in the Video tab is set to 0. This is due to the automatic addition of 1 frame of delay that is required to process the output data.

Hardware Tab

Table 12 summarizes the read-only information displayed in the **Hardware** tab.

Table 12 Hardware Tab Items

Item	Parameter	Description
HW Status	OK (Green)	Normal operation; no hardware errors and the correct rear module is installed
	Incomp I/O module (Red)	Card is connected to an unsupported rear module
	Alarm suppressed (Green)	Rear module is incompatible and the Incompat Rear Module alarm is disabled
Voltage (V)	#	Measured input voltage
Current (mA)	#	Current consumption in milliamperes
Power (W)	#	Calculated power of the card
FPGA Temp	##C / ##F	FPGA Core temperature A warning is displayed when the card FPGA Core Temperature reaches 85°C. ★ If the temperature reaches 100°C, the card automatically shuts down to avoid permanent damage and will have to be re-booted, or power cycled, to resume normal operation.
FPGA Fan	# RPM	Indicates the card fan speed. If the Stalled Fan alarm is enabled on the Alarm Enables tab, this field reports when the card fan is not operating correctly
CPU Usage	x.xx / y.yy / z.zz	Displays the CPU Load average where: <ul style="list-style-type: none"> • x.xx represents in the last minute • y.yy represents the last five minutes • z.zz represents the last fifteen minutes
RAM Available	# / ##	CPU Memory Used / Total CPU Memory
CF Card Status	### of # GB used	Displays the amount of space used on the CompactFlash™ card
	Missing	CompactFlash card is not present

Table 12 Hardware Tab Items

Item	Parameter	Description
CF Card Status	Unreadable	An error occurred such as incompatible CompactFlash card, or the card cannot be read
Playout RAM	a / b / c / d	Displays RAM memory usage where: <ul style="list-style-type: none">• a represents the memory in use• b represents the memory cache from previously loaded files• c represents the memory dedicated to the frame sync buffers and related functions. Note that this memory is unavailable for images and animations.• d represents the total playout memory

Product Tab

Table 13 summarizes the read-only information displayed in the **Product** tab.

Table 13 Product Tab Items

Item	Parameters	Description
Product	#	Indicates the product name
Supplier	Ross Video Ltd.	
Board Rev	##	Indicates the board version of your card
Serial Number	#####	Indicates the serial number of your card
Rear Module	#	Indicates the type of rear module in the slot
Software Rev	##.##	Indicates the software and build versions
Firmware Rev	#.###	Indicates the FPGA version number
Daughter Card	#	Indicates the daughter card type

Configuration Menus

This section briefly summarizes the sub-tabs available in the **Config** tab.

Video Tab

Table 14 summarizes the **Video** set up options available in DashBoard.

Table 14 Video Menu Items

Item	Parameter	Description
Reference Setup		
Reference Input	Frame 1	The card uses the reference source connected to the REF 1 port on the openGear frame
	Frame 2	The card uses the reference source connected to the REF 2 port on the openGear frame

Table 14 Video Menu Items

Item	Parameter	Description
Reference Input	Local	The card uses the external reference source connected to the REF IN port on the rear module. You must also configure JP7 on the card to enable or disable a 75ohm terminator on the external reference input.
Output Setup		
Output Format ^a	480i 59.94	Selects the video format for the output signal. Note that a change in video format will not take effect until the reference is compatible.
	720p 59.94	
	1080i 59.94	
	1080i 59.94 LEVEL A	
	576i 50	
	720p 50	
	1080i 50	
	1080p 50 LEVEL A	
Output # ^b	Processed*	Specifies to output the processed signal with the Wings and Key
	Clean Feed 1	Specifies to output the processed signal. The Key and the Wings are not applied on this output.
	Clean Feed 2	Specifies to output the processed signal with the Wings. The Key is not applied on this output.
	External Wings	Selects the external video input being used for the Key 1 - Wings to be passed through to the output with minimal processing. Ensure the input video format is the same as the output video format and that the signals are insync. Refer to " Cascade Feature " for details on this feature.
	Test Pattern	Specifies to use a test pattern for the output
Loss Of Input	Black*	Sets the output to black when there is a loss of input
	Blue	Sets the output to blue when there is a loss of input
	Freeze	Enables the card to freeze and output the last good frame of video before the loss of input. Sets the output to freeze the last valid frame of video if there is a loss of input.
	Trouble Slide	Sets the output to the trouble slide when there is a loss of input. The trouble slide is configured on the Logos > Trouble Slide tab.

Table 14 Video Menu Items

Item	Parameter	Description
Disable Keys on Loss of Input	Selected	Disables the key overlays during a loss of input signal
	Cleared	The key overlays display during a loss of input
Test Pattern	Matte*	Specifies the type of test pattern to output. Note that the test pattern replaces all of the output picture, including the Wings and key sources, but not the HANC (audio) and VANC.
	Black	
	75% Bars	
	SMPTE Bars	
100% Bars		
Output Horizontal Delay (Clocks) ^c	0 to # ^d	Sets the output horizontal delay (in clocks) relative to the selected reference
Output Vertical Delay (Lines) ^a	0 to # ^b	Sets the output vertical delay (in lines) relative to the selected reference
Output Frame Delay (Frames) ^e	0 to 2 ^b (interlaced format) 0 to 6 ^b (progressive format)	Specifies the output delay in number of frames, however the actual processing delay is displayed in the Output Frame Delay field in the Signal tab
Output Delays	Reset ^c	Sets the delay values to 0
Dithering	Disabled	Dithering feature is disabled
	Enabled low (2bits~0.4%)	Dithering is enabled and set to 2bits
	Enabled med (3bits~0.8%)	Dithering is enabled and set to 3bits
	Enabled high (4bits~1.6%)	Dithering is enabled and set to 4bits
Clip at Black ^f	Selected	Enables the card to clip to SMPTE black on all outputs
	Cleared*	SuperBlack is passed
Clip at White ^e	Selected	Enables the card to clip to SMPTE white on all outputs
	Cleared*	SuperWhite is passed

- a. 1080p formats are not supported on the 8310AR-033 rear modules.
- b. The menus and parameters for Output 4 are not implemented when using the 8322AR-065 rear module.
- c. This is output to reference, not the total processing delay.
- d. The range of values displayed is dependent on the output format you are using. When the output format changes, these values are automatically updated based on the absolute time. Refer to **Table 15** for the range of values based on the output format.
- e. If the output format is changed, the values are updated. If you are switching from an interlaced format to a progressive format, the values are multiplied by 2. If switching from a progressive format to an interlaced format, the value is divided by 2.
- f. Slight deviation into Super White and Super Black may be possible due to color space conversion between SD and other formats.

Output Delay Values

Table 15 summarizes the range of values displayed in the Output Horizontal Delay and Output Delay menus based on the output format.

Table 15 Range of Values for the Output Delay Settings

Output Format	Output Horizontal Delay (Clocks)	Output Vertical Delay (Lines)
480i	0 to 1715	0 to 524
576i	0 to 1727	0 to 624
720p	0 to 3299	0 to 749
1080i, 1080p ^a	0 to 4399	0 to 1124

a. 1080p formats are not supported on the 8310AR-033 rear module.

GPI Configuration

The menu items available in the **GPI/Tally** tab enable you to configure each GPI.

★ The 8320AR-041 rear module does not include GPIO ports. You can configure the settings on the GPI/Tally tab, but the changes do not take effect.

Table 16 GPI Configuration Menu Items

Item	Parameter	Description
GPI #		
Function	None*	The GPIO port is not configured and the GPI has no effect
Function	GPI Cut Bkgd	A cut is performed between the Background sources when this GPI input is triggered
	GPI Auto Bkgd	An auto transition is performed between the Background sources when this GPI input is triggered
	GPI Cut Key #	The key is cut on-air or off-air when this GPI input is triggered
	GPI Auto Key #	An auto transition is performed to bring the key on-air or off-air when this GPI input is triggered
	GPI Fade to Black	A fade to black is performed when this GPI input is triggered
	GPI Recall ARC Profile #	The specified ARC Profile is recalled when this GPI is triggered
	GPI Send OP42 Cleardown	A request to clear the OP42 page is sent when this GPI input is triggered

Table 16 GPI Configuration Menu Items

Item	Parameter	Description
Trigger	Edge*	Performs the function when a transition edge is detected on the GPI input. The Low-to-High or High-to-Low active edge is set by the Polarity control.
	Level	Performs the function when a voltage level is driven on the GPI input. The voltage level High or Low is set by the Polarity control.
Polarity	High/Rising	Sets the polarity of the edge or level trigger. In the case of edge trigger, a Low-to-High transition starts the function. In the case of level trigger, a high level starts the function.
	Low/Falling*	Sets the polarity of the edge or level trigger. In the case of the edge trigger, a High-to-Low transition starts the function. In the case of level trigger, a low level starts the function.

Tally Configuration

The menu items available in the **GPI/Tally** tab enable you to configure each Tally.

Table 17 Tally Configuration Menu Items

Item	Parameter	Description
Tally #		
Function	None*	The GPI/O port is not configured and the tally has no effect
	Tally Input #	Configures the selected GPI/O port as an output and reflects the on-air status of the specified input
	Tally Key 1 - Wings	Configures the GPI/O port as an output and reflects the on-air status of the Key 1 video
	Tally Key 2	Configures the GPI/O port as an output and reflects the on-air status of the Key 2 video
Polarity	High/Rising	When asserted, the Tally output is driven High
	Low/Falling*	When asserted, the Tally output is driven Low

Ethernet Tab

Table 18 summarizes the **Ethernet** options available in DashBoard.

★ The 8320AR-041 and 8322AR-065 rear modules do not include an Ethernet port. You can configure the settings on the Ethernet tab, but the changes do not take effect.

Table 18 Ethernet Menu Items

Item	Parameter	Description
Method	Static	User manually supplies the network settings
	DHCP	Automates the assignment of the network settings
IP Address	##.##.###	The IP Address for the card
Subnet Mask	###.##.#	The subnet mask for the card
Default Gateway	##.##.#	The gateway for communication outside of the local area network (LAN)
Apply Changes		Applies and saves any changes made to the Ethernet Settings
Cancel		Cancels any setting changes and resets the Ethernet Settings to the previous values
Ethernet Status	OK	Ethernet communications for the card are valid
	Link Down	Ethernet communications for the card are invalid. The ethernet cable may be disconnected on the rear module or the Ethernet network may be down.
	No IP Address	The following conditions may be occurring: <ul style="list-style-type: none"> • The Method is set to DHCP and the DHCP server is not available • The ethernet cable is disconnected from the card rear module • A valid IP Address is no longer available. The DHCP server may be down or is still powering up after a loss of power.
##:##:##:##:##:## (read-only)		The MAC Address for the card

Personality Tab

Table 19 summarizes the options available in the **Personality** tab.

Table 19 Personality Menu Items

Item	Parameter	Description
Transition Behavior		
Cut Button	Abort*	Select this option to return the transition to the beginning when the Cut button is pressed again while a transition is in progress
	Finish	Select this option to instantly finish the transition when the Cut button is toggled
	Ignore	Select this option to disregard any successive presses of the Cut button until the transition is complete

Table 19 Personality Menu Items

Item	Parameter	Description
Auto Button	Pause/Resume*	Select this option to pause the transition when the Auto button is toggled, and resume the transition when the button is pressed again
	Reverse	Select this option to reverse the transition back to the start
	Ignore	Select this option to disregard any successive presses of the Auto button until the transition is complete
Timing Display		
Timing Display	Relative to Reference*	The Input Timing fields in the Signal tab display the timing values relative to the reference
	Input to Output	The Input Timing fields in the Signal tab display the timing values relative to the output
Card Lock		
Edit Permission	Unlocked*	Menu options are unlocked and editable from DashBoard
	Locked	All menu items, except this one, are locked and read-only

Audio Tab

Table 20 summarizes the options in the **Audio** tab.

Table 20 Audio Menu Items

Item	Parameter	Description
Audio Fade	Enabled*	Card will perform a fade for the embedded audio transition between two sources When a video cut is performed, a one frame audio fade is performed. Otherwise, audio always follows video. Recommended when performing Background transitions
	Disabled	Card will perform a hard cut at the end of the video transition Select this option when using non-PCM audio data such as Dolby®
SD Audio	20 bit*	Embeds 20bit
	24 bit	Embeds 24bit; lower 4bits will be 0 if they were not in the source
Silence Threshold (dB)	-96 to 0 ^a	Audio below the specified threshold value is considered silent. Note that this value is applicable to all AES sources.

Table 20 Audio Menu Items

Item	Parameter	Description
Silence Timeout (sec)	1 to 60 ^b	Audio silent for longer than the specified value raises an alarm. Note that this value is applicable to all AES sources.
Processed Output Audio - Group #		
Enable	Selected*	Includes the group in the card output that is set to Processed or Clean Feed in the Video tab
	Cleared	Specified audio group is not included
AES IO Config	8 in, 0 out	Card is configured to manage eight AES inputs and no AES outputs
	4 in, 4 out	Card is configured to manage four AES inputs and four AES outputs. AES connections 1-4 on the rear module are now configured as inputs. AES connections 5-8 on the rear module are now configured as outputs.
	0 in, 8 out	Card is configured to manage no AES inputs and eight AES outputs
	Disabled*	Card is not configured for AES signals

- a. The default value is -72.
- b. The default value is 5.

Load/Save Tab

Table 21 summarizes the options in the **Load/Save** tab.

Table 21 Load/Save Menu Items

Item	Parameter	Description
Load Factory Defaults	Resets all DashBoard parameters and values (excluding ethernet, reference, and output format settings) to the factory default values	

ARC Menus

This section summarizes the sub-tabs for managing presets for the Aspect Ratio Converter in the **ARC** tab.

Status Tab

Table 23 summarizes the **Status** sub-tab.

Table 22 Status Menu Items

Item	Parameter	Description
AFDs Used in the ARC		
Input AFD (read-only)	Undefined	Reports the status of the incoming video including the AFD used in the ARC process
	# Coded frame: AFD code #	

Table 22 Status Menu Items

Item	Parameter	Description
Output AFD (read-only)	Undefined	Reports the status of the outgoing video including the AFD used in the ARC process
	# Coded frame: AFD code #	
Select ARC Profile		
Active Profile (read-only)	#	Reports the currently loaded ARC Profile
Active Profile	#. <profile name>	Selects a predefined ARC setting (profiles are defined using the Profile sub-tabs)
	Recall Profile	Recalls the ARC settings for the selected Profile

Profile Tabs

Each of the eight configurable profiles include a sub-tab. This allows you to specify parameters for each profile independently.

Table 23 Profile Menu Items

Item	Parameter	Description
Active Profile (read-only)	Profile #	Indicates the profile currently applied to the output
Profile Name	#	Enables you to assign a unique identifier to the profile. Note that the profile number (e.g. 1, 2, 3, 4) is automatically added to the name you assign (e.g. Profile 3 is renamed as 3. Macro). This name displays in all the Active Profile fields and in the list of selectable profiles of the Status tab.
	Recall Profile	Applies the Profile, as configured on the sub-tab, to the output
Input and Output Settings		
ARC Mode	When Input is set to Auto AFD and Output is set to Auto AFD*	<ul style="list-style-type: none"> • Card automatically detects and uses the input AFD as defined by SMPTE 2016-1. If the input AFD is not detected, the card applies the settings specified in the Force Input Setting fields. • Card automatically determines the most suitable ARC method for the Output AFD; as defined by SMPTE 2016-1 • This is the recommended setting
	When Input is set to Force AFD and Output is set to Auto AFD	<ul style="list-style-type: none"> • Card ignores any AFD data on the input and applies the settings specified in the Force Input Settings fields • Card automatically determines the most suitable ARC method for the Output AFD as defined by SMPTE 2016-1

Table 23 Profile Menu Items

Item	Parameter	Description
ARC Mode	When Input is set to Auto AFD and Output is set to Force AFD	<ul style="list-style-type: none"> Card automatically detects and uses the input AFD as defined by SMPTE 2016-1. If the input AFD is not detected, the card applies the settings specified in the Force Input Settings fields. The output AFD is set in the Force Output Settings fields (card applies the settings specified in the Force Output Settings)
	When Input is set to Force AFD and Output is set to Force AFD	<ul style="list-style-type: none"> Card ignores any AFD data on the input and applies the settings specified in the Force Input Settings fields. The output AFD is set in the Force Output Settings field (card applies the settings specified in the Force Output Settings)
Input Settings - Video Index RP186 (SD only) ^a	Selected*	The card detects and processes RP186 packets automatically. Refer to “Video Index (VI) Processing” and “Configuring a Profile” for more information.
	Cleared	Disables this feature
Output Settings - Video Index ^a	None*	Disables this feature
	RP186-1995	<p>The card encodes RP186-1995 packets into SD outputs. RP186-1995 packets includes data on the video format and the aspect ratio only.</p> <p>Select this option when using legacy equipment that does not support RP186-2008.</p>
Output Settings - Video Index ^a	RP186-2008	<p>The card encodes RP186-2008 packets into SD outputs. RP186-2008 packets includes data on the video format, aspect ratio, and the AFD Codes.</p> <p>Select this option when you are unsure what VI your equipment supports.</p>
Aspect Ratio (SD only)	4:3*	<ul style="list-style-type: none"> Specifies how the SD output will be scaled and the AFD data is coded in the output Applies only when using SD outputs HD and 3G outputs always use 16:9
	16:9	
Input Settings - AFD Code		
4:3	Letterbox 16:9, top, 0010	<p>This menu is only used for 4:3 SD inputs if the ARC Mode is set to Forced Input, or the input AFD is missing.</p> <p>Refer to “Overview” for more information.</p>
	Letterbox 14:9, top, 0011	
	Letterbox>16:9, center, 0100	
	Full frame 4:3, 1000*	
	Full frame 4:3, 1001	

Table 23 Profile Menu Items

Item	Parameter	Description
4:3	Letterbox 16:9, center, 1010	This menu is only used for 4:3 SD inputs if the ARC Mode is set to Forced Input, or the input AFD is missing. Refer to “Overview” for more information.
	Letterbox 14:9, center, 1011	
	Full frame 4:3, alter 14:9, 1101	
	Letterbox 16:9, alter 14:9, 1110	
	Letterbox 16:9, alter 4:3, 1111	
16:9	Full frame 16:9, 0010	This menu is only used for 16:9 SD, HD, or 3G inputs if the ARC Mode is set to Forced Input, or the input AFD is missing. Refer to “Overview” for more information.
	Pillarbox 14:9, center, 0011	
	Letterbox >16:9, center, 0100	
	Full frame 16:9, 1000*	
	Pillarbox 4:3, center, 1001	
	Full frame 16:9, protected, 1010	
	Pillarbox 14:9, center, 1011	
	Pillarbox 4:3, alter 14:9, 1101	
	Full frame 16:9, alter 14:9, 1110	
Full frame 16:9, alter 4:3, 1111		
Output Settings - AFD Code		
4:3	Letterbox 16:9, top, 0010	This menu is only used for 4:3 SD outputs if the ARC Mode is set to Forced Output. Refer to “Overview” for more information.
	Letterbox 14:9, top, 0011	
	Letterbox >16:9, center, 0100	
	Full frame 4:3, 1000*	
	Full frame 4:3, 1001	
	Letterbox 16:9, center, 1010	
	Letterbox 14:9, center, 1011	
	Full frame 4:3, alter 14:9, 1101	

Table 23 Profile Menu Items

Item	Parameter	Description
4:3	Letterbox 16:9, alter 14:9, 1110	This menu is only used for 4:3 SD outputs if the ARC Mode is set to Forced Output. Refer to " Overview " for more information.
	Letterbox 16:9, alter 4:3, 1111	
16:9	Full frame 16:9, 0010	This menu is only used for 16:9 SD, HD, or 3G outputs if the ARC Mode is set to Forced Output. Refer to " Overview " for more information.
	Pillarbox 14:9, center, 0011	
	Letterbox >16:9, center, 0100	
	Full frame 16:9, 1000*	
	Pillarbox 4:3, center, 1001	
	Full frame 16:9, protected, 1010	
	Pillarbox 14:9, center, 1011	
	Pillarbox 4:3, alter 14:9, 1101	
	Full frame 16:9, alter 14:9, 1110	
Full frame 16:9, alter 4:3, 1111		
SD Blank # Active Lines	0 to 6*	<ul style="list-style-type: none"> • Selects the number of lines at the top of the production aperture to blank. • Only applies to SD inputs. • This is used to remove VBI signals from the input picture.
Extra Options		
Set Output Format	Selected	Sets the output video signal to the specified format when the profile is recalled
	Cleared*	Disables this feature
	#	Specifies the video format to output when the profile is recalled
Reset Profile	Returns all editable parameters of the profile to the factory default values	

a. The Video Index settings are ignored when using 3G or HD signals.

ANC Menus

Table 24 summarizes the **ANC** options available in DashBoard.

Table 24 ANC Menu Items

Item	Parameter	Description
ANC		
HANC Pass Through	Enabled	<ul style="list-style-type: none"> Pass through HANC data without any modifications (except EDH in SD formats) Setting should only be applied when the output format is the same format and synchronous to the input
	Disabled*	HANC data is processed as determined in the ANC menu
VANC Pass Through	Enabled	<ul style="list-style-type: none"> Pass through VANC data without any modifications Setting should only be applied when the output format is the same format and synchronous to the input
	Disabled*	VANC data is processed as determined in the ANC menu
Packet Name (read-only)	AFD and Video Index ^a	Indicates the Ancillary data type. Note that not all types are explicitly listed.
	Closed Captioning ^b	
	Time Code ^c	
	Compressed Audio Metadata ^d	
	Other Packets	
	OP-47,OP-42 Subtitle Conversion	
Action ^e	Disable ^f	Card does not insert the packet into the output
	Pass	<ul style="list-style-type: none"> The card receives and re-inserts the specified packet type into the specific line without modifying the packet contents. This option is only applicable for timecode, compressed audio metadata, and other packets that the card is not currently able to process.
	Process	<ul style="list-style-type: none"> Card receives the packet, processes it, and inserts a new packet into the specific line Valid only for AFD and Closed Captioning
Insertion Line	#	Specifies the line to insert the packet

Table 24 ANC Menu Items

Item	Parameter	Description
Insertion Order	#	<ul style="list-style-type: none"> Indicates the priority when there are packets on the same line The packet with a smaller insertion order number (e.g. 1, or 2) will be inserted first when multiple packets are inserted on the same line
Video Index (RP186) Config^g		
Input Line Number	Auto*	Card searches each line for the Video Index (VI)
	Default (11)	Card searches only Line 11 for the VI
	#	Card searches only the specified line for the VI
Output Line Number	Follow Input*	Inserts the VI data on the line the incoming data was on
	Default (11)	Inserts the VI data on Line 11 only
	# ^h	Inserts the VI data on the specified line
OP-42/ OP-47 Subtitle Config		
OP-42 Encode/Decode Line	Default (21)*	Specifies that Line 21 will encode or decode the VBI signal
	#	Specifies the line number to encode or decode the VBI signal
Send Dummy Headers	Never*	Disables this feature
	Auto	The card automatically inserts a dummy header when captions are not detected
	Always	Overwrites any upstream subtitles with dummy headers regardless of the input
On Missing Packet	Do Nothing*	No packet is inserted when a missing packet is detected. If the Send Dummy Headers is set to Auto, a dummy header is inserted.
	Duplicate Last Packet	Automatically inserts the previous valid packet where a missing packet is detected
OP-42 Cleardown Control		
Send Cleardown	Force Cleardown Now	Immediately inserts a blank page with a clear down signal

Table 24 ANC Menu Items

Item	Parameter	Description
Auto Cleardown	Selected	Inserts a blank page with a clear down signal when no OP-42 subtitles are detected on Line 21 (or the value specified in the VBI Line Number menu)
	Cleared*	Disables this feature
Auto Cleardown Delay (seconds)	# ⁱ	Specifies the number of seconds that an absence of data occurs before the card inserts the blank page with a clear down signal. The default is 10 seconds.

- a. The DID/SDID for AFD packets are DID:41h, SDID:05h.
- b. The DID/SDID for closed captioning packets are DID:61h, SDID:01h.
- c. The DID/SDID for timecode packets are DID:60h, SDID:60h.
- d. The DID/SDID for compressed audio metadata packets are: DID:45h, SDID:not specified.
- e. The default value for Closed Captioning and AFD is Process. Otherwise, Disable is the default value.
- f. It is recommended to set the Time Code and Audio Metadata fields to Disable.
- g. When enabled, OP-42 conversion will override the Video index function.
- h. If the Output Line Number is configured to insert on any line other than the default line (11 for 625, 14 for 525), all VANC data on that line will be overwritten.
- i. The default value is 10.

Embedded Audio Processing Menus

Table 25 summarizes the options in the **Embedded Audio Processing** tab. There are sub-tabs for inputs 1 and 2 so that different settings can be maintained.

Table 25 Embedded Audio Processing Menu Items

Item	Parameter	Description
Input #		
Sample Rate Conversion	Cleared	<ul style="list-style-type: none"> • SRC is not used on an input • Select this option when using non-PCM audio data
	Selected*	SRC is used on the specified input
Input # - Group #		
Ch # Gain (dB)	-20 to 20 ^a	<ul style="list-style-type: none"> • Adjusts the gain of the specified channel of audio • Select 0 when using non-PCM audio data
Ch # Invert	Selected	Inverts the audio signal of the specified channel
	Cleared*	<ul style="list-style-type: none"> • Audio signal of the specified channel is not inverted • Use for non-PCM audio data
Reset		Resets the parameters for the specified audio group only to the default values
All Groups	Reset	Resets the parameters for all groups of the specified Input to the default values

- a. The default value is 0.

Embedded Audio Selection Menus

Table 26 summarizes the options in the **Embedded Audio Selection** tabs. Note that each input is displayed in a separate sub-tab.

Table 26 Embedded Audio Selection Menu Items

Item	Parameter	Description
Input # - Group #		
Ch # Source ^a	Mute	Mutes the channel on the input
	Group # Ch#* ^b	Embeds the specified Group and Channel pair on the input
	AES # Ch# ^c	Embeds the channel of the selected AES source
	# Hz Tone	Embeds the selected test tone
	# kHz Tone	
Pass		Resets the specified group settings to pass the default input channels to the output channels
Mute		Mutes the specified channel
Insert Tones		Inserts tones into the specified channel
All Groups	Pass	Resets all group settings to pass the default input channels to the output channels
	Mute	Mutes all channels
	Insert Tones	Inserts tones into all channels

- a. If the selected source is not present, silence is embedded.
- b. Default is embedded 1:1 mapping (e.g. G1C1 OUT is mapped to G1C1 IN)
- c. Only applicable with UDC-8625A-A or UDC-8625A-B when AES Input is enabled.

AES Inputs Menu

Table 27 summarizes the AES inputs setup options available in DashBoard for the UDC-8625A-A and UDC-8625A-B. Note that the number of AES inputs available depends on how the AES IO Config is set (see **Table 20**).

Table 27 AES Inputs Menu Items

Item	Parameter	Description
Input #-# — AES #		
Sample Rate Conversion	Selected*	SRC is always used on the specified input
	Cleared	SRC is not used on the specified input. Select this option when using non-PCM audio data.
Ch # Gain (dB)	-20 to +20 ^a	Adjusts the gain of the specified audio channel

Table 27 AES Inputs Menu Items

Item	Parameter	Description
Gain Lock	Selected*	Locks the Gain slider of both channels together. If the values for the two channels are different, that change is maintained when the channels are locked.
	Cleared	Unlocks the Ch # Gain slider
Ch # Delay (ms)	0* to 500	Adjusts the delay of the specified audio channel
Delay Lock	Selected*	Locks the Ch Delay slider of both channels together. If the values for the two channels are different, that change is maintained when the channels are locked.
	Cleared	Unlocks Ch # Delay slider
Ch # Invert	Selected	Inverts the audio signal of the specified channel
	Cleared	The audio signal is not inverted
Sum	Selected	Both channels will carry the average of the two input channels (A+B/2). When the input is summed, the original signals are no longer available for output.
	Cleared*	Disables this feature
Input	Reset	Resets the parameters for the selected input to the default values
All Inputs	Reset	Resets the input parameters to the default values

a. The default value is 0.

AES Outputs Menus

Table 28 summarizes the AES Outputs setup options available in DashBoard. The number of AES outputs available depends on how the AES IO Config is set (see **Table 20**).

Table 28 AES Outputs Menu Items

Item	Parameter	Description
Output #-# — AES #		
Ch# Source Type	Mute	Specifies the source type for the AES output. Note that the parameter selected in this menu determines what is available in the Ch# Source Sel menu below.
	Tone	
	Input #	
	Processed Output*	
	AES #	

Table 28 AES Outputs Menu Items

Item	Parameter	Description
Ch# Source Sel	#	<ul style="list-style-type: none"> Ch # Source Type is set to Mute The specified AES output is now muted This field is now read-only
	#Hz Tone	<ul style="list-style-type: none"> Ch # Source Type is set to Tone
	#kHz Tone	<ul style="list-style-type: none"> Assigns the test tone as the source for the specified AES output
Ch# Source Sel	Group# Ch#* ^a	<ul style="list-style-type: none"> Ch # Source Type is set to Input # Assigns the selected embedded Group and Channel of the SDI input (as specified in the Ch # Source Type) for the AES output
		<ul style="list-style-type: none"> Ch # Source Type is set to Processed Output Assigns the specified embedded Group and Channel of the processed SDI output as the AES output
	Channel #	<ul style="list-style-type: none"> Ch # Source Type is set to AES # Assigns the specified channel of the discrete AES input source selected in the Ch# Source Type menu
Ch # Gain (dB)	-20 to +20 ^b	<p>Adjusts the output gain of the specified audio channel.</p> <p>Note that the gain added to the specified channel is a sum of the gain values selected on the AES Input tab or the Embedded Audio Selection tab, and this tab without exceeding the range of -20 to 20dB.</p>
Gain Lock	Selected*	<p>Locks the Ch Delay slider of both channels together.</p> <p>If the values for the two channels are different, that change is maintained when the channels are locked.</p>
	Cleared	Unlocks the Ch Delay slider
Ch# Delay (ms)	0* to 500	<p>Adjusts the output delay of the specified audio channel.</p> <p>Note that this value is added to the gain value selected on the AES Inputs tab. It is also added to the value in the Embedded Audio Processing tab if the selected source is an embedded source.</p>
Delay Lock	Selected*	<p>Locks the Ch Delay slider of both channels together.</p> <p>If the values for the two channels are different, that change is maintained when the channels are locked.</p>
	Cleared	Unlocks the Ch Delay slider

Table 28 AES Outputs Menu Items

Item	Parameter	Description
Output	Reset	Resets the parameters for the selected output to the default values
All Outputs	Reset	Resets the indicated output parameters to the default values

- a. Default mapping is G1C1 to AES 1A, G1C2 to AES 1B, etc.
- b. The default value is 0.

Proc Amps Menus

Table 29 summarizes the **Proc Amps** options available in DashBoard.

Table 29 Proc Amps Menu Items

Item	Parameter	Description
Out #^a		
Enable	Selected*	Enables the Proc Amp using the displayed settings for the selected output
	Cleared	The Proc Amp color correction is not applied to the selected output. Note that the Proc Amp controls are not applied when the output is assigned as an External Wings or Test Pattern.
Video Gain (%)	0 to 200 ^b	Adjusts the output video gain level
Chroma Gain (%)	0 to 200 ^a	Adjusts the card output chroma gain percentage (C _b and C _r simultaneously)
CB Gain (%)	0 to 200 ^a	Adjusts the output C _b gain
Black Offset (IRE)	-8 to 100 ^c	Adjusts the output black level of the card
Proc Amp	Reset	Resets all Proc Amp controls to the factory default values

- a. The Out 4 tab is not implemented when using the 8322AR-065 rear module.
- b. The default value is 100.
- c. The default value is 0.

Logos Menus

Table 30 summarizes the **Logos** options available in DashBoard. Each logo has a sub-tab to select which logo is to be modified.

- ★ The Logos tab is disabled when using a 8320AR-041 or 8322AR-065 rear module. You can configure the menus on the Logos tab, but the settings do not take effect.

Table 30 Logos Menu Items

Item	Parameter	Description
Logo #, Trouble Slide		
Video Image	Displays a thumbnail image	<ul style="list-style-type: none"> Displays a small image that represents the currently loaded media file. For animations, the fifth frame is displayed. Only available when the card Ethernet port is connected and properly configured A black box with text indicates that no image is currently loaded
Alpha Image ^a	Displays a thumbnail image	<ul style="list-style-type: none"> Displays a small image that represents the currently loaded media file on the Alpha channel. For animations, the fifth frame is displayed. Only available when the card ethernet port is connected and properly configured A blank area indicates that the current image has no alpha channel
File (read-only)	###	Indicates the full path of the currently loaded file
Status (read-only)	Idle	<ul style="list-style-type: none"> Displays information about the channel in both the number of frames (integer), and in the number of seconds (fractional) Any errors during loading are also displayed When the file(s) have loaded, this field displays the dimensions of the image (e.g. 1920x1080)
	Queued	
	Loading frame X of Y	
	Animation Loaded (#)	
	Single image loaded (#)	
Selected on (read-only)	###	Indicates all the key(s), or backgrounds, that currently have the media file selected
	None	
On Air (read-only)	###	Indicates the on-air key(s), or backgrounds, that have this media file selected
Directory	[RAM CACHE]	<ul style="list-style-type: none"> The field displays the directory the currently selected media file is located in Provides a list of all of the directories on the CF Card
	[ROOT]	
	ross	
Logo #		
Filename	xxx.yyy XXX_####.TGA [#]	<ul style="list-style-type: none"> Animation filenames include an underscore followed by three or more digits. The number of frames, and duration in seconds, is displayed in brackets after the filename. Updated when a new Directory is selected in the Directory menu Provides a list of all the media files in the currently selected directory. Note that animations appear as a single entry.

Table 30 Logos Menu Items

Item	Parameter	Description
Filename	[NONE]	Selecting this option clears the logo channel. This item is automatically selected, without clearing the channel, when the user switches to a new directory.
File List	Rescan	<ul style="list-style-type: none"> • Updates the Directory menu options • Updates the Filename menu options
X Position ^b	## to ## ^c	<ul style="list-style-type: none"> • Adjusts the position of the image along the X-axis in number of pixels • The range varies depending on the output video format
Y Position ^b	## to ##	Adjusts the position of the image along the Y-axis in number of pixels The range varies depending on the output video format
Play Mode	Normal*	The entire frame of the image is displayed
	Swap Fields	Field 1 and Field 2 of the image are swapped when they are displayed
	Field 1 Only	Field 1 of the image is displayed
	Field 2 Only	Field 2 of the image is displayed
Auto Play ^d	Selected	The animation starts to play when a transition occurs
	Cleared*	The animation starts playing as soon as the animation is loaded to the bus
Looping ^b	Selected	The animation starts over when it reaches the last frame of the animation
	Cleared*	The animation stops when it reaches the last frame of the animation
Hold Time	# ^e	The animation plays but before looping back (if looping is enabled), it pauses on the last frame, for the specified number of frames

- Requires an ethernet connection and sufficient free space on the CompactFlash™ card.
- These settings only apply when there is an image loaded in the Logo channel. When the Logo channel is empty, these settings have no effect.
- The default value is 0 which represents the top-left corner of the active picture area.
- This option is only applicable when an animation file is selected.
- The default is 0.

Key Setup Menus

Table 31 summarizes the **Key Setup** tab options available for Key 2 in DashBoard.

Table 31 Key Setup Menu Items

Item	Parameter	Description
Key 2		
Clip	4 to 1019 ^a	Adjusts the luminance level of the key. The lower the threshold setting, the more the Key is visible.
Gain	0 to 100 ^b	Adjusts the softness of the edges of the key
Clip & Gain	Make Linear	Resets the clip and gain to the default values
Key Invert	Selected	The polarity of the Key Alpha is inverted
	Cleared*	The Key Alpha is not inverted
Key Type	Auto Select*	A Key which two video signals (Alpha and Fill) are used
	Self	A Key that uses the luminance values of the key source for the alpha
Key Alpha Type	Unshaped	The card performs a multiplicative key. The Key Alpha mixes the Key Video with the BKGD.
	Shaped*	The card performs an additive key. The Key Alpha cuts a hole in the BKGD and the Key Video is added to the BKGD.
Transparency	0 to 100 ^c	Adjusts the transparency level of the key. A value of 0% sets the key to completely opaque. At this value, there is no difference between the original key and the key with the transparency effect applied to it. A value of 100% sets the key to completely transparent. At this value, the key is not visible on the screen.
Box Mask ^d	Off	Disables this feature; a box mask is not applied to the key
	On	Applies the mask to the key (only the portion inside the box is displayed)
	Inverted	Reverses the mask. The portion of the image that was masked is now visible and the portion that was visible is now masked.
Mask Top Edge	0 to # ^e	Adjusts the location of the top edge of the mask
Mask Bottom Edge	0 to # ^e	Adjusts the location of the bottom edge of the mask

Table 31 Key Setup Menu Items

Item	Parameter	Description
Mask Left Edge	0 to # ^e	Adjusts the location of the left edge of the mask
Mask Right Edge	0 to # ^e	Adjusts the location of the right edge of the mask

- a. The default value is 940.
- b. The default value is 50.
- c. The default value is 0.
- d. The values of the Box Mask parameters are set in number of lines and pixels, and are therefore dependent on the video format you are using.
- e. The range of values is dependent on the video format.

On Air Control Menus

Table 32 summarizes the On Air Control options available in DashBoard.

Table 32 On Air Control Menu Items

Item	Parameter	Description
Background		
Image	Displays a thumbnail image	Displays a thumbnail image that represents the BKGD source
Program	Black	Assigns Black as the output
Program	Input #	<ul style="list-style-type: none"> • Assigns the selected input source as the BKGD output • Input 1 assigns SDI IN 1 as the BKGD • Input 2 assigns SDI IN 2 as the BKGD
Backup	Black	Assigns Black as the backup output
	Input #	<ul style="list-style-type: none"> • Assigns the selected input source as the backup output • Input 1 assigns SDI IN 1 as the BKGD Backup source • Input 2 assigns SDI IN 2 as the BKGD Backup source
Loss Of Input	Preview	Disables this preview feature
	Preview: ON AIR (Red)	<p>The BKGD output now shows an example of what the card would output during a loss of input signal as selected using the Config > Video > Loss Of Input menu (Table 14).</p> <p>You must click this button again to stop the preview.</p>

Table 32 On Air Control Menu Items

Item	Parameter	Description
Auto Change Over	Selected	<ul style="list-style-type: none"> Enables the Auto Change Over feature where SDI IN 1 is the primary source and SDI IN 2 is the backup source. If SDI IN 1 is lost, the card automatically switches to SDI IN 2; the card stays on SDI IN 2 until SDI IN 1 returns for 30 seconds, at which time the card switches back to SDI IN 1 The Cut and Auto buttons are disabled
	Cleared*	Disables this feature; transition control is manual using the Cut and Auto buttons. This setting is recommend when the card is used for SmartConversion.
Cut	Cut	Performs an instantaneous transition between the Source and the Backup . A V-Fade is performed between audio sources.
Auto	Auto	Performs the transition, as specified in the Auto Trans Type menu, between the sources selected in the Source and Backup areas, at the specified Bkgd rate setting
Key #		
Image	Displays a thumbnail image	Displays a thumbnail image that represents the Key source
Key Status (read-only)	ON_AIR	The key is on-air
	OFF_AIR	The key is not on-air
Program	Black	Assigns Black as the Key output
	Input #	Assigns the selected input source as the Key source
	Logo # ^a	Assigns the selected Logo media file as the Key source
Cut	Performs an instantaneous transition to take the Key on-air or off-air	
Auto	Performs a dissolve to transition the key on or off air. The speed of the transition is controlled by the Key Rate setting.	
Multiple Transition (using Bkgd Rate)		
Include	Bkgd	Does not include the BKGD in the next transition
	Bkgd - Yes	Includes the BKGD in the next transition when the Cut button is clicked
	Key #	Does not include the specified key in the next transition
	Key # - Yes	Includes the specified key in the next transition when the Cut button is clicked
Cut	Performs a cut on the selected elements	

Table 32 On Air Control Menu Items

Item	Parameter	Description
Fade to Black	Fade Down	The output fades to black (both the BKGD and the On Air Key)
	Fade Up	The output fades from black back to its normal state; both the BKGD and the On Air Key are visible (if on-air)
Transition Rates^b		
Auto Trans Type	Fade-Fade	A video V-Fade (through black) is performed for BKGD transitions (including audio)
	Take-Fade*	A cut to black is performed then a fade up to the next BKGD source. A V-Fade is performed for audio transitions.
	Fade-Take	The BKGD fades to black then performs a cut to the next BKGD source. A V-Fade is performed for audio transitions.
Bkgd Rate	Slow	Sets the BKGD transition rate to Slow
	Medium*	Sets the BKGD transition rate to Medium
	Fast	Sets the BKGD transition rate to Fast
Key Rate	Same parameters as above ^c but applies to the Key transition rates	
Slow Rate	1 to 999	Defines the Slow Rate in frames
Medium Rate	1 to 999	Defines the Medium Rate in frames
Fast Rate	1 to 999	Defines the Fast Rate in frames
FTB Rate	2 to 999 ^d	Defines the Fade to Black Rate in frames

- a. This option is disabled when using the 8320AR-041 rear module.
- b. Refer to **Table 33** for a list of default values for the Slow, Medium, and Fast rates.
- c. The default value is Fast.
- d. The default value is 30 frames (1 second) when using 59.94Hz formats. When using 50Hz formats, the default value is 25 frames.

Default Values for Transition Rates

Table 33 summarizes the range of values (in number of frames) for the Slow, Medium, and Fast transition rates based on the output format.

Table 33 Default Values for the Transition Rates (Frames)

Output Format	Slow Rate ^a	Medium Rate ^b	Fast Rate ^c
1080i 59.94Hz, 480i 59.94Hz	60	30	15
1080p 59.94Hz, 720p 59.94Hz	120	60	30
1080i 50Hz, 576i 50Hz	50	25	12
1080p 50Hz, 720p 50Hz	100	50	25

- a. Default is 2 seconds
- b. Default is 1 second
- c. Default is 0.5 second

Input Status Menus

Table 34 summarizes the **Input Status** read-only information available in DashBoard. Each input has a sub-tab that displays the applicable status information.

★ If the output format frame rate is greater than the input frame rate, the fields in this tab may temporarily report “Not Present”.

Table 34 Input # Status Menu Items

Item	Parameter	Description
Input # Status ^a	Format #	Indicates the detected input format
	No Signal (Red)	The input signal is not detected and the corresponding Input # Loss alarm is enabled
	Unsupported: Format #	The input format is not supported
	Incompatible: Format # (Yellow)	The input format is not compatible with the output, and is currently not in use; the corresponding alarm is enabled
	Alarm suppressed (Green)	The input format is compatible and/or the corresponding alarm is disabled
	Audio Status - Audio Absent (Yellow)	There is an audio group absent in the input and the corresponding alarm is enabled
	Audio Status	A blank field indicates that all audio groups in the input are present or the corresponding alarm is disabled
CRC Errors	Active:# Full # (SD only)	Displays the count of the CRC errors on the video input. This counter is reset on loss of video, or by user request. The counter is non-latching, and the count can roll over the counter. For SD formats, it displays both active picture and full frame errors For HD formats, it displays the total count of errors
	# (HD only)	
Error Count	Reset	Resets the CRC Errors field
ANC		
352M	Not Present	352M is not detected on the input
	#	352M is detected and the 4 bytes are displayed
AFD ^b	Not Present	AFD Code is not detected in the input
	# coded frame: AFD Code	AFD Code is detected in the input
Video Index	Not Present	VI data is not detected
	# coded frame: AFD Code (Line #)	VI data was detected, and the AFD Code and line it was detected on

Table 34 Input # Status Menu Items

Item	Parameter	Description
Closed Captioning ^c	Line 21	Line 21 data is detected on the first field; 480i 59.94Hz format only
	Line 284	Line 21 data on the second field is detected; 480i 59.94Hz format only
	EIA-708 pkt (CEA-608 data)	EIA-708 packet is detected; contains CEA-608 data
	OP-42 Subtitles, Line #, #.# IRE	Displays the line number OP-42 subtitles were found on and the amplitude of the OP-42 VBI signal
	OP-47 Subtitles, Line #	Displays the line number OP-42 subtitles were found on
	Not Present	No Closed Caption packets are detected
Timecode ^d	Present	Timecode data is detected on the input
	Not Present	Timecode data is not detected on the input
Details	Show	The area below the button displays information on the detected timecode
	Hide*	Information is hidden
Audio Metadata ^e	Present	Audio metadata is detected on the input
	Not Present	Audio metadata is not detected on the input
Other Packets	#	The packet is detected and its DID and SDID are displayed
	Not Present	No other packets are detected
Embedded Audio		
Group # Channel #	PCM	Indicates the embedded audio is a linear PCM sample. This information comes from channel status.
	Non-PCM	Embedded audio is a non-PCM sample. This information comes from channel status.
	20B	Word length of the embedded audio is 20bits
	24B	Word length of the embedded audio is 24bits
	#dB	Indicates the audio level
AES Inputs Status - AES #		
Ch # Status	No Input	Displays the status of the specified channel input
	PCM	
	PCM-silent	
	Non-PCM	
	Async ^f	

Table 34 Input # Status Menu Items

Item	Parameter	Description
Word Length	#bit	Displays the word length of the audio in the number of bits
Emphasis	Present	The incoming AES signal is indicating 50/15 or CCITT J.17 emphasis
	Not Present	The incoming AES is indicating no emphasis or the emphasis is not indicated
Sample Rate	#	Displays the sample rate of the AES input

- This field displays information in the format of <format, audio status>.
- The DID/SDID for AFD packets are DID:41h, SDID:05h.
- The DID/SDID for closed captioning packets are DID:61h, SDID:01h.
- The DID/SDID for timecode packets are DID:60h, SDID:60h.
- The DID/SDID for compressed audio metadata packets are: DID:45h, SDID:not specified.
- If the SRC is ON, an Async AES signal is processed to be PCM and indicated as such.

Alarm Enables Menus

Table 35 summarizes the **Alarm Enables** options available in DashBoard.

Table 35 Alarm Enables Menu Items

Item	Parameter	Description
Hardware Alarm		
Incompat Rear Module	Selected*	Rear Module field in the Hardware tab reports when a rear module is not compatible with the card
	Cleared	Disables the alarm
Stalled Fan	Selected*	FPGA Fan field in the Hardware tab reports when the fan on the card surface is not operating correctly
	Cleared	Disables the alarm
Signal & Reference Alarms		
Reference Error	Selected*	Reference Status field in the Signal tab reports when the reference signal is absent; when a reference signal is present, but the frame rate does not match the output format
	Cleared	Disables the alarm
Input #		
Absent/Incompatible	Selected*	Input Status fields in the Signal and Input Status tabs report a loss of the specified input or the format is incompatible for the specified input
	Cleared	Disables the alarm

Table 35 Alarm Enables Menu Items

Item	Parameter	Description
Group # Absent	Selected*	Input Status fields in the Signal and Input Status tabs report when the specified group audio is absent; this alarm only applies to the input or the backup input to the card video processing unit
	Cleared	Disables the alarm
Group # Silent	Selected*	Input Status fields in the Signal and Input Status tabs report when the specified group audio is silent; this alarm only applies to the input or the backup input to the card video processing unit
	Cleared	Disables the alarm
Other		
Input # Absent/ Incompatible	Selected*	Input Status field in the Signal tab reports when the video of the specified input is not present or is incompatible. Audio status is not reported.
	Cleared	Disables the alarm
Embedded Audio Output Alarms		
Program Source Absent/Async	Selected*	Video Processing Output field in the Signal tab reports when the embedded audio for the Program source (as assigned in the On Air Control tab) is not present or is incompatible
	Cleared	Disables the alarm
Backup Source Absent/Async	Selected*	Video Processing Output field in the Signal tab reports when the embedded audio for the Backup source (assigned in the On Air Control tab) is not present or is incompatible
	Cleared	Disables the alarm
AES Input Alarms^a		
AES # Absent	Selected*	AES fields in the Signal and Input Status tabs report when the AES input source is not detected
	Cleared	Disables the alarm
AES # Silent	Selected*	AES field reports when the specified AES source is detected as silent. What the card defines as Silent is defined by the options in the Audio tab.
	Cleared	Disables the alarm
AES Output Alarms^a		

Table 35 Alarm Enables Menu Items

Item	Parameter	Description
AES # Source Absent	Selected*	AES field in the Signal tab reports when the source for the specified AES output is not detected
	Cleared	Disables this alarm
All Alarms	Set	Enables all alarms
	Clear	Disables all alarms

- a. These menu items are not available for the UDC-8625A. The number of AES alarms depends on how the AES IO Config is set.

UDC-8625A Specifications

This chapter provides technical information on the UDC-8625A.

★ Specifications are subject to change without notice.

Supported Rear Modules

- 8310AR-033
- 8320AR-033
- 8320AR-041
- 8320AR-052
- 8320AR-055
- 8322AR-065

SDI Inputs Specifications

Table 36 Technical Specifications — SDI Inputs

Item	Specifications
Standards Accommodated ^a	480i 59.94Hz (SMPTE 259M)
	576i 50Hz (SMPTE 259M)
	1080i 59.94Hz (SMPTE 292M)
	1080i 50Hz (SMPTE 292M)
	720p 59.94Hz (SMPTE 292M)
	720p 50Hz (SMPTE 292M)
	1080p Level A 59.94Hz (SMPTE 424M)
	1080p Level A 50Hz (SMPTE 424M)
Impedance	75ohm terminating
Return Loss	
8310AR-033, 8320AR-033	SDI IN 1: >15dB to 1.5GHz ^b
	SDI IN 2-4: >15dB to 1.5GHz, >10dB to 3GHz
8320AR-055	SD: >15dB
	HD: >15dB
	3G: >10dB
8320AR-052, 8322AR-065	>15dB to 1.5GHz, 10dB to 3GHz
Equalization (using Belden 1694A cable)	
8310AR-033, 8320AR-033, 8320AR-052	SD: 120m
	HD: 100m
	3G: 50m ^b

Table 36 Technical Specifications — SDI Inputs

Item	Specifications
8320AR-055	SD
	• SDI IN 1-3: 300m
	• SDI IN 4: 160m
8322AR-065	HD: 140m
	3G: 60m
	SD: 300m
	HD: 120m
	3G: 50m

- a. 1080p formats are not supported on the 8310AR-033.
b. The 8310AR-033 and 8320AR-033 do not meet 3GHz Return Loss specifications on IN 1.

SDI Outputs Specifications

Table 37 Technical Specifications — SDI Outputs

Item	Specifications
Data Rates and SMPTE Standards Accommodated ^a	480i 59.94Hz (SMPTE 259M)
	576i 50Hz (SMPTE 259M)
	1080i 59.94Hz (SMPTE 292M)
	1080i 50Hz (SMPTE 292M)
	720p 59.94Hz (SMPTE 292M)
	720p 50Hz (SMPTE 292M)
	1080p Level A 59.94Hz (SMPTE 424M)
	1080p Level A 50Hz (SMPTE 424M)
Impedance	75ohm
Signal Level	800mV ±10%
DC Offset	0V ±50mV
Rise and Fall Time (20-805)	SD: 900ps typical
	HD: 150ps typical
	3G: 130ps typical
Overshoot	<10% typical
Return Loss	
8310AR-033, 8320AR-033 ^b	SDI OUT 1: >15dB to 1.5GHz ^a
	SDI OUT 2-4: >15dB to 1.5GHz, >10dB to 3GHz
8320AR-055	SD, HD: >13dB 3G: >10dB
8320AR-052, 8322AR-065	>15dB to 1.5GHz, >10dB to 3GHz

- a. 1080p formats are not supported on the 8310AR-033.
b. The 8310AR-033 and 8320AR-033 do not meet 3GHz Return Loss specifications on OUT 1.

Environment

Table 38 Technical Specifications — Environment

Item	Specifications
Maximum Ambient Temperature	40°C

Power

Table 39 Technical Specifications — Power

Item	Specifications
Maximum Power Consumption	18W

UDC-8625A-A Specifications

This chapter provides technical information on the UDC-8625A-A.

★ Specifications are subject to change without notice.

Supported Rear Modules

- 8320AR-053A
- 8320AR-053B

SDI Inputs Specifications

Table 40 Technical Specifications — SDI Inputs

Item	Specifications
Standards Accommodated	480i 59.94Hz (SMPTE 259M)
	576i 50Hz (SMPTE 259M)
	1080i 59.94Hz (SMPTE 292M)
	1080i 50Hz (SMPTE 292M)
	720p 59.94Hz (SMPTE 292M)
	720p 50Hz (SMPTE 292M)
	1080p Level A 59.94Hz (SMPTE 424M)
	1080p Level A 50Hz (SMPTE 424M)
Impedance	75ohm terminating
Return Loss	>15dB to 1.5GHz
	>10dB to 3GHz
Equalization (using Belden 1694A cable)	SD: 120m
	HD: 100m
	3G:50m

SDI Outputs Specifications

Table 41 Technical Specifications — SDI Outputs

Item	Specifications
Impedance	75ohm
Return Loss	>15dB to 1.5GHz
	>10dB to 3GHz
DC Offset	0V \pm 50mV

Table 41 Technical Specifications — SDI Outputs

Item	Specifications
Rise and Fall Time (20-805)	SD: 900ps typical
	HD: 150ps typical
	3G: 130ps typical
Overshoot	<10% typical

AES I/O Specifications

Table 42 Technical Specifications — AES I/O

Item	Specifications
Number of Inputs/Outputs	8 connections
AES Standards Accommodated	AES-3id-2001
Impedance	75ohm
Minimum Input	30mV
Maximum Input	2.5Vp-p
Minimum Audio Delay	2.3ms (SRC is enabled)
Sampling Rate	up to 96KHz
Equalization	>1000m of Belden 1694A cable
Return Loss	>27dB 100KHz to 6MHz
Output Amplitude	1Vp-p ±10%
Rise and Fall Times	40ns
Jitter	4.5mUI
Connector Type	8320AR-053A: DIN
	8320AR-053B: HD-BNC

Environment

Table 43 Technical Specifications — Environment

Item	Specifications
Maximum Ambient Temperature	40°C

Power

Table 44 Technical Specifications — Power

Item	Specifications
Maximum Power Consumption	24W

UDC-8625A-B Specifications

This chapter provides technical information on the UDC-8625A-B.

★ Specifications are subject to change without notice.

Supported Rear Module

- 8320AR-052A

SDI Inputs Specifications

Table 45 Technical Specifications — SDI Inputs

Item	Specifications
Standards Accommodated	480i 59.94Hz (SMPTE 259M)
	576i 50Hz (SMPTE 259M)
	1080i 59.94Hz (SMPTE 292M)
	1080i 50Hz (SMPTE 292M)
	720p 59.94Hz (SMPTE 292M)
	720p 50Hz (SMPTE 292M)
	1080p Level A 59.94Hz (SMPTE 424M)
	1080p Level A 50Hz (SMPTE 424M)
Impedance	75ohm terminating
Return Loss	>15dB to 1.5GHz
	>10dB to 3GHz
Equalization (using Belden 1694A cable)	SD: 120m
	HD: 100m
	3G: 50m

SDI Outputs Specifications

Table 46 Technical Specifications — SDI Outputs

Item	Specifications
Impedance	75ohm
Return Loss	>15dB to 1.5GHz
	>10dB to 3GHz
Signal Level	800mV \pm 10%
DC Offset	0V \pm 50mV

Table 46 Technical Specifications — SDI Outputs

Item	Specifications
Rise and Fall Time (20-80%)	SD: 900ps typical
	HD: 150ps typical
	3G: 130ps typical
Overshoot	<10% typical

AES I/O Specifications

Table 47 Technical Specifications — AES I/O

Item	Specifications
Number of Inputs/Outputs	8 connections
AES Standards Accommodated	AES-3id-2001
Impedance	110ohm
Minimum Input	100mV
Maximum Input	10Vp-p
Minimum Audio Delay	2.3ms (SRC enabled)
Sampling Rate	up to 96KHz
Equalization	>450m of Belden 1492 cable
Return Loss	>18dB 100KHz to 6MHz
Output Amplitude	4Vp-p
Rise and Fall Times	30ns
Jitter	4.5mUI
Connector Type	WECO™

Environment

Table 48 Technical Specifications — Environment

Item	Specifications
Maximum Ambient Temperature	40°C

Power

Table 49 Technical Specifications — Power

Item	Specifications
Maximum Power Consumption	28W

ARC Setting Examples

This chapter provides examples of configuring the options in the **ARC** tab with graphical examples of the input and output images. In the following graphical examples, the black areas represent where the Wings content is inserted.

★ The configurations presented in this appendix are a subset of possible setups.

4:3 SD to HD (Pillarbox)

In this example, the input format is SD 4:3 (**Figure 27**), and the UDC-8625A series card output format is set to HD (**Figure 28**).

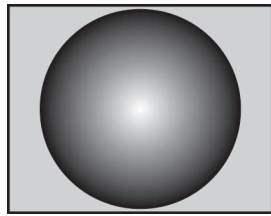


Figure 27 SD 4:3 Input

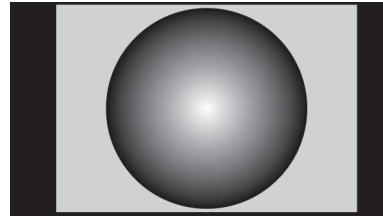


Figure 28 HD 16:9 Pillarbox Output

Use the settings provided in **Table 50** to configure the card for an SD to HD pillarbox conversion. If there is an Input AFD, you may need to use the **Force Input AFD** option (Full Frame 4:3, 1000).

Table 50 ARC Tab Settings

DashBoard Menu Item	Set to
Output Settings > ARC Mode	N/A
Input Settings > ARC Mode	(Any option)
Input Settings > Aspect Ratio	4:3
Input Settings > AFD Code > 4:3	Full Frame 4:3, 1000
Input Settings > AFD Code > 16:9	N/A
Output Settings > AFD Code > 4:3	N/A
Output Settings > AFD Code > 16:9	Pillarbox 4:3, 1001 or N/A if Auto Output AFD

4:3 SD to HD (Zoom)

In this example, the input is SD 4:3 (**Figure 29**), and the UDC-8625A series card output format is set to HD (**Figure 30**). The top and bottom of the input image is cropped to produce the zoom effect.

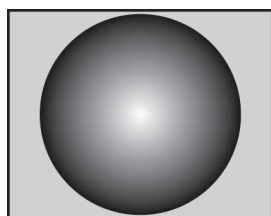


Figure 29 SD 4:3 Input

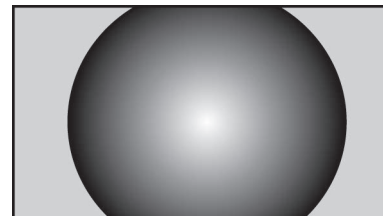


Figure 30 HD 16:9 Zoom Output

There are two methods presented: changing the input AFD, and changing the output AFD. In either case, if there is an Input AFD, you may need to use the Force Input AFD option (Full Frame 4:3, 1000).

Use the settings provided in **Table 51** to configure the card for an SD to HD zoom conversion by changing the output AFD mode.

Table 51 ARC Tab Settings

DashBoard Menu Item	Set to
Output Settings > ARC Mode	N/A
Input Settings > ARC Mode	Auto Input AFD, Force Output AFD or Force Input AFD, Force Output AFD
Input Settings > Aspect Ratio	4:3
Input Settings > AFD Code > 4:3	Full Frame 4:3, 1000
Input Settings > AFD Code > 16:9	N/A
Output Settings > AFD Code > 4:3	N/A
Output Settings > AFD Code > 16:9	Full Frame, 16:9, 1000

4:3 SD to 16:9 SD (Pillarbox)

In this example, the input is SD 4:3 with no embedded AFD (**Figure 31**), and the UDC-8625A series card output format is set to SD 16:9 (**Figure 32**). Black bars are added to the sides of the image.

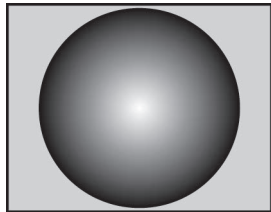


Figure 31 SD 4:3 Input

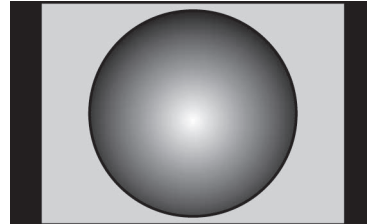


Figure 32 SD 16:9 Output

Use the settings provided in **Table 52** to configure the card for an SD to SD conversion. If there is an Input AFD, you may need to use the Force Input AFD option (Full Frame 4:3, 1000).

Table 52 ARC Tab Settings

DashBoard Menu Item	Set to
Output Settings > ARC Mode	16:9
Input Settings > ARC Mode	N/A
Input Settings > Aspect Ratio	4:3
Input Settings > AFD Code > 4:3	Full Frame 4:3, 1000
Input Settings > AFD Code > 16:9	N/A
Output Settings > AFD Code > 4:3	N/A
Output Settings > AFD Code > 16:9	Pillarbox 4:3, 1001 or N/A if Auto Output AFD

HD to 4:3 SD (Letterbox)

In this example, the input is HD 16:9 (**Figure 33**), and the UDC-8625A series card output format is set to SD 4:3 (**Figure 34**). Black bars are added to the top and bottom of the image.

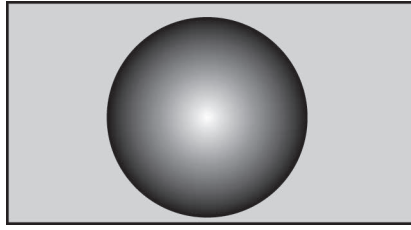


Figure 33 HD 16:9 Input

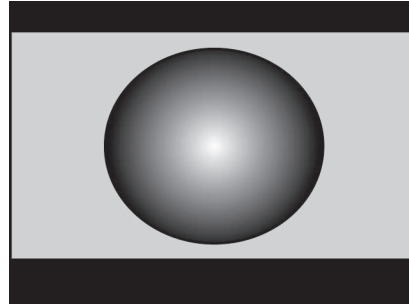


Figure 34 SD 4:3 Letterbox Output

Use the settings provided in **Table 53** to configure the card for an HD to SD letterbox. If there is an Input AFD, you may need to use the Force Input AFD option (Full Frame 16:9, 1000)

Table 53 ARC Tab Settings

DashBoard Menu Item	Set to
Output Settings > ARC Mode	4:3
Input Settings > ARC Mode	(Any option)
Input Settings > Aspect Ratio	N/A
Input Settings > AFD Code > 4:3	N/A
Input Settings > AFD Code > 16:9	Full Frame 16:9, 1000
Output Settings > AFD Code > 4:3	Letterbox, 16:9, 1010 or N/A if Auto Output AFD
Output Settings > AFD Code > 16:9	N/A

HD to 4:3 SD (Zoom)

In this example, the input is HD 16:9 (**Figure 35**), and the UDC-8625A series card output format is set to SD (**Figure 36**).

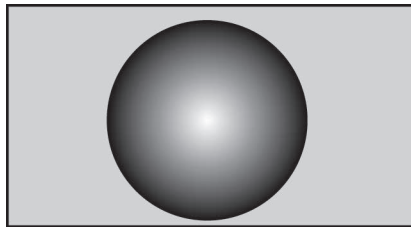


Figure 35 HD 16:9 Input

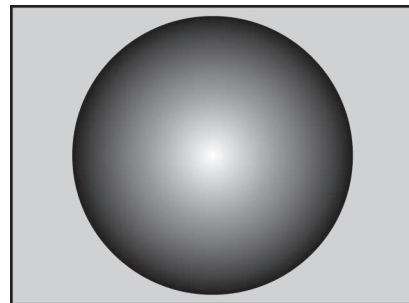


Figure 36 SD 4:3 Zoom Output

There are two methods presented: changing the Input AFD, and changing the Output AFD. In either case, if there is an Input AFD, you may need to use the Force Input AFD option (Full Frame 16:9, 1000).

Use the settings provided in **Table 54** to configure the card for an HD to SD zoom conversion by changing the output AFD mode.

Table 54 ARC Tab Settings

DashBoard Menu Item	Set to
Output Settings > ARC Mode	4:3
Input Settings > ARC Mode	Auto Input AFD, Force Output AFD or Force Input AFD, Force Output AFD
Input Settings > Aspect Ratio	N/A
Input Settings > AFD Code > 4:3	N/A
Input Settings > AFD Code > 16:9	Full Frame, 16:9, 1000
Output Settings > AFD Code > 4:3	Full Frame, 4:3, 1000
Output Settings > AFD Code > 16:9	N/A

Cascade Feature

The Cascade feature enables you to specify that an SDI Input selected as the Key 1 - Wings is passed through to an SDI output on the card with minimal processing. This feature is useful when you have multiple UDC-8625A series cards in a frame and want to pass an SDI Wings source from one card to the next card in a daisy-chain configuration.

This chapter presents one possible implementation of the Cascade feature. Your requirements may differ from what is presented here.

Cabling for the Cascade Feature

This chapter assumes the following equipment is used:

- One OG3-FR series frame with an MFC-OG3-N Network Controller card
- Two UDC-8625A-B cards installed in the frame
- Two 8320AR-052A rear modules installed in the frame

In **Figure 19.1**, the rear module depicted on the left is for the **first** UDC-8625A-B while the rear module on the right is for the **second** UDC-8625A-B. Note that the slots that your rear modules are installed in may differ than what is presented here. Ross Video does not supply the required cables.

Cabling Overview

10. Connect an input video signals to **SDI IN 2** (BNC 1) on the first UDC-8625A-B. For simplicity, **Figure 19.1** depicts only one SDI input, but you may require more. Refer to “**UDC-8625A-B Rear Module**” for specific cabling designations.

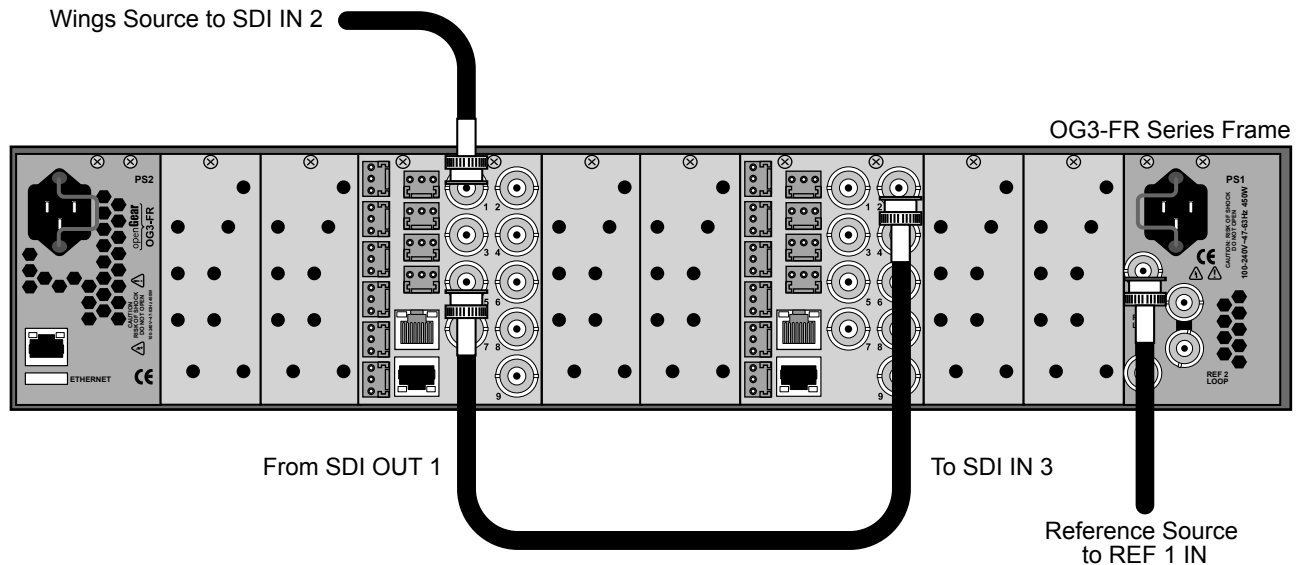


Figure 19.1 Cabling for the Cascade feature

11. Connect **SDI OUT 1** (BNC 5) on the first UDC-8625A-B to **SDI IN 3** (BNC 2) on the second UDC-8625A-B.
12. Connect the remainder of the input and output video signals to the rear modules as required.
13. Connect the reference source for UDC-8625A-B cards.

For More Information on...

- additional connections for your card, refer to “**Cabling**”.

Configuration in DashBoard

Note that the Cascade feature requires that the input video format be the same as the output video format.

Basic Configuration

For additional configuration details, refer to “**Basic Configuration**”.

To configure a card

1. Select the **Device View** for one of the UDC-8625A-B cards.
2. Select the **Config** tab.
3. Set up the network connection to your card as outlined in “**Ethernet Communication Setup**”.
4. Specify the reference source as follows:
 - a. Select the **Video** tab.
 - b. From the **Reference Setup** menu, select **Frame 1**.
5. Repeat steps 1 to 4 for the second UDC-8625A-B.

Setting up the First UDC-8625A-B

This section summarizes how to set up the Cascade feature on the first UDC-8625A-B. For additional configuration details, refer to “**Basic Configuration**”. Before proceeding, ensure that the External Wings video source is locked to the same reference.

To set up the Cascade feature

1. Select the **Device View** for the first UDC-8625A-B.
2. Configure **SDI OUT 1** as follows:
 - a. Select **Config > Video**.
 - b. From the **Output Format** menu, select the video format. Ensure that the output is compatible with the selected reference and that the input video source on **SDI IN 2** is the same format as selected in the **Output Format** menu.
 - c. From the **Output** menu for Output 1, select **External Wings**.
3. Configure the Cascade feature as follows:
 - a. Select the **On Air Control** tab.
 - b. Locate the **Key 1 - Wings** area.
 - c. From the **Key 1 Source** menu, select **Input 2**.

Setting up the Second UDC-8625A-B

This section summarizes how to set up the second UDC-8625A-B to accept the External Wings output on SDI IN 3 from the first UDC-8625A-B.

To set up the second UDC-8625A-B

1. Select the **Device View** for the second UDC-8625A-B.
 2. Select **Config > Video**.
 3. From the **Output Format** menu, select the video format.
- ★ Ensure that the output is compatible with the selected reference and that the input video source on **SDI IN 3** is the same format as selected in the **Output Format** menu.

Troubleshooting

- ★ The source of video cascaded is determined by each upstream card's On Air Control - Key 1 source selection.

If the source format doesn't match, or if the On Air Control - Key 1 source is set to something other than Inputs 1-4, then an internally generated black signal is output.

Switching the source is not timed. Changes between the input sources and black, may cause downstream equipment to temporarily lose lock and/or show corrupt video.

Monitor the Signal Input timing fields on each card to ensure that all signals are synchronous. An asynchronous signal may vertically scroll or glitch if put on-air.

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zlib

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The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files <ftp://ds.internic.net/rfc/rfc1950.txt> (zlib format), [rfc1951.txt](ftp://ds.internic.net/rfc/rfc1951.txt) (deflate format) and [rfc1952.txt](ftp://ds.internic.net/rfc/rfc1952.txt) (gzip format).

Service Information

This chapter provides information on the warranty and repair policy for your card.

Troubleshooting Checklist

Routine maintenance to this openGear product is not required. In the event of problems with your UDC-8625A series card, 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 in **“Contacting Technical Support”**.

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** — Verify 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. **Reference Signal Status** — Verify that the reference (blackburst or tri-level) is supplied on one of the available reference inputs. Check the **Reference Status** field in the **Signal** tab in DashBoard.
4. **Input Signal Status** — Verify that source equipment is operating correctly and that a valid signal is being supplied.
5. **Output Signal Path** — Verify that destination equipment is operating correctly and receiving a valid signal.
6. **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.
7. **Re-load the Factory Defaults** — If the card appears to be working and reports no errors, but is not generating an active picture or outputs black, restoring the default factory configuration may fix the problem. Refer to **“Loading the Factory Defaults”** on page 7-47 for information.

Warranty and Repair Policy

The UDC-8625A series card 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 UDC-8625A series card 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 UDC-8625A series card 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 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 UDC-8625A series card 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 UDC-8625A series card, 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 UDC-8625A series card. 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.

Glossary

The following terms are used throughout this guide:

Active image — the portion of the video picture area (production aperture) that is being utilized for output content. Active image excludes letterbox bars and pillarbox bars.

Auto Select Key — a key in which two video signals are required to insert the key. The Key Alpha is used to cut the hole in the video, and the Key Video is used to fill that hole.

Card — refers to all UDC-8625A models unless otherwise noted.

DashBoard — the DashBoard Control System.

DTVCC captions — CEA-708 captions.

Frame — the openGear frame that houses the UDC-8625A unless otherwise noted.

HTTP — Direct Hypertext Transfer Protocol.

Input 1 — refers to SDI IN 1.

Input 2 — refers to SDI IN 2.

Input 3 — refers to SDI IN 3.

Input 4 — refers to SDI IN 4.

LTC — Linear Timecode.

MIB — management information base.

Network Controller Card — the MFC-OG3-N and any available options unless otherwise noted.

NTSC captions — the CEA-608-D: Line 21 Data Services captions.

openGear Frame — refers to the OG3-FR series and OGX-FR series frames unless otherwise noted.

PAL — PAL-B and PAL-G unless otherwise noted.

Production aperture — the image lattice that represents the maximum possible image extent in a given standard (e.g. the full size of all active pixels and active lines). For example, the 1080i production aperture would be 1920x1080.

Self Key — a key in which the luminance, or brightness, values of the key source is used as the alpha for the key.

System — the mix of interconnected production and terminal equipment in your environment.

TCP — Transmission Control Protocol.

TTL — Time To Live.

UDC-8625A — refers to the model that does not include discrete audio processing features.

UDC-8625A-A — refers to the model with discrete audio processing features and eight unbalanced AES I/O.

UDC-8625A-B — refers to the model with discrete audio processing features and eight balanced AES I/O.

UDC-8625A series — refers to all models unless otherwise noted.

UDP — User Datagram Protocol.

User — the person who uses the UDC-8625A.

