



DMX-9259-A User Guide

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1. Provide a Superior Customer Experience
 - offer the best product quality and support
2. Make Cool Practical Technology
 - develop great products that customers love

Ross has become well known for the Ross Video Code of Ethics. It guides our interactions and empowers our employees. I hope you enjoy reading it below.

If anything at all with your Ross experience does not live up to your expectations be sure to reach out to us at solutions@rossvideo.com.



David Ross
CEO, Ross Video
dross@rossvideo.com

Ross Video Code of Ethics

Any company is the sum total of the people that make things happen. At Ross, our employees are a special group. Our employees truly care about doing a great job and delivering a high quality customer experience every day. This code of ethics hangs on the wall of all Ross Video locations to guide our behavior:

1. We will always act in our customers' best interest.
2. We will do our best to understand our customers' requirements.
3. We will not ship crap.
4. We will be great to work with.
5. We will do something extra for our customers, as an apology, when something big goes wrong and it's our fault.
6. We will keep our promises.
7. We will treat the competition with respect.
8. We will cooperate with and help other friendly companies.
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.)*

DMX-9259-A · User Guide

- Ross Part Number: **9259ADR-004-02**
- Release Date: June 19, 2018.

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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.

Notice

The material in this manual is furnished for informational use only. It is subject to change without notice and should not be construed as commitment by Ross Video Limited. Ross Video Limited assumes no responsibility or liability for errors or inaccuracies that may appear in this manual.

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

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

Canada

This Class A device complies with Canadian ICES-003 and part 15 of the FCC Rules.

Cet appareil numérique 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 Labelling (Electromagnetic Compatibility) Notice 2008.

Korea

This equipment is in compliance with the provisions established under the Radio Waves Act.

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 GearLite 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 GearLite products are covered by a generous 3-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.

Company Address



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Introduction

This guide covers the installation, configuration, and use of the DMX-9259-A. The following chapters are included:

- “**Introduction**” summarizes the guide and provides important terms, and conventions.
- “**Before You Begin**” provides an overview of the features of the DMX-9259-A.
- “**Hardware Overview**” describes the DMX-9259-A hardware features and physical connections.
- “**Physical Installation**” provides instructions for the basic physical installation of the DMX-9259-A in your system.
- “**Cabling**” provides an overview of connecting external devices to the DMX-9259-A.
- “**Setup**” provides information for configuring the DMX-9259-A outputs.
- “**Warranty and Repair**” provides information on the warranty and repair policy for your DMX-9259-A.
- “**Technical Specifications**” provides the technical specifications for your DMX-9259-A.

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 **Edit** dialog, 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

Italic text is used to identify the titles of referenced guides, manuals, or documents. For example:

For more information, refer to the *DAC-9516 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 select the **File** menu and then select **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 DMX-9259-A.

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 DMX-9259-A, contact us at the numbers listed in the section “**Contacting Technical Support**” on page 7. Our technical staff is always available for consultation, training, or service.

Overview

The DMX-9259-A is a cost effective solution to de-multiplexing four AES/EBU digital audio signals from an 3G/HD/SD-SDI signal.

The DMX-9259-A accepts one SDI signal and provides one re-clocked SDI output on BNC connectors. The four AES/EBU outputs are also provided on BNC connectors.

A dual color LED provides SDI and signal status information. When illuminated green, the DMX-9259-A is locked to a valid SDI signal. If the LED is red, the DMX-9259-A is not locked to an SDI signal.

The LEDs labeled G1 to G4 will be illuminated green if audio is detected in groups 1 through 4 respectively. If the LEDs are off, then no audio is detected in the respective group.

Power to the DMX-9259-A is provided by an external AC adapter with locking DC connector supplied with the module.

Block Diagram

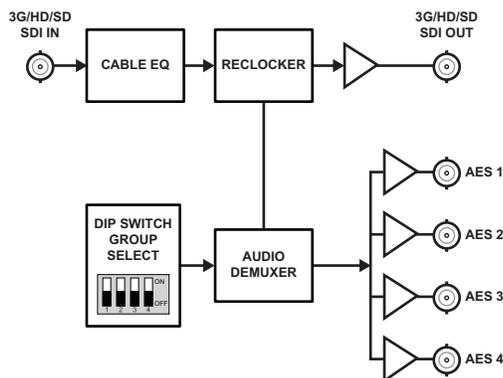


Figure 2.1 Simplified Block Diagram of DMX-9259-A Functions

Features

Some features of the DMX-9259-A include:

- Four BNC connectors for the AES outputs
- One BNC connector for the SDI input
- One BNC connector for the SDI output
- Supports SDI Data rates of 270Mbps, 1.485Gbps, 2.97Gbps
- Supports AES3-id
- Small brick form factor
- 5V universal adapter with locking DC connector
- 3-year warranty

Hardware Overview

This chapter presents information on the DMX-9259-A hardware components and features.

Chassis Faceplate Overview

The chassis faceplate of the DMX-9259-A provides a silk-screen map of the connections available. **Figure 3.1** illustrates the DMX-9259-A faceplate label.

The chassis of the DMX-9259-A also includes status LEDs that display the status of SDI signal status, and audio status.

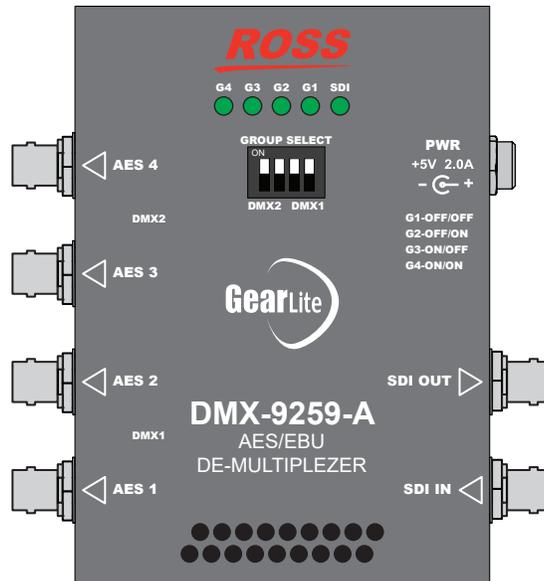


Figure 3.1 DMX-9259-A — Faceplate Label

POWER Connection

The DMX-9259-A has a standard miniature power jack (center pin positive) that connects to the PS-9000 power supply. (**Figure 3.2**)

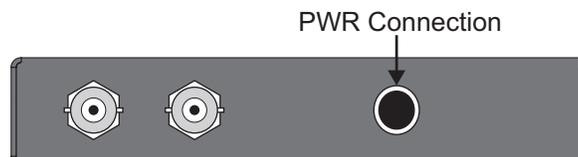


Figure 3.2 DMX-9259-A — PWR Connection

AES Output Connections

The DMX-9259-A provides four BNC connections for AES outputs. (**Figure 3.3**)

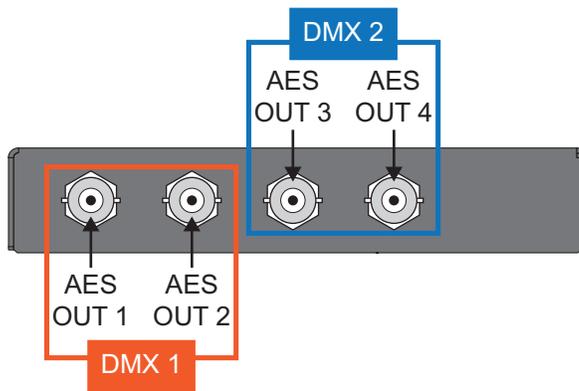


Figure 3.3 DMX-9259-A — AES Connections

Audio Group LEDs

The four audio group (G1 to G4) LEDs are located on the top of the chassis (above the DIP Switches). (Figure 3.6)

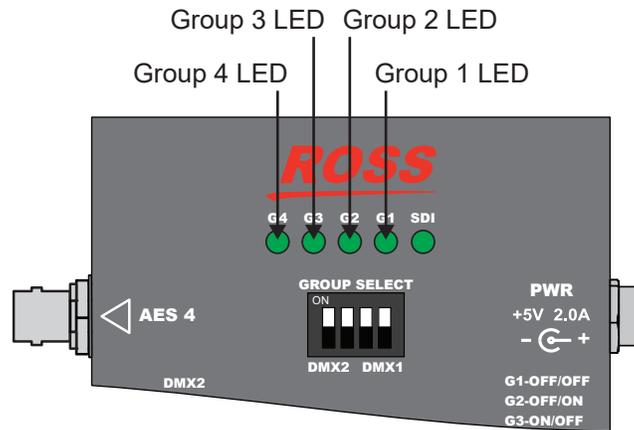


Figure 3.4 DMX-9259-A — Audio Group LEDs

Table 3.2 describes the behavior of an audio group LED.

Table 3.1 Audio Group (G1-G4) LEDs

Status	Description
Green	When lit green, an audio group LED indicates audio is detected for the specified audio group.
Off	When unlit, an audio group LED indicates no audio is detected for the specified audio group.

SDI Connections

The DMX-9259-A provides a BNC for one SDI input and one SDI output. (Figure 3.5)

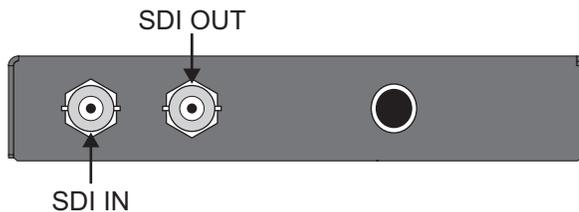


Figure 3.5 DMX-9259-A — SDI Connections

SDI LED

The SDI LED is located on the top of the chassis (above the DIP Switches). (**Figure 3.6**)

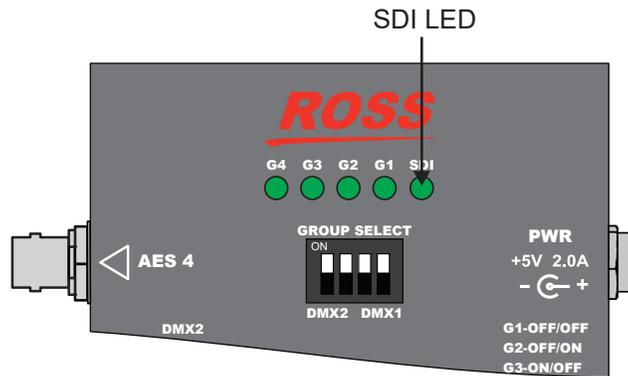


Figure 3.6 DMX-9259-A — SDI LED

Table 3.2 describes the behavior of the SDI LED.

Table 3.2 SDI LED

Status	Description
Green	When lit green, this LED indicates the DMX-9259-A is locked to a valid SDI signal.
Red	When lit red, this LED indicates the DMX-9259-A is not locked to a valid SDI signal.

DIP Switches

The DMX-9259-A provides a block of four DIP switches located on the front panel, near the top. One set of DIP switches is labeled **DMX1** and the other as **DMX2**. (**Figure 3.7**)

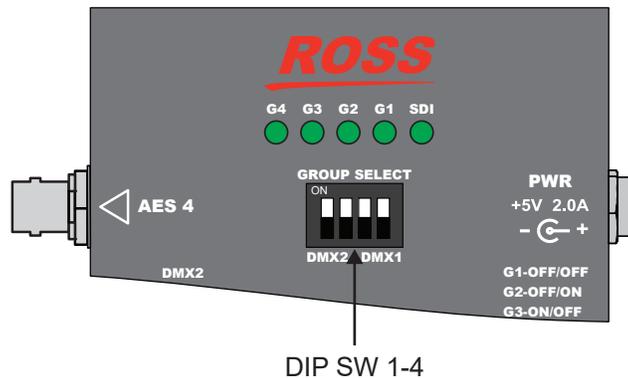


Figure 3.7 DMX-9259-A — DIP Switch Locations

The DIP Switches enable you to assign the group to the respective outputs. Each group consists of two AE/EBU signals providing four channels.

For More Information on...

- setting the DIP Switches, refer to the section “Using the DIP Switches” on page 19.

Physical Installation

If you have questions pertaining to the installation of DMX-9259-A, please contact us at the numbers listed in the section “**Contacting Technical Support**” on page 7. Our technical staff is always available for consultation, training, or service.

For More Information on...

- the technical specifications for the DMX-9259-A, refer to the chapter “**Technical Specifications**” on page 23.

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.*

Mounting and Installation

The DMX-9259-A can be mounted in any convenient location. However, to ensure long life for this product, observe the following precautions and operating requirements:

- Maintain an ambient temperature of 20° to 40°C (68°F – 104°F).
- Allow for air circulation around the chassis for convectional cooling.

Many different mounting positions are possible with the included mounting hardware. Some installation options are permanent and require careful consideration of the final positioning before installation.

★ In some mounting locations, the power adapter must be affixed in a similar manner as the chassis.

Other possible options include the use of adhesive magnetic sheets (not included) affixed to the chassis and the power adapter, for removable mounting on metal cabinets etc.

Cable ties may be necessary in some applications to relieve strain on the mounting hardware and the connectors.

Surface Mount Strips

The included VELCRO® brand surface mount strips allow the GearLite module and power supply to be affixed to a permanent location during use and easily removed for adjustments. Carefully consider the installation location before proceeding; the adhesive is very aggressive and is not easily removed. The adhesive will cure fully in 24 hours.

To install the Surface Mount Strips

1. Remove the **Protective Backing Film** from the adhesive on the bottom of the two VELCRO® brand **Surface Mount Strips**.
- ★ A third VELCRO® brand **Surface Mount Strip** is available to mount the power adapter.
2. Adhere the **Surface Mount Strips** to the bottom side of the chassis **Figure 4.1**.

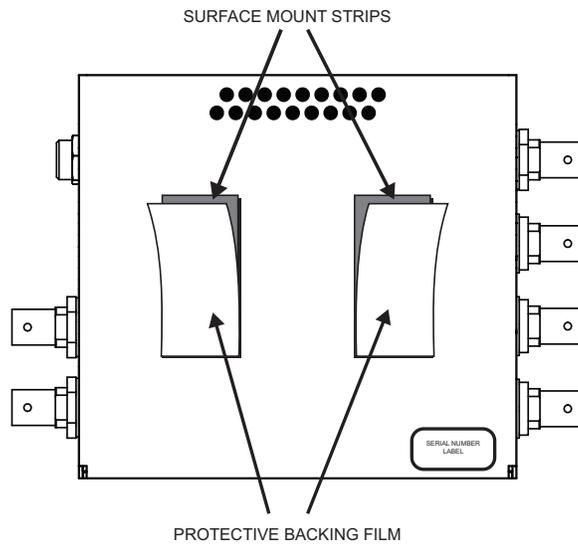


Figure 4.1 Surface Mount Installation Option

3. Remove the **Protective Backing Film** from the other side of the VELCRO® brand **Surface Mount Strips**.
4. Press the chassis into position on the surface you want to mount it to.
5. Install the chassis in the desired location using the **Mounting Holes** on the **Flat Metal Plate**.

Non-Slip Pads

Four non-slip adhesive pads have been supplied for desktop placements. Simply remove the protective backing film from the adhesive and affix one non-slip pad to each of the four corners on the bottom of the chassis.

Cabling

This chapter provides an overview of connecting external devices to the DMX-9259-A.

There are seven connections to the DMX-9259-A:

- Four BNC jacks for AES outputs
- One BNC jack for the SDI input
- One BNC jack for the SDI output
- One power supply connection to the PS-9000 power adapter

AES Output Cabling

Connect the digital outputs as required from the four AES OUT BNCs. Refer to **Figure 5.1** and the chassis silk-screen label for cabling designations.

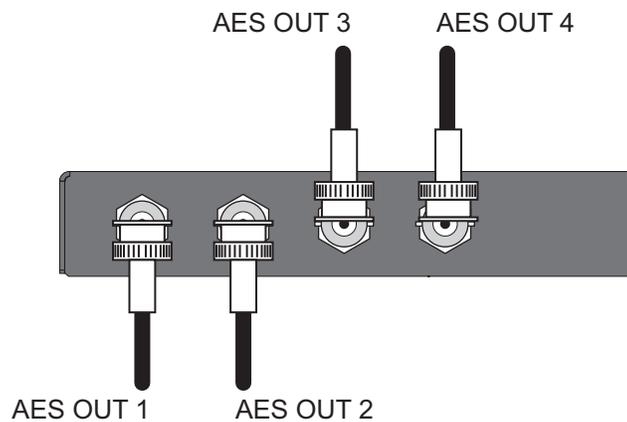


Figure 5.1 DMX-9259-A — AES OUT Connections

SDI Cabling

Connect the digital outputs as required from the four AES OUT BNCs. Refer to **Figure 5.2** and the chassis silk-screen label for cabling designations.

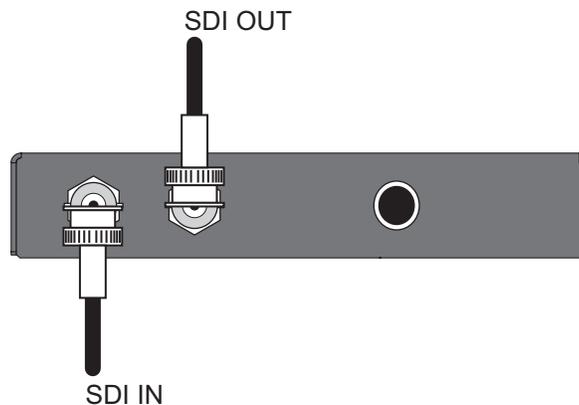


Figure 5.2 DMX-9259-A — SDI Connections

Power Adapter and Supply

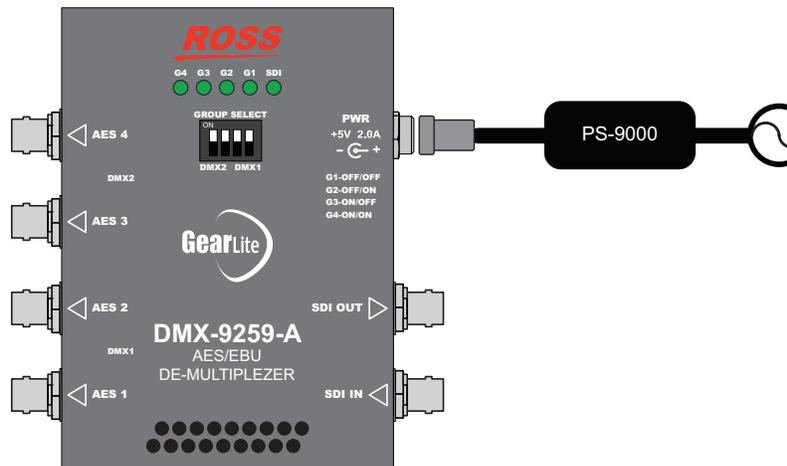
Connect the PS-9000 power adapter to the power supply connector. The PS-9000 provides regulated +5V DC (5%) @ up to 2A. The DC power cord has a locking connector that securely fastens into the power supply DC jack on the DMX-9259-A. The DMX-9259-A has a standard miniature power jack (center pin positive).



Caution — Use of improper adapters may damage the DMX-9259-A and will void the warranty.

To connect the DMX-9259-A to the PS-9000

1. Connect the female end of the PS-9000 cable into the socket marked **POWER** on the DMX-9259-A chassis.



Note: It is recommended that you always connect the PS-9000 to the DMX-9259-A before connecting to Mains Power.

Figure 5.3 DMX-9259-A — Power Connection

2. Connect the PS-9000 to Mains Power.

Setup

The DIP Switches on the bottom of the DMX-9259-A enable you to configure the output audio groups.

For More Information on...

- the location of the DIP Switches, refer to the section “**DIP Switches**” on page 13.

Using the DIP Switches

Figure 6.1 shows the DIP Switches set in the ON (↑) position.

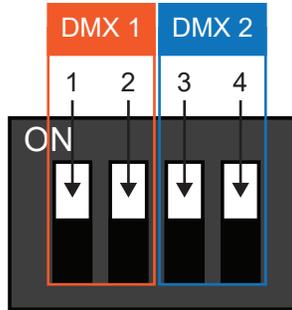


Figure 6.1 DMX-9259-A — DIP Switches

Table 6.1 outlines how to set SW1 and SW4 to assign the audio groups to the required outputs. The following conventions are used:

- ↑ Set the DIP switch in the ON position
- ↓ Set the DIP Switch in the OFF position

Table 6.1 Audio Group Configuration

DMX2 OUT		DMX1 OUT		Group Assign
SW1	SW2	SW3	SWR	
↓	↓			Group 1
↓	↑			Group 2
↑	↓			Group 3
↑	↑			Group 4
		↓	↓	Group 1
		↓	↑	Group 2
		↑	↓	Group 3
		↑	↑	Group 4

Warranty and Repair

The DMX-9259-A is warranted to be free of any defect with respect to performance, quality, reliability, and workmanship for a period of **THREE (3)** years from the date of delivery to the customer. In the event that your RossGear DMX-9259-A 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 DMX-9259-A 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 **THREE (3)** 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 DMX-9259-A User Manual provides all pertinent information for the safe installation and operation of your RossGear Product. Ross Video policy dictates that all repairs to the DMX-9259-A 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 DMX-9259-A, 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 DMX-9259-A. 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 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.

Technical Specifications

This chapter provides technical information for DMX-9259-A.

★ Specifications are subject to change without notice.

SDI Input and Output

Table 8.1 Technical Specifications — SDI Input and Output

Item	Specifications
Standards Accommodated	SMPTE 259M
	SMPTE 292M
	SMPTE 424M
Level	800mV p-p +/-10%
SDI Data Rates	270Mbps
	1.485Gbps
	2.97Gbps
Impedance	75ohm
Input Cable Equalization	>50m Belden 1694A cable to 2.97Gbps
Return Loss	>10dB @ 2.97Gbps

AES/EBU Outputs

Table 8.2 Technical Specifications — AES/EBU Outputs

Item	Specifications
Standards Accommodated	AES3-id
Level	1Vp-p nominal
Sample Frequency	48kHz
Impedance	75ohm

Power

Table 8.3 Technical Specifications — Power

Item	Specifications
Required Voltage	+5v DC
Power Consumption	>3W

Dimensions

Table 8.4 Technical Specifications — Dimensions

Item	Specifications
Physical Dimensions	3.98" x 2.656" x 0.813" (10cm x 6.75cm x 2.07cm)
Weight	7.8oz (221g)