

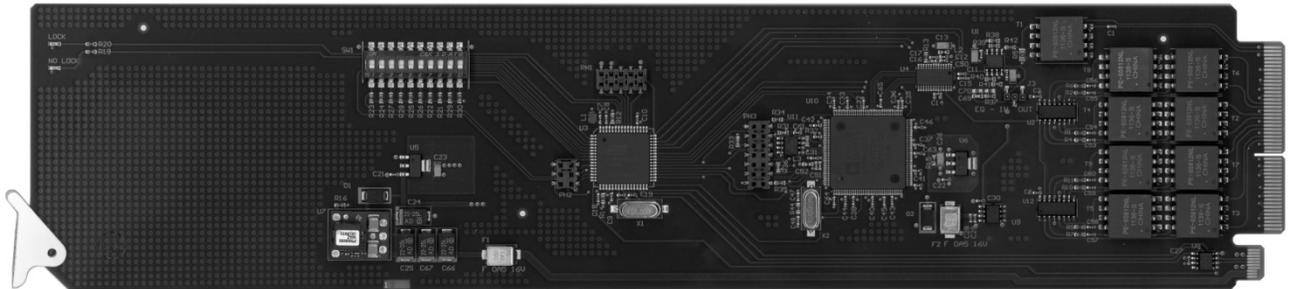
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Multidyne Video & Fiber Optic Systems Inc.

# MDOG-6001-DA8-AESB

1x8 AES/EBU Reclocking Distribution Amplifier 110ohm

## User Manual



 **MultiDyne**<sup>®</sup>  
Video & Fiber Optic Systems

**openGear**

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## MDOG-6001-DA8-AESB User Manual

- Multidyne Video & Fiber Optic Systems Part Number: MDOG-6001-DA8-AESBUM
- Release Date: November 14, 2022

The information contained in this User Manual is subject to change without notice or obligation.

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### Notice

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# Important Regulatory and Safety Notices

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

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

## Symbol Meanings

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

---



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

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

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

---



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

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## Important Safety Instructions

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

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

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**Warning** — *Service barriers within this product are intended to protect the operator and service personnel from hazardous voltages. For continued safety, replace all barriers after any servicing.*

*This product contains safety critical parts, which if incorrectly replaced may present a risk of fire or electrical shock. Components contained within the product's power supplies and power supply area, are not intended to be customer serviced and should be returned to the factory for repair. To reduce the risk of fire, replacement fuses must be the same time and rating. Only use attachments/accessories specified by the manufacturer.*

---

## EMC Notices

### **United States of America FCC Part 15**

This equipment has been tested and found to comply with the limits for a class A Digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

---



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

---

### **CANADA**

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

Cet appareil numérique de la classe "A" est conforme à la norme NMB-003 du Canada.

### **EUROPE**

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

### **INTERNATIONAL**

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

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**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.*

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## Maintenance/User Serviceable Parts

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

All openGear products are covered by a generous 5-year warranty and will be repaired without charge for materials or labor within this period. See the “Warranty and Repair Policy” section in this manual for details.

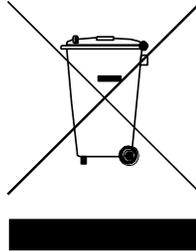
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## Environmental Information

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

To avoid the potential release of those substances into the environment and to diminish the need for the extraction of natural resources, Multidyne Video & Fiber Optic Systems 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 Multidyne Video & Fiber Optic Systems for more information on the environmental performances of our products.

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## Company Address

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Hauppauge, NY 11788  
United States of America

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After Hours Emergency: [+1-516-671-7278](tel:+1-516-671-7278)

E-mail (Technical Support): [support@multidyne.com](mailto:support@multidyne.com)

E-mail (General Information): [sales@multidyne.com](mailto:sales@multidyne.com)

Website: [www.multidyne.com](http://www.multidyne.com)



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# Introduction

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## In This Chapter

This chapter contains the following sections:

- Overview
- Functional Block Diagrams
- User Interfaces
- Documentation Terms and Conventions

### A Word of Thanks

Congratulations on choosing the openGear MDOG-6001-DA8-AESB 1x8 AES/EBU Reclocking Distribution Amplifier 110ohm. The MDOG-6001-DA8-AESB is part of a full line of Digital Products within the openGear Terminal Equipment family of products, backed by Multidyne Video & Fiber Optic Systems's experience in engineering and design expertise since 2010

You will be pleased at how easily your new MDOG-6001-DA8-AESB fits into your overall working environment. Equally pleasing is the product quality, reliability and functionality. Thank you for joining the group of worldwide satisfied Multidyne Video & Fiber Optic Systems customers!

Should you have a question pertaining to the installation or operation of your MDOG-6001-DA8-AESB, please contact us at the numbers listed on the back cover of this manual. Our technical support staff is always available for consultation, training, or service.

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## Overview

The MDOG-6001-DA8-AESB is an AES/EBU reclocking distribution amplifier designed for broadcast use. It provides eight copies of the incoming balanced AES3 signal when used with the R2-3004 Full Rear Module or four copies of the incoming signal when used with the R2S-3004 Split Rear Module. The MDOG-6001-DA8-AESB supports audio sampling frequencies from 32kHz to 96kHz. Cable equalization and reclocking techniques enable the MDOG-6001-DA8-AESB to recover the incoming digital audio signal reliably.

The R2S-3004 high density split rear module can accommodate up to 2x MDOG-6001-DA8-AESB cards, each configured as a 1x4 DA, accommodating up to 20 channels of distribution per 2RU frame.

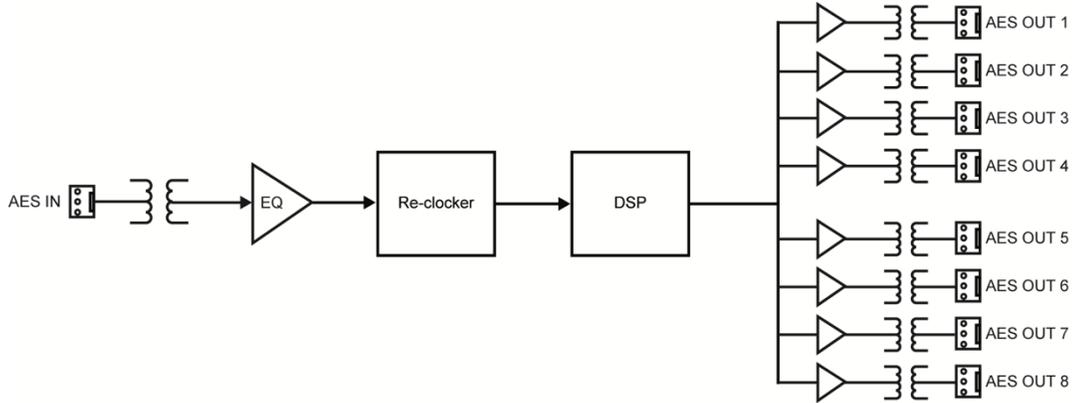
## Features

The following features make the MDOG-6001-DA8-AESB the best solution for distributing digital audio signals:

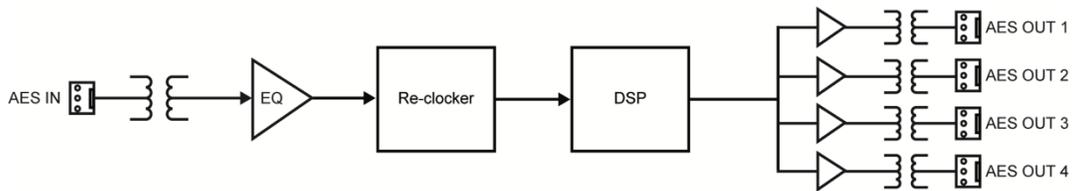
- 1x8 or 1x4 (high density) AES distribution amplifier
- 110ohm balanced AES3 I/O
- Ideal for distributing Dolby® E and Dolby® Digital signals
- Reports ITU1770 LKFS Audio Measurements in DashBoard
- Cable equalization and data reclocking on the incoming AES/EBU signal
- Supports audio sampling frequencies from 32kHz to 96kHz
- Provides level matching and level control of output signals
- Higher density with up to 20 cards per frame in the DFR-8321 series frame using the R2S-3004 Split Rear Modules
- 5 year transferable warranty

# Functional Block Diagrams

This section provides a functional block diagrams that outline the workflow of the MDOG-6001-DA8-AESB.



**Figure 1.1** Simplified Block Diagram — R2-3004 Full Rear Module



**Figure 1.2** Simplified Block Diagram — R2S-3004 Split Rear Modules

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# User Interfaces

The MDOG-6001-DA8-AESB offers the following interfaces for control and monitoring.

## DashBoard Control System™

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

### *For More Information...*

- on the menus in DashBoard, refer to the chapter “**DashBoard Menus**”.
- on using DashBoard, refer to the *DashBoard User Manual*.

## Card-edge Controls

The MDOG-6001-DA8-AESB provides LEDs on the card-edge that display the status of the input signals.

### *For More Information...*

- on adjusting the output levels, refer to the section “**Card Overview**”.
- on monitoring the status using the card-edge LEDs, refer to the section “**Control and Monitoring Features**”.

---

# Documentation Terms and Conventions

The following terms are used throughout this manual:

- **“Board”**, and **“Card”** refer to openGear terminal devices within openGear frames, including all components and switches.
- **“DashBoard”** refers to the DashBoard Control System™.
- **“DFR-8300 series frame”** refers to all versions of the 10-slot (DFR-8310 series) and 20-slot (DFR-8321 series) frames and any available options unless otherwise noted.
- **“Frame”** refers to DFR-8300 series frame that houses the MDOG-6001-DA8-AESB card, as well as any openGear frames.
- **“Operator”** and **“User”** refer to the person who uses MDOG-6001-DA8-AESB
- **“System”** and **“Video system”** refer to the mix of interconnected production and terminal equipment in your environment.
- The **“Operating Tips”** and **“Note”** boxes are used throughout this manual to provide additional user information.



# Installation

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## In This Chapter

This chapter provides instructions for installing the Rear Module(s) for the MDOG-6001-DA8-AESB, installing the card into the frame, cabling details, and updating the card software.

This chapter contains the following sections:

- Before You Begin
- Installing the MDOG-6001-DA8-AESB
- Cabling the MDOG-6001-DA8-AESB
- Software Upgrades

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## Before You Begin

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

### Static Discharge

Whenever handling the MDOG-6001-DA8-AESB and other related equipment, please observe all static discharge precautions as described in the following 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 MDOG-6001-DA8-AESB 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 Multidyne Video & Fiber Optic Systems directly.

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# Installing the MDOG-6001-DA8-AESB

This section outlines how to install a rear module and card in a DFR-8300 series frame. The same procedure applies regardless of the frame or card type. However, the specific rear module you need to install depends on the frame you are using.

## Rear Modules for the MDOG-6001-DA8-AESB

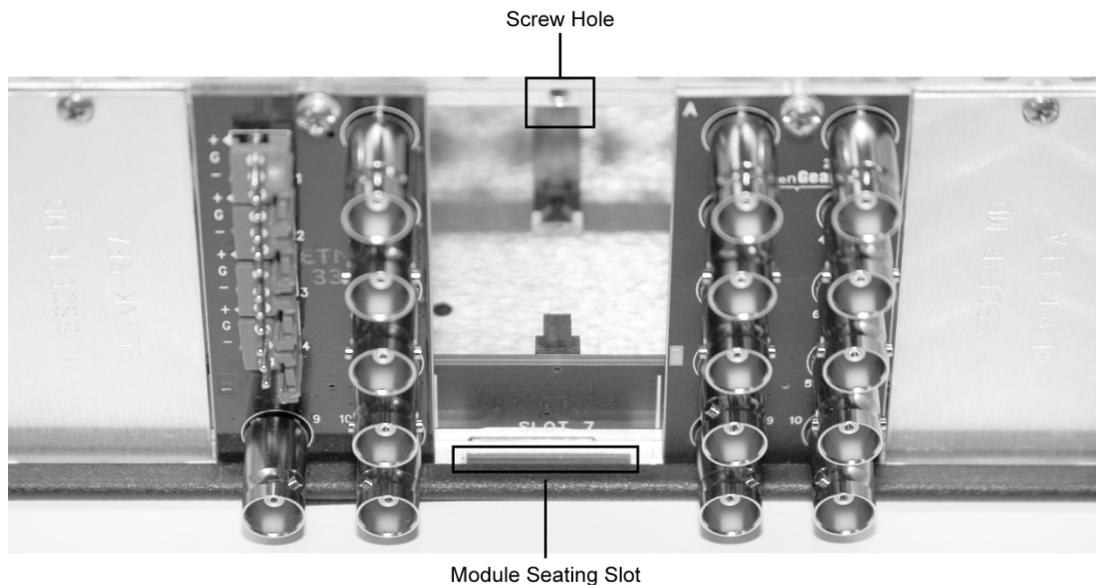
- **DFR-8321 series frame** — When installing the MDOG-6001-DA8-AESB in the DFR-8321 series frames, the **R2-3004 Full Rear Module** or the **R2S-3004 Split Rear Module** can be used. When using a Full Rear Module in the DFR-8321 frame, use the even numbered slots, such as 2,4,6 etc. to ensure that the card aligns with the rear module.

## Installing a Rear Module

If the Rear Module is already installed, proceed to the section “**Installing the MDOG-6001-DA8-AESB**”.

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

1. Locate the card frame slots on the rear of the frame.
2. Remove the Blank Plate from the slot you have chosen for the MDOG-6001-DA8-AESB installation.
3. Install the bottom of the Rear Module in the **Module Seating Slot** at the base of the frame’s back plane. (**Figure 2.1**)



**Figure 2.1** Rear Module Installation — DFR-8300 Series Frame (MDOG-6001-DA8-AESB not shown)

4. Align the top hole of the rear module with the screw hole on the top edge of the back plane of the frame.
5. Using a Phillips driver, and the supplied screw, fasten the Rear Module to the DFR-8300 series back plane. Do not over tighten.
6. Ensure proper frame cooling and ventilation by having all rear frame slots covered with Rear Modules or Blank Plates.

## Installing the MDOG-6001-DA8-AESB

This section outlines how to install the MDOG-6001-DA8-AESB in a DFR-8300 series frame. If the MDOG-6001-DA8-AESB is to be installed in any compatible frame other than a Multidyne Video & Fiber Optic Systems product, refer to the frame manufacturer's manual for specific instructions.

Use the following procedure to install the MDOG-6001-DA8-AESB in a DFR-8300 series frame:

1. Locate the Rear Module you installed in the procedure “**Installing a Rear Module**”.
2. Hold the MDOG-6001-DA8-AESB card by the edges and carefully align the card-edges with the slots in the frame.
3. Fully insert the card into the frame until the rear connection plugs are properly seated in the Rear Module.

# Cabling for the MDOG-6001-DA8-AESB

This section provides information for connecting cables to the installed Rear Modules of your DFR-8300 series frames. Connect the input and output cables according to the following sections. The inputs are internally terminated in 110ohm. It is not necessary to terminate unused outputs.

## DFR-8321 Series Frames Cabling Overview

In the DFR-8321 series frames, the MDOG-6001-DA8-AESB is used with the following Rear Modules:

- **R2-3004 Full Rear Module** — Each module occupies two slots and accommodates one card. This rear module provides one AES input and eight AES outputs. (**Figure 2.2**)
- **R2S-3004 Split Rear Module** — Each module occupies two slots and accommodates two cards. This rear module provides one AES input and four AES outputs per card. (**Figure 2.3**)

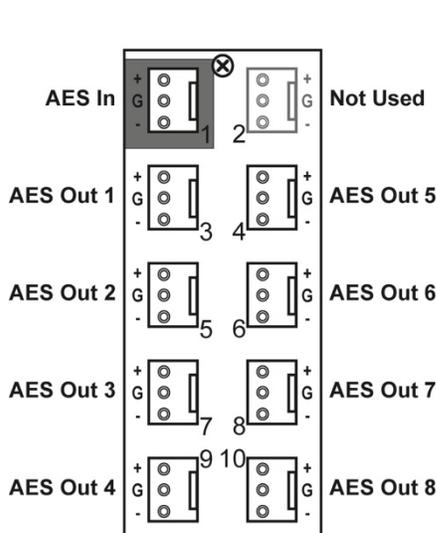


Figure 2.2 Cable Connections for R2-3004 Full Rear Modules

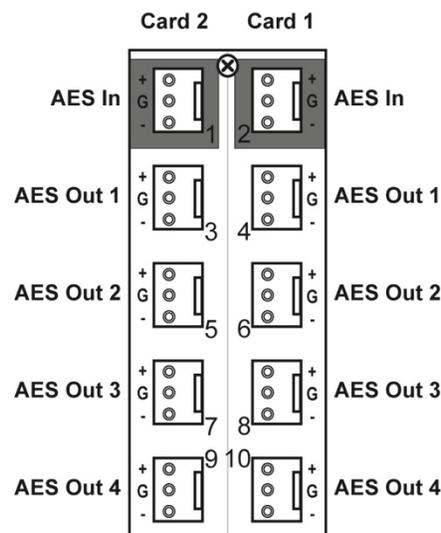


Figure 2.2 Cable Connections for R2S-3004 Split Rear Modules

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# Software Upgrades

The card can be upgraded in the field via the MFC-8300 series Network Controller card in your frame.

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**Note** — *DashBoard version 3.0.0 or higher is required for this procedure.*

---

## **To upgrade the software on a card**

1. Contact Multidyne Video & Fiber Optic Systems Technical Support for the latest software version file.
2. Display the **Device View** of the card by double-clicking its status indicator in the **Basic Tree View**.
3. From the **Device View**, click **Upload** to display the **Select file for upload** dialog.
4. Navigate to the \*.bin upload file you wish to upload.
5. Click **Open**.
6. If you are upgrading a single card, click **Finish** to display the **Uploading to Selected Devices** dialog. Proceed to step 8.
7. If you are upgrading multiple cards:
  - 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.
  - 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.
  - 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.
  - Click **Finish** to display the **Uploading to Selected Devices** dialog.
8. Monitor the upgrade.
  - Monitor the upgrade status bar displayed in DashBoard while the software is upgraded on your card.
  - The card(s) are automatically re-booted and are temporarily taken offline during the re-boot process. The process is complete once the status indicators for the **Card State** and **Connection** fields return to their previous status

# User Controls

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## In This Chapter

This chapter provides a general overview of the user controls available on the MDOG-6001-DA8-AESB.

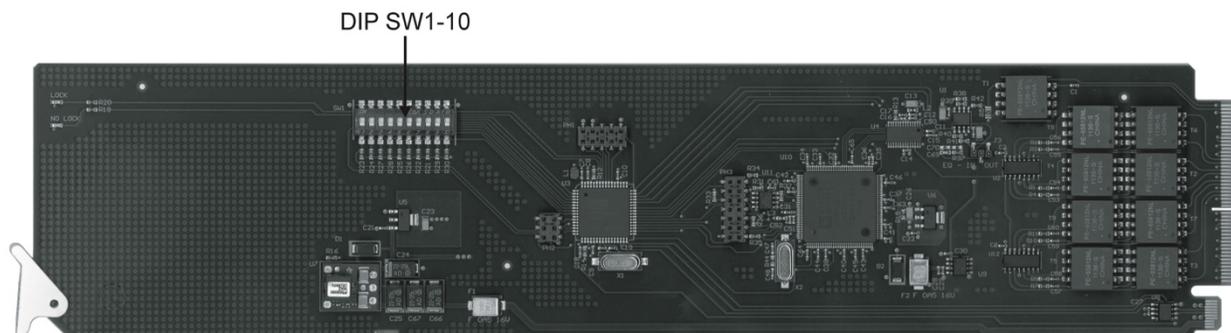
The following topics are discussed:

- Card Overview
- Control and Monitoring Features

---

## Card Overview

This section provides a general overview of the MDOG-6001-DA8-AESB DIP Switches. Refer to Figure 3.1 for DIP Switch location



*Figure 3.1 MDOG-6001-DA8-AESB — Components*

### **SW1 – Remote Control**

Use **SW1** to disable remote control of the MDOG-6001-DA8-AESB from DashBoard.

Set **SW1** as follows:

- **ON** — Select this setting to disable remote control from DashBoard. The parameters and settings cannot be changed via DashBoard and must be changed using the card-edge controls. You can still monitor the status of the card using DashBoard.
- **OFF** — Select this setting to control the MDOG-6001-DA8-AESB exclusively from DashBoard. The card-edge controls are ignored. This is the default setting.

### **SW2 — DIP Switch Control**

Use **SW2** to determine whether DIP Switch settings are applied or ignored.

Set **SW2** as follows:

- **ON** — DIP Switch status is reported in DashBoard, and DIP Switch settings are applied. Any parameter adjustments made in DashBoard are ignored.
- **OFF** — DIP Switch status is reported in DashBoard, however DIP Switch settings are ignored. Parameter adjustments made in DashBoard are applied. This is the default setting.

### **SW3, SW4 — Output Mode Selection**

**SW3** and **SW4** are used in conjunction to set the output mode of the MDOG-6001-DA8-AESB. Refer to the section “**Setting the Output Mode**” for details.

### **SW5**

This DIP Switch is not implemented.

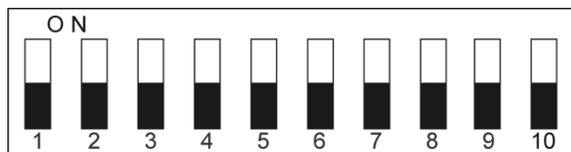
### **SW6 – SW10 — Gain Control**

These switches are used in conjunction to apply a specific Gain value (dB). Refer to the section “**Specifying the Gain**” for details.

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## Configuring the DIP Switches

This section provides a brief summary of the DIP Switches of the MDOG-6001-DA8-AESB. Refer to **Figure 3.1** for the DIP Switch locations. **Figure 3.2** shows all the DIP Switches in the OFF position.



*Figure 3.2* DIP Switch — OFF Positions

### Enabling Card-edge Control

Ensure that **SW1** is set to **ON** and **SW2** is set to **ON** if you are going to use the card-edge DIP Switches to change settings on the card. You can still monitor the card status in Dashboard.

### Setting the Output Mode

**SW3** and **SW4** are used in conjunction to set the output mode of the MDOG-6001-DA8-AESB. **Table 3.1** lists the combinations of DIP Switch settings for **SW3** and **SW4**.

*Table 3.1* Setting the Output Mode

SW3	SW4	Mode Selected
OFF	OFF	Stereo
OFF	ON	Mono
ON	OFF	Left Only
ON	ON	Right Only

### Specifying the Gain

**SW6-SW10** are used in conjunction to specify the coarse level gain adjustment applied to the output of the MDOG-6001-DA8-AESB. **Table 3.1** lists the combinations of DIP Switch settings for **SW6-SW10**.

*Table 3.2* Specifying the Gain

SW6	SW7	SW8	SW9	SW10	Gain (dB)
OFF	OFF	OFF	OFF	OFF	UNITY
OFF	OFF	OFF	OFF	ON	1
OFF	OFF	OFF	ON	OFF	2

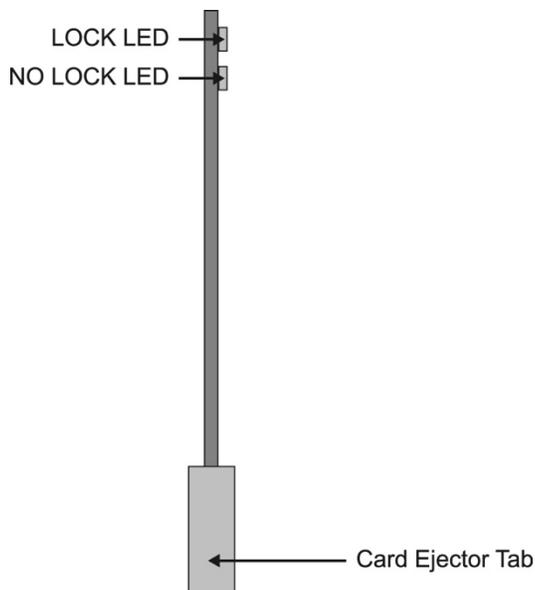
SW6	SW7	SW8	SW9	SW10	Gain (dB)
OFF	OFF	OFF	ON	ON	3
OFF	OFF	ON	OFF	OFF	4
OFF	OFF	ON	OFF	ON	5
OFF	OFF	ON	ON	OFF	6
OFF	OFF	ON	ON	ON	7
OFF	ON	OFF	OFF	OFF	8
OFF	ON	OFF	OFF	ON	9
OFF	ON	OFF	ON	OFF	10
OFF	ON	OFF	ON	ON	11
OFF	ON	ON	OFF	OFF	12
OFF	ON	ON	OFF	ON	13
OFF	ON	ON	ON	OFF	14
OFF	ON	ON	ON	ON	15
ON	OFF	OFF	OFF	OFF	UNITY
ON	OFF	OFF	OFF	ON	-1
ON	OFF	OFF	ON	OFF	-2
ON	OFF	OFF	ON	ON	-3
ON	OFF	ON	OFF	OFF	-4
ON	OFF	ON	OFF	ON	-5
ON	OFF	ON	ON	OFF	-6
ON	OFF	ON	ON	ON	-7
ON	ON	OFF	OFF	OFF	-8
ON	ON	OFF	OFF	ON	-9
ON	ON	OFF	ON	OFF	-10

SW6	SW7	SW8	SW9	SW10	Gain (dB)
ON	ON	OFF	ON	ON	-11
ON	ON	ON	OFF	OFF	-12
ON	ON	ON	OFF	ON	-13
ON	ON	ON	ON	OFF	-14
ON	ON	ON	ON	ON	-15

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## Control and Monitoring Features

This section provides information on the LEDs for the MDOG-6001-DA8-AESB. Refer to **Figure 3.5** for the location of the LEDs.



*Figure 3.5 MDOG-6001-DA8-AESB Card-edge User Controls*

### Status and Selection LEDs on the MDOG-6001-DA8-AESB

Basic LED displays and descriptions are provided in **Table 3.3**.

*Table 3.3 Selection and Status LED Descriptions*

LED	Color	Display and Description
LOCK	Green	When lit, this LED indicates a valid AES/EBU input signal.
NO LOCK	Red	When lit, this LED indicates an invalid AES/EBU input signal.

# DashBoard Menus

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## In This Chapter

This chapter provides a summary of the DashBoard menus available for the MDOG-6001-DA8-AESB. Parameters noted with an asterisk (\*) are the default values.

The following topics are discussed:

- Status Tabs
- Settings Tab

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## Status Tabs

This section summarizes the read-only information displayed in the Status tabs. The fields in these 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.

### Status Tab

Table 4.1 summarizes the read-only information of the **Status** tab.

*Table 4.1 Status Tab Items*

Tab Title	Item	Parameters	Description
<b>Status (Read-only)</b>	AES Audio Status	Locked (Green)	Card is functioning properly and a valid AES audio signal is present
		Not Locked (Red)	AES audio signal is not present
	LKFS (10Sec)	#	Card reads and reports the ITU1770 LKFS Audio Measurements

### Product Tab

Table 4.2 summarizes the read-only information of the **Product** tab.

*Table 4.2 Product Tab Items*

Tab Title	Item	Parameters	Description
<b>Product (Read-only)</b>	Card Name	AES/EBU Distribution Amplifier (110ohm)	
	Product	MDOG-6001-DA8-AESB	
	Supplier	Multidyne Video & Fiber Optic Systems	
	Serial Number	#	Indicates the serial number of the board
	Software Rev	###	Indicates the software version

# Settings Tab

Table 4.3 summarizes the **Settings** options available in DashBoard.

Table 4.2 Settings Menu Items

Tab Title	Item	Parameters	Description
<b>Settings</b>	Mode	Mono	<p>Channel A and B are summed together</p> <ul style="list-style-type: none"> <li>Use the CHA Trim Control to alter the gain of the Channel A input</li> <li>Use the CHB Trim Control to alter the gain of the Channel B input</li> <li>Note that the STEREO Gain will adjust the output after the channels are summed.</li> </ul>
		Stereo	<p>Channel A and B are independent.</p> <ul style="list-style-type: none"> <li>Use the CHA Trim Control to alter the gain of Channel A input</li> <li>Use the CHB Trim Control to alter the gain of Channel B input</li> <li>Note that the STEREO Gain will adjust the output of both channels</li> </ul>
		L Only	<p>Specifies Channel A as the output on both channels.</p> <ul style="list-style-type: none"> <li>Use the CHA Trim Control to alter the output gain</li> <li>The CHB Trim Control has no effect on the output</li> <li>Note that the STEREO Gain will adjust the output Channel A only</li> </ul>
		R Only	<p>Specifies Channel B as the output on both channels.</p> <ul style="list-style-type: none"> <li>The CHA Trim Control has no effect on the output</li> <li>Use the CHB Trim Control to alter the output gain</li> <li>Note that the STEREO Gain will adjust the output Channel B only.</li> </ul>
	STEREO Gain Control	0 to 100	Specifies the coarse level gain adjustment applied to the output of the card
	CH# Trim Control (dB)	-15 to +15	<p>Alters the input gain for the specified channel.</p> <p>How the Mode is set determines what channel(s) the Trim Control alters.</p>



# Specifications

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## In This Chapter

This chapter includes the Technical Specifications table for the MDOG-6001-DA8-AESB. Note that specifications are subject to change without notice.

The following topics are discussed:

- Technical Specifications

# Technical Specifications

This section provides the technical specifications for the MDOG-6001-DA8-AESB.

*Table 5.1 MDOG-6001-DA8-AESB Technical Specifications*

Category	Parameter	Specification
<b>AES Input</b>	Number of Inputs	1
	Standards	AES-3 (SMPTE 276M)
	Sampling Rates	All rates from 32kHz to 96kHz
	Impedance (transformer balanced)	110ohm
	Connector	WECO®
	Equalization	2000ft (650m) over 110ohm, twisted-pair cable
	Input Level	0.2-7Vp-p
<b>AES Outputs</b>	Number of Outputs	R2-3004: 8 R2S-3004: 4
	Standard	AES-3 (SMPTE 276M)
	Resolution	24Bit
	Return Loss	-25dB
	Impedance(transformer balanced)	110ohm
	Output Jitter	<5ns
	Output Level	2.5Vp-p nominal
<b>Power</b>	Max. Power Consumption	>2.2W

# Service Information

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## In This Chapter

This chapter contains the following sections:

- Troubleshooting Checklist
- Warranty and Repair Policy

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# Troubleshooting Checklist

Routine maintenance to this openGear product is not required. In the event of problems with your MDOG-6001-DA8-AESB, the following basic troubleshooting checklist may help identify the source of the problem. If the card still does not appear to be working properly after checking all possible causes, please contact your openGear products distributor, or the Multidyne Video & Fiber Optic Systems Technical Support department at the numbers listed under the “**Contact Us**” section.

1. **Visual Review** — Performing a quick visual check may reveal many problems, such as connectors not properly seated or loose cables. Check the module, the frame, and any associated peripheral equipment for signs of trouble.
2. **Power Check** — Check the power indicator LED on the distribution frame front panel for the presence of power. If the power LED is not illuminated, verify that the power cable is connected to a power source and that power is available at the power main. Confirm that the power supplies are fully seated in their slots. If the power LED is still not illuminated, replace the power supply with one that is verified to work.
3. **Re-seat the Card in the Frame** — Eject the card and reinsert it in the frame.
4. **Check Control Settings** — Refer to the Installation and Operation sections of the manual and verify all user-adjustable component settings.
5. **Input Signal Status** — Verify that source equipment is operating correctly and that a valid signal is being supplied.
6. **Output Signal Path** — Verify that destination equipment is operating correctly and receiving a valid signal.
7. **Card Exchange** — Exchanging a suspect card with a card that is known to be working correctly is an efficient method for localizing problems to individual cards.

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## Warranty and Repair Policy

The MDOG-6001-DA8-AESB 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 MDOG-6001-DA8-AESB proves to be defective in any way during this warranty period, Multidyne Video & Fiber Optic Systems 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 MDOG-6001-DA8-AESB 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 Multidyne Video & Fiber Optic Systems 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 MDOG-6001-DA8-AESB User Manual provides all pertinent information for the safe installation and operation of your openGear Product. Multidyne Video & Fiber Optic Systems policy dictates that all repairs to the MDOG-6001-DA8-AESB are to be conducted only by an authorized Multidyne Video & Fiber Optic Systems factory representative. Therefore, any unauthorized attempt to repair this product, by anyone other than an authorized Multidyne Video & Fiber Optic Systems factory representative, will automatically void the warranty. Please contact Multidyne Video & Fiber Optic Systems Technical Support for more information.

### ***In Case of Problems***

Should any problem arise with your MDOG-6001-DA8-AESB, please contact the Multidyne Video & Fiber Optic Systems 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 MDOG-6001-DA8-AESB. If required, a temporary replacement module 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 Multidyne Video & Fiber Optic Systems will be shipped collect.

The Multidyne Video & Fiber Optic Systems Technical Support Department will continue to provide advice on any product manufactured by Multidyne Video & Fiber Optic Systems, beyond the warranty period without charge, for the life of the equipment.

**Notes:**

**Notes:**



# Contact Us

Contact our friendly and professional support representatives for the following:

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

<b>PHONE</b>	<b>General Business Office and Technical Support</b>	+1-516-671-7278
	<b>After Hours Support</b>	+1-516-671-7278
<b>E-MAIL</b>	<b>General Information</b>	sales@multidyne.com
	<b>Technical Support</b>	<a href="mailto:support@multidyne.com">support@multidyne.com</a>
<b>POSTAL SERVICE</b>	<b>Multidyne Video &amp; Fiber Optic Systems Inc.</b>	10 Newton Place Hauppauge, NY 11788

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