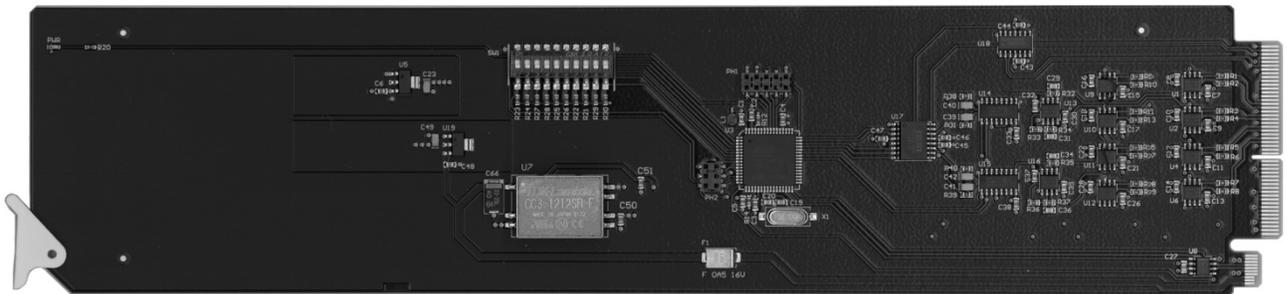


# 9242

## Analog Audio Distribution Amplifier with Remote Gain Control Product Manual



---

## 9242 User Manual

- Cobalt Digital Part Number: **9242**
- Release Date: September 19, 2012

The information contained in this product manual is subject to change without notice or obligation.

---

## Copyright

© 2012 Cobalt Digital Inc. All rights reserved.

Contents of this publication may not be reproduced in any form without the written permission of openGear. Reproduction or reverse engineering of copyrighted software is prohibited.

---

## Patents

This product is protected by the following US Patents: 4,205,346; 5,115,314; 5,280,346; 5,561,404; 7,034,886; 7,508,455; 7,602,446; 7,834,866; 7,914,332. This product is protected by the following Canadian Patents: 2039277; 1237518; 1127289. 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 a commitment by Cobalt Digital. Cobalt Digital Inc. assumes no responsibility or liability for errors or inaccuracies that may appear in this manual.

---

## Trademarks

- Compass® is a registered trademark of Cobalt Digital Inc.
- Ross, ROSS, ROSS®, and MLE are registered trademarks of Ross Video Limited.
- openGear® is a registered trademark of Ross Video Limited
- DashBoard Control System™ is a trademark of Ross Video Limited.
- Dolby® is a registered trademark of Dolby Laboratories.
- All other product names and any registered and unregistered trademarks mentioned in this manual are used for identification purposes only and remain the exclusive property of their respective owners.

---

# 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

---



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

---



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

---



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

---



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

---



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

---

## Important Safety Instructions

---



**Caution** — *This product is intended to be a component product of the 20-Slot series frame. Refer to the 20-Slot series frame User Manual for important safety instructions regarding the proper installation and safe operation of the frame as well as its component products.*

---



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

---



---

**Warning** — *Service barriers within this product are intended to protect the operator and service personnel from hazardous voltages. For continued safety, replace all barriers after any servicing. This product contains safety critical parts, which if incorrectly replaced may present a risk of fire or electrical shock. Components contained 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 Cobalt Digital Inc. could void the user's authority to operate this equipment.*

---

### **CANADA**

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

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

### **EUROPE**

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

### **INTERNATIONAL**

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



---

**Notice** — *This is a Class A product. In domestic environments, this product may cause radio interference, in which case the user may have to take adequate measures.*

---

## Maintenance/User Serviceable Parts

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

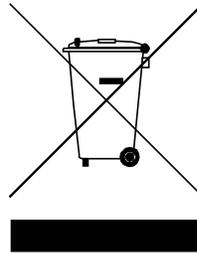
---

## 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, Cobalt Digital 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 Cobalt Digital for more information on the environmental performances of our products.



# Contents

<b>Introduction</b>	<b>1-1</b>
In This Chapter .....	1-1
Overview .....	1-2
Features .....	1-2
Functional Block Diagrams .....	1-3
User Interfaces .....	1-4
DashBoard Control System™ .....	1-4
Card-edge Controls.....	1-4
Documentation Terms and Conventions.....	1-5
<b>Installation</b>	<b>2-1</b>
In This Chapter .....	2-1
Before You Begin .....	2-2
Static Discharge.....	2-2
Unpacking .....	2-2
Installing the 9242 .....	2-3
Rear Modules for the 9242 .....	2-3
Installing a Rear Module .....	2-3
Installing the 9242 .....	2-4
Cabling for the 9242 .....	2-5
8321 Series Frames Cabling Overview .....	2-5
Software Upgrades for the 9242 .....	2-6
<b>User Controls</b>	<b>3-1</b>
In This Chapter .....	3-1
Card Overview .....	3-2
Configuring the DIP Switches .....	3-3
Enabling Card-edge Control.....	3-3
Setting the Output Mode .....	3-3
Specifying the Gain .....	3-3
Control and Monitoring Features.....	3-6
Status and Selection LEDs on the 9242.....	3-6
<b>DashBoard Menus</b>	<b>4-1</b>
In This Chapter .....	4-1
Status Tabs.....	4-2
Product Tab .....	4-2
Settings Tab .....	4-3
<b>Specifications</b>	<b>5-1</b>
In This Chapter .....	5-1
Technical Specifications .....	5-2

<b>Service Information</b>	<b>6-1</b>
In This Chapter .....	6-1
Troubleshooting Checklist .....	6-2
Warranty and Repair Policy .....	7-3

# Introduction

---

## In This Chapter

This chapter contains the following sections:

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

---

## Overview

The 9242 is a Analog Audio Distribution Amplifier with Remote Gain Control designed for broadcast use. It can be used as either a mono 1x8, or two channel (stereo) 1x4 audio DA. When used with the standard RM20-9142-B Standard-Width Rear Module, it provides eight copies of the single (mono) input signal or four copies each of the two (stereo) inputs.

The RM20-9142-C/S Split Rear Module can support two 9242 cards, each operating as a 1x4 audio DA. This can be used to separate left and right stereo pair signals to be amplified in separate paths for critical signals.

The 9242 is also ideal to distribute Timecode (LTC) throughout a facility. In single channel, 1x8 mode, the 9242 provides eight copies of the incoming single when used with the RM20-9142-B Standard-Width Rear Module or four copies of the incoming signal when used with the RM20-9142-C/S Split Rear Module.

## Features

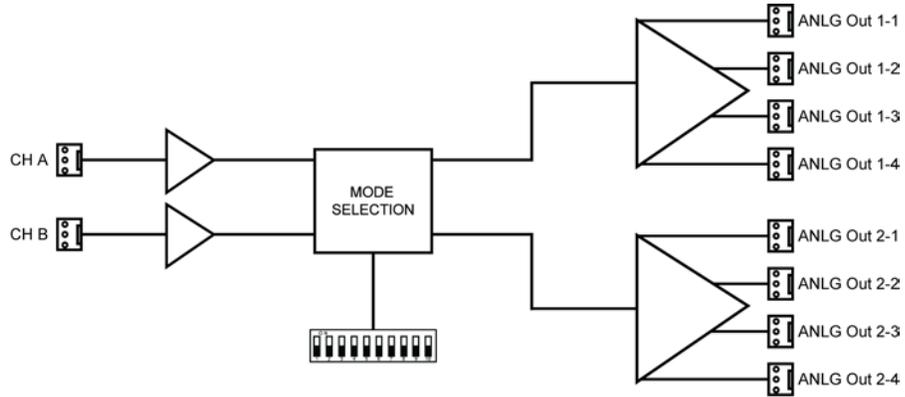
The following features make the 9242 the best solution for distributing analog audio signals:

- 1x8 Mono or 1x4 Stereo Analog Audio Distribution
- +/- 15dB Remote Gain control
- Summing capability
- Low Distortion
- 1x8 or High Density 1x4 Timecode (LTC) Distribution
- Higher density with up to 20 cards per frame in the 8321 series frames using RM20-9142-C/S Split Rear Modules
- Balanced I/O
- 5-year transferable warranty

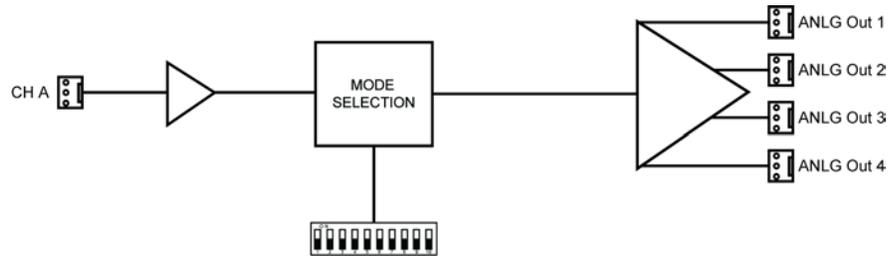
# Functional Block Diagrams

This section provides a functional block diagrams that outline the workflow of the 9242.

**Figure 1.1** illustrates the 9242 when the **Operating Mode** is set to **Stereo DA (2x4)**.



**Figure 1.1** Simplified Block Diagram — RM20-9142-B Standard-Width Rear Module.



**Figure 1.2** Simplified Block Diagram — RM20-9142-C/S Split Rear Module

---

# User Interfaces

The 9242 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 20-Slot 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* available from our website.

## Card-edge Controls

The 9242 provides card-edge controls for adjusting the output levels, selecting the operation mode, and configuring remote control options. The front-edge of the 9242 also includes LEDs that display the status of the input signals. As selections are made in the menus, the LEDs display the status of the input signals.

### *For More Information...*

- on adjusting the output levels, refer to the section “**Card Overview**”.
- on using the DIP switches on the card-edge, refer to the section “**Configuring the 9242**”.
- on monitoring the status using the card-edge LEDs, refer to the section “**Control and Monitoring Features**”.

---

## Documentation Terms and Conventions

The following terms and conventions are used throughout this manual:

- **“Board”**, and **“Card”** refers to the 9242 card itself, including all components and switches.
- **“DashBoard”** refers to the DashBoard Control System™.
- **“20-Slot series frame”** refers to 20-slot frames and any available options unless otherwise noted.
- **“Frame”** refers to the 8321 or HPF-9000 20-Slot series frame that houses the 9242 card, as well as any openGear frames.
- **“System”** and **“Video system”** refers to the mix of interconnected production and terminal equipment in which the 9242 operates.
- The **“Operating Tips”** and **“Note”** boxes are used throughout this manual to provide additional user information.



# Installation

---

## In This Chapter

This chapter provides instructions for installing the Rear Module(s) for the 9242, installing the card into the frame, cabling details, and updating the card software.

The following topics are discussed:

- Before You Begin
- Installing the 9242
- Cabling for the 9242
- Software Upgrades for the 9242

---

## Before You Begin

### Static Discharge

Whenever handling the 9242 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 9242 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 Cobalt Digital directly.

---

## Installing the 9242

This section outlines how to install a Rear Module in a 20-Slot 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 9242

The Rear Module for the 9242 depends on the openGear frame you are installing the card into.

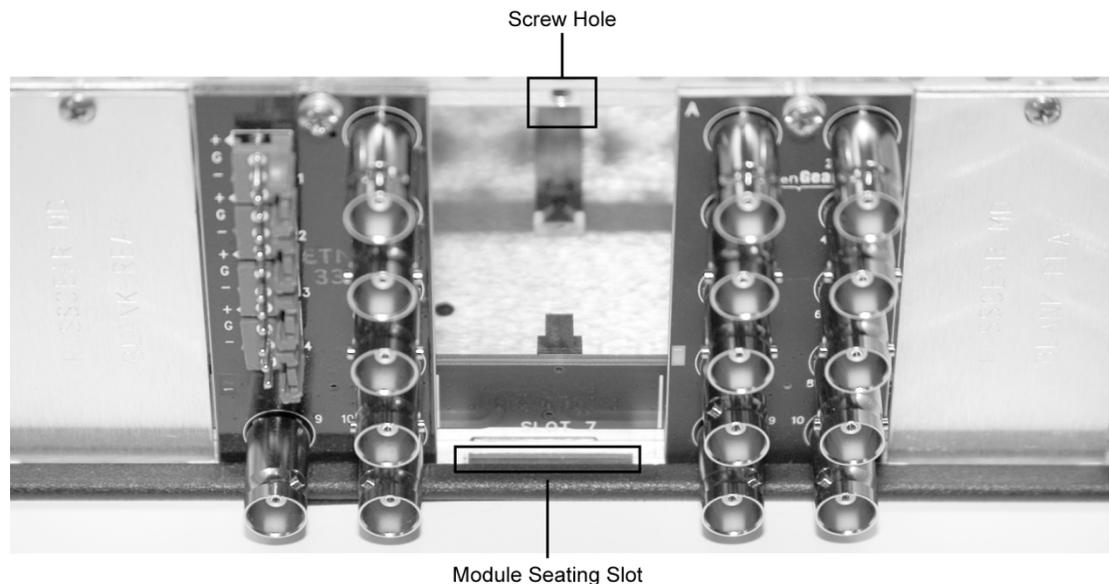
- **8321 series frame** — When installing the 9242 in the 8321 series frames, the **RM20-9142-B Standard-Width** Rear Module or the **RM20-9142-C/S Split** Rear Module can be used. When using an RM20-9242-B Rear Module in the 8321 frame, use the even numbered slots, such as 2 or 4, to ensure that the card aligns with the rear module.

### Installing a Rear Module

If the Rear Module is already installed, proceed to the section “**Installing the 9242**”.

Use the following procedure to install a Rear Module in a 20-Slot series frame:

1. Locate the card frame slot.
2. Remove the Blank Plate from the slot you have chosen for the 9242 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 in a 20-Slot Series Frame (9242 not shown)

4. Align the top hole of the Rear Module with the screw hole on the top-edge of the frame back plane.
5. Using a Phillips screwdriver, and the supplied screw, fasten the Rear Module to the frame 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 9242

This section outlines how to install the 9242 in a 20-Slot series frame. If the 9242 is to be installed in any compatible frame other than a Cobalt Digital product, refer to the frame manufacturer's manual for specific instructions.

Use the following procedure to install the 9242 in a 20-Slot series frame:

1. Locate the Rear Module you installed in the procedure “**Installing a Rear Module**”.
2. Hold the 9242 by the edges and carefully align the card edges with the slots in the frame.
3. Fully insert the card into the frame until the rear connection plugs are properly seated on the midplane and rear module.
4. Verify whether your label is self-adhesive by checking the back of the label before applying the label to the rear module surface.
5. Affix the supplied **Rear Module Label** to the BNC area of the Rear Module.

# Cabling for the 9242

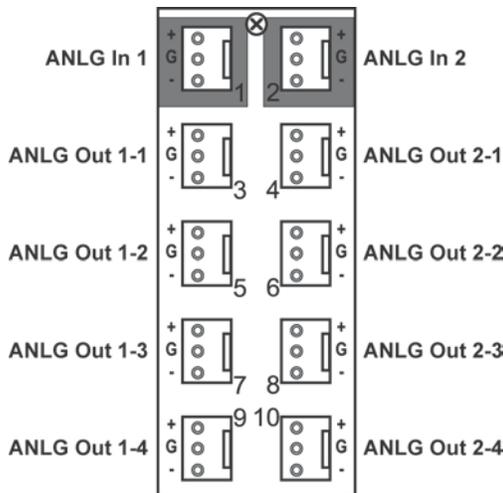
This section provides information for connecting cables to the installed Rear Modules on the 20-Slot series frames. Connect the input and output cables according to the following sections.

## 8321 Series Frames Cabling Overview

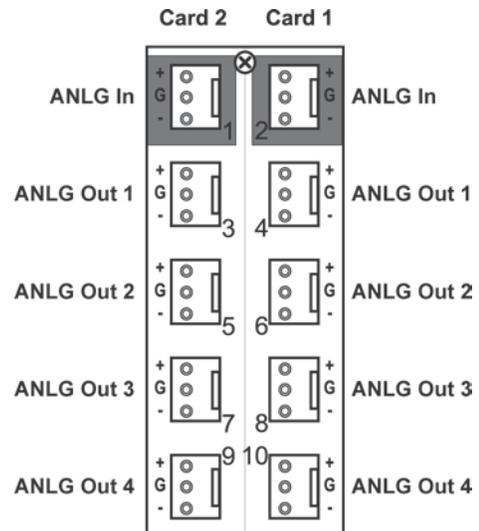
In the 8321 series frames, the 9242 may be used with the following Rear Modules:

- **RM20-9142-B Standard-Width Rear Module** — Each module occupies two slots and accommodates one card. This rear module provides two analog inputs and eight analog outputs. (**Figure 2.2**)
- **RM20-9142-C/S Split Rear Module** — Each module occupies two slots and accommodates two cards. This rear module provides one analog input and four analog outputs per card. (**Figure 2.3**)

**Note:** + /- /G orientation on connectors varies from that on other Cobalt products. Make certain hookup is as shown here.



**Figure 2.2** Cable Connections for the RM20-9242-B Rear Modules



**Figure 2.3** Cable Connections for the RM20-9142-C/S Split Rear Module

---

## Software Upgrades for the 9242

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

---

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

---

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

1. Contact Cobalt Digital 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**. 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**.
8. Monitor the upgrade.
  - Monitor the upgrade progress bar displayed in DashBoard.
  - The card(s) are automatically re-booted and 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

---

## In This Chapter

This chapter provides a general overview of the user controls available on the 9242.

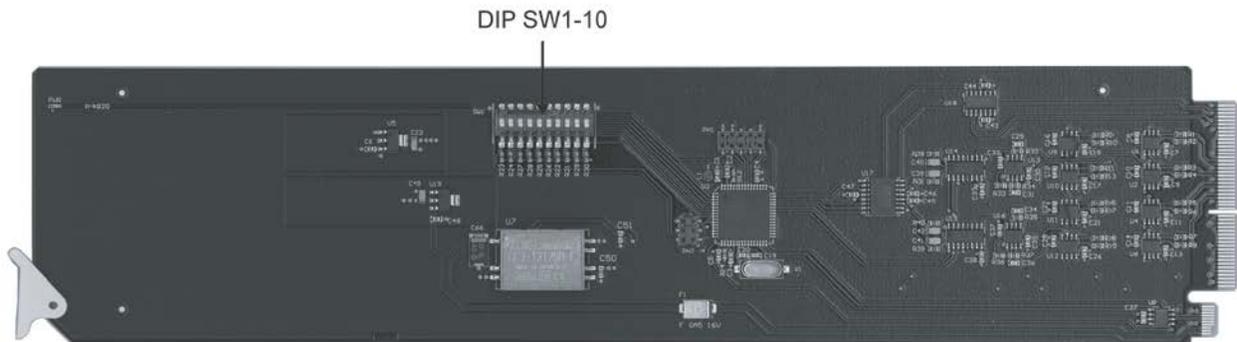
The following topics are discussed:

- Card Overview
- Configuring the DIP Switches
- Control and Monitoring Features

---

## Card Overview

This section provides a general overview of the 9242 DIP Switches. Refer to **Figure 3.1** for DIP Switch location.



**Figure 3.1** 9242 — Components

### **SW1 — Remote Control**

Use **SW1** to disable remote control of the 9242 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 9242 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 9242. Refer to the section “Setting the Output Mode” for details.

### **SW5**

This DIP Switch is not implemented.

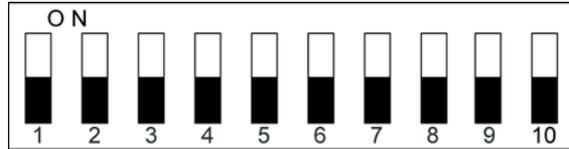
### **SW6 - SW10 — Gain Control**

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

---

## Configuring the DIP Switches

This section provides a brief summary of the DIP Switches of the 9242. 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 Switches — 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 9242. **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 DA (1x4)
OFF	ON	Mono DA (1x8)
ON	ON	Stereo Sum

### Specifying the Gain

**SW6-SW10** are used in conjunction to specify the coarse level gain adjustment applied to the output of the 9242. **Table 3.2** 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

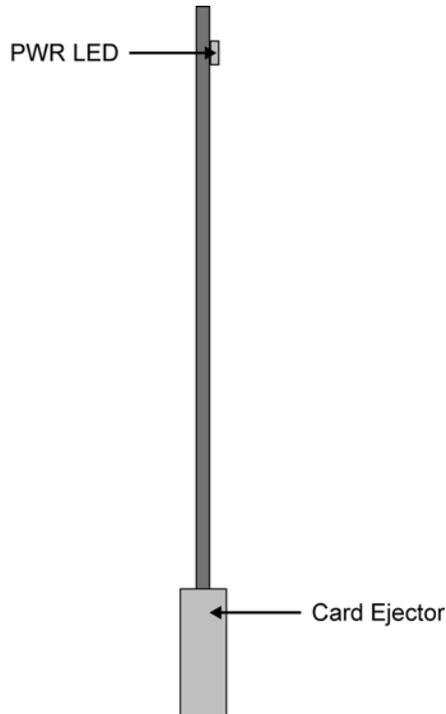
SW6	SW7	SW8	SW9	SW10	Gain (dB)
OFF	OFF	OFF	ON	ON	3
OFF	OFF	ON	OFF	OFF	4
OFF	OFF	ON	OFF	ON	5
OFF	OFF	ON	ON	OFF	6
OFF	OFF	ON	ON	ON	7
OFF	ON	OFF	OFF	OFF	8
OFF	ON	OFF	OFF	ON	9
OFF	ON	OFF	ON	OFF	10
OFF	ON	OFF	ON	ON	11
OFF	ON	ON	OFF	OFF	12
OFF	ON	ON	OFF	ON	13
OFF	ON	ON	ON	OFF	14
OFF	ON	ON	ON	ON	15
ON	OFF	OFF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

---

## Control and Monitoring Features

This section provides information on the card-edge LEDs for the 9242. Refer to **Figure 3.3** for the location of the LEDs.



**Figure 3.3** 9242 Card-edge LEDs

### Status and Selection LEDs on the 9242

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

**Table 3.3** LEDs on the 9242

LED	Color	Display and Description
PWR	Green	When lit, this LED indicates the card is powered on.

# DashBoard Menus

---

## In This Chapter

This chapter briefly summarize the menus, items, and parameters available from the DashBoard Control System™ for the 9242. Parameters marked with an asterisk (\*) are the factory default values.

The following topics are discussed:

- Status Tabs
- Settings Tab

---

## Status Tabs

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

### Product Tab

Table 4.1 summarizes the read-only information displayed in the **Product** tab.

*Table 4.1 Product Tab Items*

Tab Title	Item	Parameters	Description
<b>Product (Read- only)</b>	Card Name	Analog Audio Distribution Amplifier with Remote Gain Control	
	Product	9242	
	Supplier	Cobalt Digital Inc.	
	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 through DashBoard.

**Table 4.3 Settings Menu Items**

Tab Title	Items	Parameters	Description
<b>Settings</b>	Mode	Stereo DA (2x4)	ANLG In 1 outputs to ANLG Out 1-1, 1-2, 1-3, and 1-4 ANLG In 2 outputs to ANLG Out 2-1, 2-2, 2-3, and 2-4
		Mono DA (1x8)	ANLG In 1 outputs to all eight ANLG outputs
		Stereo Sum	Card outputs a sum of ANLG In 1 and 2 to all eight ANLG outputs
	STEREO Gain Control	0 to 100	Adjusts the audio gain for all outputs
	Left Trim Control (dB)	-15 to +15	Specifies the coarse level gain adjustment applied to ANLG In 1
	Right Trim Control (dB)	-15 to +15	Specifies the coarse level gain adjustment applied to ANLG In 2



# Specifications

---

## In This Chapter

This chapter provides the technical specification information for the 9242. Note that specifications are subject to change without notice.

The following topic is discussed:

- Technical Specifications

---

## Technical Specifications

This section provides the technical specifications for the 9242.

**Table 5.1 9242 Technical Specifications**

Category	Parameter	Specification
<b>Analog Inputs</b>	Number of Inputs	R2-1001: 2 RM20-9142-C/S: 1
	Input Impedance	> 20k Ohm, balanced
	Connector	WECO®
	Maximum Input Level	+27.5dBu
<b>Performance</b>	Gain	-15dB to +15dB
	Frequency Response	± 0.1dB from 20Hz to 20kHz
	Noise	<-85dBu, 10-22kHz at unity gain
	Harmonic Distortion	< 0.01%
<b>Analog Outputs</b>	Maximum Output Level	+27dBu
	Output Impedance	60ohm balanced
	Output Isolation	> 60dB
<b>Power</b>	Maximum Power Consumption	> 4.5W

# Service Information

---

## In This Chapter

This chapter contains the following sections:

- Troubleshooting Checklist
- Warranty and Repair Policy

---

## Troubleshooting Checklist

Routine maintenance to this openGear product is not required. In the event of problems with your 9242, 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 Cobalt Digital Technical Support department at the numbers listed under the “**Contact Us**” section at the end of this manual.

1. **Visual Review** — Performing a quick visual check may reveal many problems, such as connectors not properly seated or loose cables. Check the module, the frame, and any associated peripheral equipment for signs of trouble.
2. **Power Check** — Check the power indicator LED on the distribution frame front panel for the presence of power. If the power LED is not illuminated, verify that the power cable is connected to a power source and that power is available at the power main. Confirm that the power supplies are fully seated in their slots. If the power LED is still not illuminated, replace the power supply with one that is verified to work.
3. **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.

# Warranty and Service Information

## Warranty and Repair Policy

### Cobalt Digital Inc. Limited Warranty

This product is warranted to be free from defects in material and workmanship for a period of five (5) years from the date of shipment to the original purchaser, except that 4000, 5000, 6000, 8000 series power supplies, and Dolby® modules (where applicable) are warranted to be free from defects in material and workmanship for a period of one (1) year.

Cobalt Digital Inc.'s ("Cobalt") sole obligation under this warranty shall be limited to, at its option, (i) the repair or (ii) replacement of the product, and the determination of whether a defect is covered under this limited warranty shall be made at the sole discretion of Cobalt.

This limited warranty applies only to the original end-purchaser of the product, and is not assignable or transferrable therefrom. This warranty is limited to defects in material and workmanship, and shall not apply to acts of God, accidents, or negligence on behalf of the purchaser, and shall be voided upon the misuse, abuse, alteration, or modification of the product. Only Cobalt authorized factory representatives are authorized to make repairs to the product, and any unauthorized attempt to repair this product shall immediately void the warranty. Please contact Cobalt Technical Support for more information.

To facilitate the resolution of warranty related issues, Cobalt recommends registering the product by completing and returning a product registration form. In the event of a warrantable defect, the purchaser shall notify Cobalt with a description of the problem, and Cobalt shall provide the purchaser with a Return Material Authorization ("RMA"). For return, defective products should be double boxed, and sufficiently protected, in the original packaging, or equivalent, and shipped to the Cobalt Factory Service Center, postage prepaid and insured for the purchase price. The purchaser should include the RMA number, description of the problem encountered, date purchased, name of dealer purchased from, and serial number with the shipment.

### Cobalt Digital Inc. Factory Service Center

2406 E. University Avenue

Urbana, IL 61802 USA

[www.cobaltdigital.com](http://www.cobaltdigital.com)

Office: (217) 344-1243

Fax: (217) 344-1245

Email: [info@cobaltdigital.com](mailto:info@cobaltdigital.com)

THIS LIMITED WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON COBALT'S PART. ANY SOFTWARE PROVIDED WITH, OR FOR USE WITH, THE PRODUCT IS PROVIDED "AS IS." THE BUYER OF THE PRODUCT ACKNOWLEDGES THAT NO OTHER REPRESENTATIONS WERE MADE OR RELIED UPON WITH RESPECT TO THE QUALITY AND FUNCTION OF THE GOODS HEREIN SOLD. COBALT PRODUCTS ARE NOT AUTHORIZED FOR USE IN LIFE SUPPORT APPLICATIONS.

COBALT'S LIABILITY, WHETHER IN CONTRACT, TORT, WARRANTY, OR OTHERWISE, IS LIMITED TO THE REPAIR OR REPLACEMENT, AT ITS OPTION, OF ANY DEFECTIVE PRODUCT, AND SHALL IN NO EVENT INCLUDE SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS), EVEN IF IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

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

Should any problem arise with your openGear 9241, please contact the Cobalt Digital 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 openGear 9241. 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 Cobalt Digital Inc. will be shipped collect.

The Cobalt Digital Technical Support Department will continue to provide advice on any product manufactured by Cobalt Digital Systems, beyond the warranty period without charge, for the life of the equipment.

---

---

# Contact Us

Contact our friendly and professional support representatives for the following:

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

<b>PHONE</b>	<b>General Business Office and Technical Support</b>	217 • 344 • 1243
	<b>Fax</b>	217 • 344 • 1245
<b>E-MAIL</b>	<b>General Information</b>	sales@cobaltdigital.com
	<b>Technical Support</b>	support@cobaltdigital.com
<b>POSTAL SERVICE</b>	<b>Cobalt Digital Inc.</b>	2406 E. University Ave. Urbana, IL 61802

## Visit Us

Please visit us at our website for:

- Company information
- Related products and full product lines
- On-line catalog
- Trade show information
- News

**[www.cobaltdigital.com](http://www.cobaltdigital.com)**