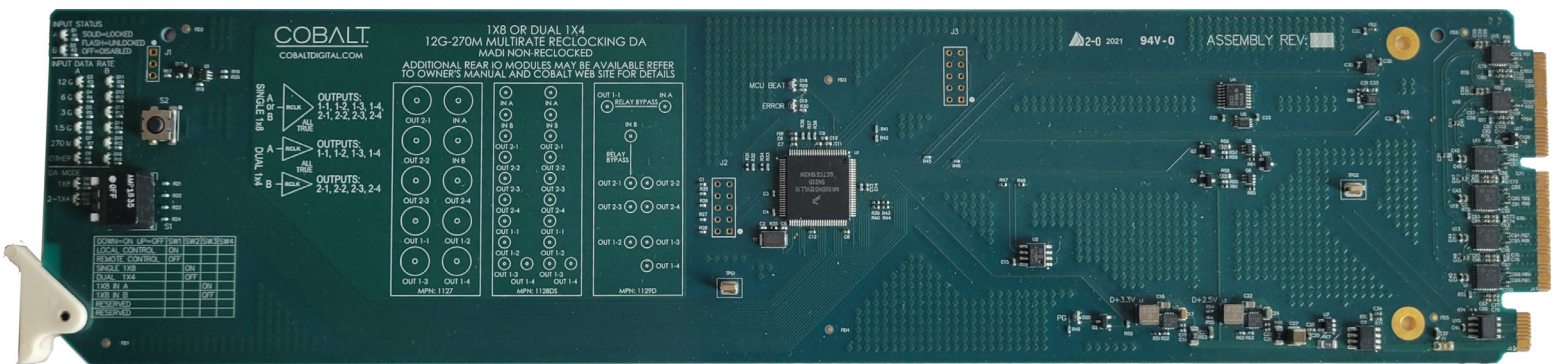


ROYAL 9917-DA-1x8/2x4-12G

COBALT[®]



Dual-Channel 12G/5G/3G/HD/SD

Product Manual

COBALT[®]

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Congratulations on choosing the Cobalt[®] ROYAL-9917-DA-1x8/2x4-12G Reclocking DA. The ROYAL-OG-DA-1x8/2x4-12G card is part of a full line of modular processing and conversion gear for broadcast TV environments. The Cobalt Digital Inc. line includes video decoders and encoders, audio embedders and de-embedders, distribution amplifiers, format converters, remote control systems and much more. Should you have questions pertaining to the installation or operation of your card, please contact us at the contact information on the front cover.

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Introduction

Overview

This manual provides installation and operating instructions for the **Royal 9917-DA-12G-1x8/2x4 Dual-Channel 12G/6G/3G/HD/SD Reclocking Distribution Amplifier** (also collectively referred to herein as the Royal 9917-DA-1x8/2x4-12G).

This manual consists of the following chapters:

- **Chapter 1, “Introduction”** – Provides information about this manual and what is covered. Also provides general information regarding the Royal 9917-DA-1x8/2x4-12G.
- **Chapter 2, “Installation and Setup”** – Provides instructions for installing the Royal 9917-DA-1x8/2x4-12G in a frame, and optionally installing a Royal 9917-DA-1x8/2x4-12G Rear I/O Module.
- **Chapter 3, “Operating Instructions”** – Provides overviews of operating controls and instructions for using the Royal 9917-DA-1x8/2x4-12G.

This chapter contains the following information:

- **Manual Conventions (p. 1-1)**
- **Safety Summary (p. 1-3)**
- **Royal 9917-DA-1x8/2x4-12G Functional Description (p. 1-4)**
- **Technical Specifications (p. 1-6)**
- **Warranty and Service Information (p. 1-7)**
- **Contact Cobalt Digital Inc. (p. 1-8)**

Manual Conventions

In this manual, display messages and connectors are shown using the exact name shown on the Royal 9917-DA-1x8/2x4-12G itself (for example, connector names are shown like this: **SDI IN A**)

In this manual, the terms below are applicable as follows:

- **Frame** refers to the HPF-9000, oGx, OG3-FR, 8321, or similar 20-slot frame that houses Cobalt® or other cards.
- **Device** and/or **Card** refers to a Cobalt® or other card.
- **System** and/or **Video System** refers to the mix of interconnected production and terminal equipment in which the Royal 9917-DA-1x8/2x4-12G and other cards operate.

Warnings, Cautions, and Notes

Certain items in this manual are highlighted by special messages. The definitions are provided below.

Warnings

Warning messages indicate a possible hazard which, if not avoided, could result in personal injury or death.




Cautions

Caution messages indicate a problem or incorrect practice which, if not avoided, could result in improper operation or damage to the product.

Notes

Notes provide supplemental information to the accompanying text. Notes typically precede the text to which they apply.

Labeling Symbol Definitions

	<p>Important note regarding product usage. Failure to observe may result in unexpected or incorrect operation.</p>
	<p>Electronic device or assembly is susceptible to damage from an ESD event. Handle only using appropriate ESD prevention practices.</p> <p>If ESD wrist strap is not available, handle card only by edges and avoid contact with any connectors or components.</p>
	<p>Symbol (WEEE 2002/96/EC)</p> <p>For product disposal, ensure the following:</p> <ul style="list-style-type: none"> • Do not dispose of this product as unsorted municipal waste. • Collect this product separately. • Use collection and return systems available to you.

Safety Summary

Warnings

! WARNING !

To reduce risk of electric shock do not remove line voltage service barrier cover on frame equipment containing an AC power supply. **NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

Cautions

CAUTION

This device is intended for environmentally controlled use only in appropriate video terminal equipment operating environments.

CAUTION

This product is intended to be a component product of an openGear® or equivalent frame. Refer to the frame Product Manual for important safety instructions regarding the proper installation and safe operation of the frame as well as its component products.

CAUTION

If required, make certain Rear I/O Module(s) is installed before installing the Royal 9917-DA-1x8/2x4-12G into the frame slot. Damage to card and/or Rear I/O Module can occur if module installation is attempted with card already installed in slot.

CAUTION

If card resists fully engaging in rear I/O module mating connector, check for alignment and proper insertion in slot tracks. Damage to card and/or rear I/O module may occur if improper card insertion is attempted.

Royal 9917-DA-1x8/2x4-12G Functional Description

Figure 1-1 shows a functional block diagram of the Royal 9917-DA-1x8/2x4-12G. With the appropriate rear module, the Royal 9917-DA-1x8/2x4-12G can provide up to 16 DA video outputs.

Input/Output Formats

The **Royal 9917-DA-1x8/2x4-12G** provides the following inputs and outputs:

- **Inputs:**
 - **12G/6G/3G/HD/SD-SDI IN (A and B)** – two coaxial 12G/6G/3G/HD/SD-SDI / ASI video inputs
- **Outputs:**
 - **3G/HD/SD-SDI IN (1-16)** – up to 16 coaxial 3G/HD/SD-SDI / ASI video outputs. All outputs are non-inverting and can be used as SDI or ASI outputs.

Remote/Local Control

The Royal 9917-DA-1x8/2x4-12G is equipped with card-edge controls that allow limited control such as distribution mode. When card-edge control is enabled, DashBoard™ remote control is disabled (and vice-versa).

Reclock Select

Reclocking can be individually enabled or disabled for any of the 4-output card DA quadrants. (As shown in Figure 1-1, the card applies up to four inputs to an output crosspoint block which in turn feeds up to four quad DA quadrant blocks, each with selectable reclock enable/disable.)

Supported Serial Rates

The 9003 can equalize and reclock incoming SDI signals using up to 300m of cable at 270 Mbps, up to 120m of cable at 1.585 Gbps, and up to 100m of cable at 3 Gbps (1694A cable).

Royal 9917-DA-1x8/2x4-12G Rear I/O Modules

The Royal 9917-DA-1x8/2x4-12G physically interfaces to system video connections at the rear of its frame using a Rear I/O Module. The full assortment of Royal 9917-DA-1x8/2x4-12G Rear I/O Modules is shown and described in Royal 9917-DA-1x8/2x4-12G Rear I/O Modules (p. 2-6) in Chapter 2, “Installation and Setup”.

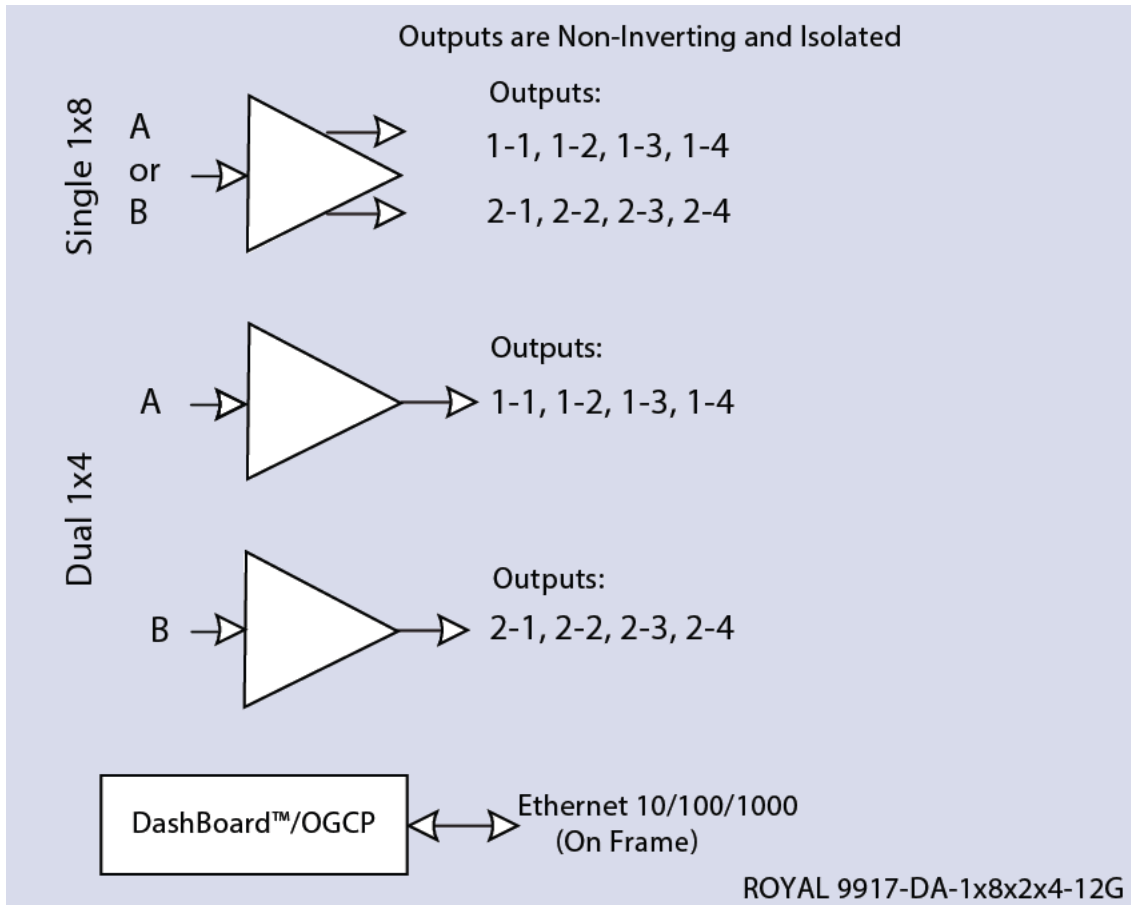


Figure 1-1 Royal 9917-DA-1x8/2x4-12G Functional Block Diagram

Technical Specifications

Table 1-1 lists the technical specifications for the Royal 9917-DA-1x8/2x4-12G cards.

Table 1-1 Technical Specifications

Item	Characteristic
Part number, nomenclature	<ul style="list-style-type: none"> • Royal 9917-DA-1x8/2x4-12G 12G/6G/3G/HD/SD Dual-Channel Reclocking Distribution Amplifier, 2 X 4 or 1 X 8 Configurations, Failover Mode
Installation/usage environment	Intended for installation and usage in frame meeting openGear™ modular system definition.
Power consumption	< 3 Watts maximum
Installation Density	Up to 10 cards per 20-slot frame
Environmental: Operating temperature: Relative humidity (operating or storage):	32° – 104° F (0° – 40° C) < 95%, non-condensing
Frame communication	10/100/1000 Mbps Ethernet
Indicators	Card edge display and indicators as follows: <ul style="list-style-type: none"> • Status/Error LED indicator • Input Presence LED indicators
12G/6G/3G/HD/SD-SDI / ASI Inputs	(4) 75Ω coaxial inputs; max (A thru D) SDI Formats Supported: SMPTE 259M, SMPTE 292M, SMPTE 424M SDI Return Loss: >15 dB up to 1.485 GHz; >10 dB up to 2.970 GHz
Receive Performance (Cable Length; Belden 1694A)	3 Gbps: 120m 1.485 Gbps: 160m 143-360 Mbps: 400m
12G/6G/3G/HD/SD-SDI / ASI Outputs	(4x4) 75Ω coaxial outputs (16 total) Signal Level: 800 mV nominal Return Loss: >15 dB at 5 MHz - 1.485 GHz Jitter (wideband): HD < 0.2 UI

Warranty and Service Information

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.

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Feel free to contact our thorough and professional support representatives for any of the following:

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

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Installation and Setup

Overview

This chapter contains the following information:

- Card Control and Status (p. 2-1)
- Installing the Royal 9917-DA-1x8/2x4-12G Into a Frame Slot (p. 2-3)
- Installing a Rear I/O Module (p. 2-4)

Card Control and Status

CAUTION



This device contains semiconductor devices which are susceptible to serious damage from Electrostatic Discharge (ESD). ESD damage may not be immediately apparent and can affect the long-term reliability of the device.

Always use proper ESD handling precautions and equipment when working on circuit boards and related equipment.

Figure 2-1 shows and describes the card-edge switches which can be used to provide limited card control without requiring a remote control connection (local control).

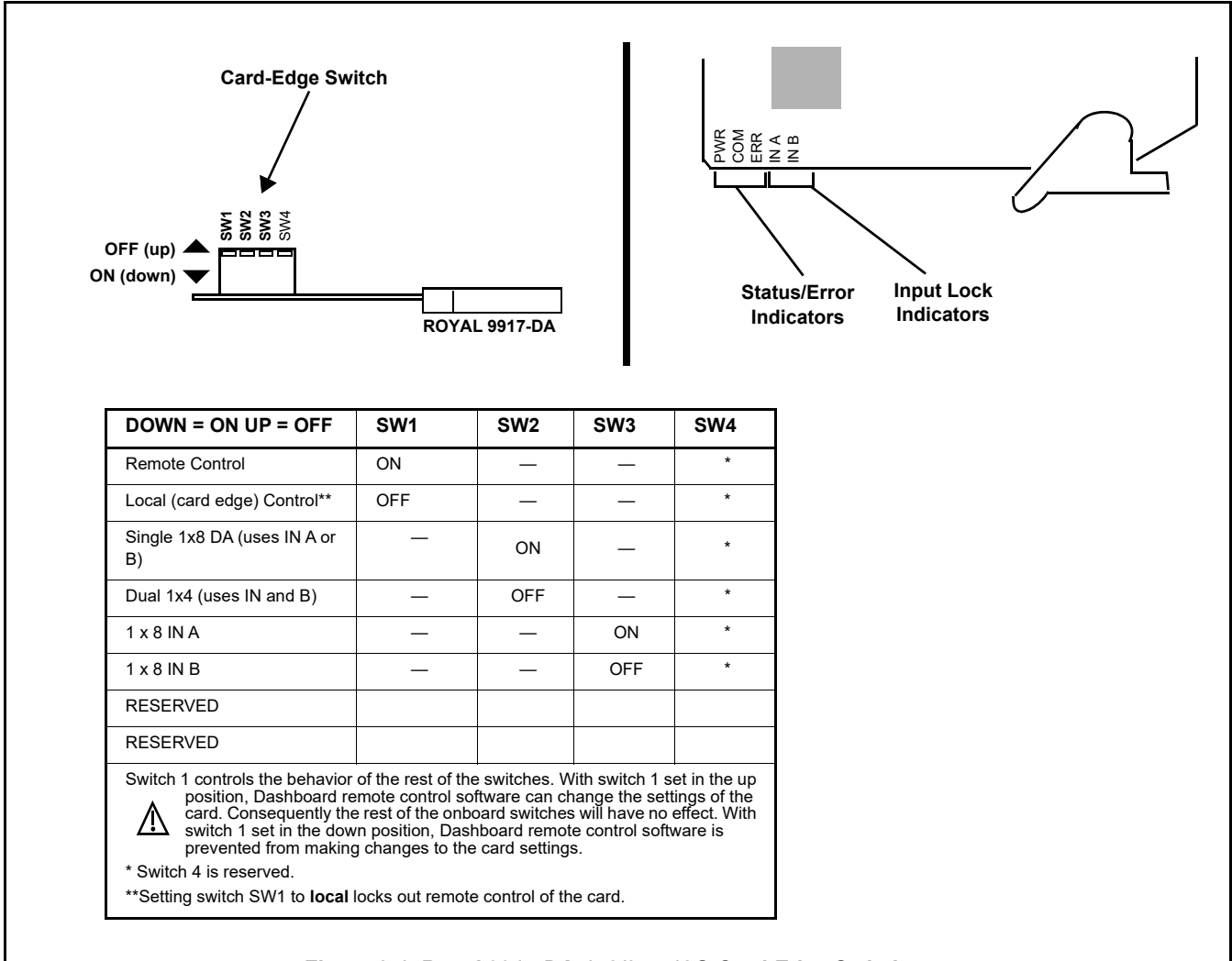


Figure 2-1 Royal 9917-DA-1x8/2x4-12G Card-Edge Switches

Card Status

The card has an LED that provides the following status:

- Solid indicates remote control functionality is locked and can only be controlled by local control.
- Flashing indicates the card unlocked and can be controlled by remote control.
- No light in

Input/Output Routing With Card in Card-Edge (Local) Control Mode

Installing the Royal 9917-DA-1x8/2x4-12G Into a Frame Slot

CAUTION



This device contains semiconductor devices which are susceptible to serious damage from Electrostatic Discharge (ESD). ESD damage may not be immediately apparent and can affect the long-term reliability of the device.

Avoid handling circuit boards in high static environments such as carpeted areas, and when wearing synthetic fiber clothing. Always use proper ESD handling precautions and equipment when working on circuit boards and related equipment.

Note: If installing the Royal 9917-DA-1x8/2x4-12G in a slot with no rear I/O module, a Rear I/O Module is required before cabling can be connected. Refer to Installing a Rear I/O Module (p. 2-4) for rear I/O module installation procedure.

CAUTION

If required, make certain Rear I/O Module(s) is installed before installing the Royal 9917-DA-1x8/2x4-12G into the frame slot. Damage to card and/or Rear I/O Module can occur if module installation is attempted with card already installed in slot.

Note: Check the packaging in which the Royal 9917-DA-1x8/2x4-12G was shipped for any extra items such as a Rear I/O Module connection label. In some cases, this label is shipped with the card and to be installed on the Rear I/O connector bank corresponding to the slot location of the card.

Install the Royal 9917-DA-1x8/2x4-12G into a frame slot as follows:

1. Determine the slot in which the Royal 9917-DA-1x8/2x4-12G is to be installed.
2. Open the frame front access panel.
3. While holding the card by the card edges, align the card such that the plastic ejector tab is on the bottom.
4. Align the card with the top and bottom guides of the slot in which the card is being installed.
5. Gradually slide the card into the slot. When resistance is noticed, gently continue pushing the card until its rear printed circuit edge terminals engage fully into the rear I/O module mating connector.

CAUTION

If card resists fully engaging in rear I/O module mating connector, check for alignment and proper insertion in slot tracks. Damage to card and/or rear I/O module may occur if improper card insertion is attempted.

6. Verify that the card is fully engaged in rear I/O module mating connector.
7. Close the frame front access panel.
8. Connect the input and output cables as shown in Royal 9917-DA-1x8/2x4-12G Rear I/O Modules (p. 2-6).
9. Repeat steps 1 through 8 for other Royal 9917-DA-1x8/2x4-12G cards.

Note: To remove a card, press down on the ejector tab to unseat the card from the rear I/O module mating connector. Evenly draw the card from its slot.

Note: If installing a card in a frame already equipped for, and connected to DashBoard™, no network setup is required for the card. The card will be discovered by DashBoard™ and be ready for use.

Installing a Rear I/O Module

Note: This procedure is applicable **only if a Rear I/O Module is not currently installed** in the slot where the Royal 9917-DA-1x8/2x4-12G is to be installed. If installing the Royal 9917-DA-1x8/2x4-12G in a slot already equipped with a suitable I/O module, omit this procedure.

Install a Rear I/O Module as follows:

1. On the frame, determine the slot in which the Royal 9917-DA-1x8/2x4-12G is to be installed.
2. In the mounting area corresponding to the slot location, install Rear I/O Module as shown in Figure 2-2.

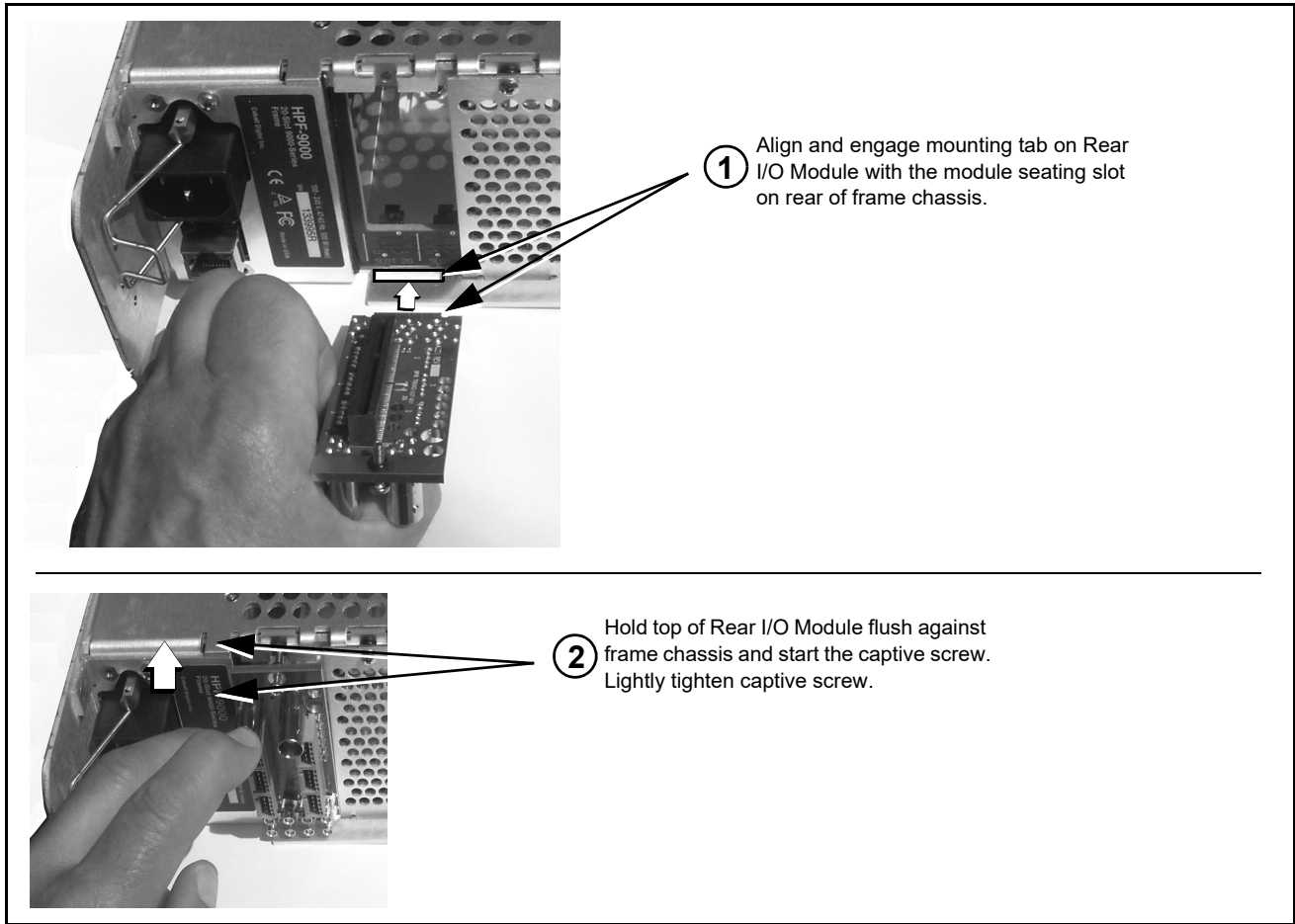


Figure 2-2 Rear I/O Module Installation

Royal 9917-DA-1x8/2x4-12G Rear I/O Modules

Table 2-1 shows and describes the full assortment of Rear I/O Modules specifically for use with the Royal 9917-DA-1x8/2x4-12G cards.

Table 2-1 Royal 9917-DA-1x8/2x4-12G Rear I/O Modules

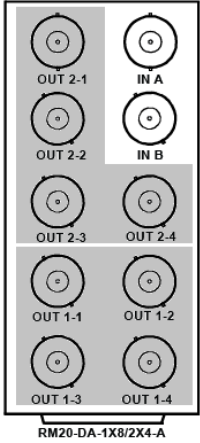
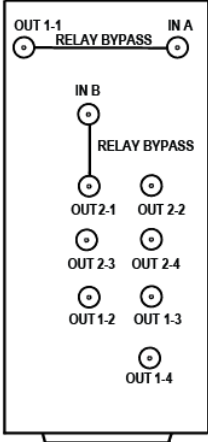
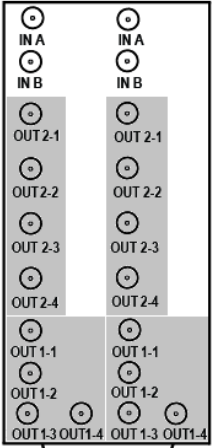
Royal 9917-DA-1x8/2x4-12G Rear I/O Modules	Description
<p>RM20-9917-A</p>  <p>The diagram shows a vertical array of connectors. At the top are two video inputs labeled IN A and IN B. Below them are eight DA outputs arranged in two columns of four. The left column outputs are labeled OUT 2-1, OUT 2-2, OUT 2-3, and OUT 1-1. The right column outputs are labeled OUT 1-2, OUT 1-3, and OUT 1-4. The label RM20-DA-1X8/2X4-A is at the bottom.</p>	<p>Provides the following connections:</p> <ul style="list-style-type: none"> • Two SDI/ASI video input BNCs (IN A and IN B) • Eight DA outputs: OUT 1-1 thru 1-4 OUT 2-1 thru 2-4
<p>RM20-9917-B-HDBNC</p>  <p>The diagram shows a vertical array of connectors. At the top are two video inputs labeled IN A and IN B, with a RELAY BYPASS label between them. Below them are eight DA outputs arranged in two columns of four. The left column outputs are labeled OUT 2-1, OUT 2-3, and OUT 1-2. The right column outputs are labeled OUT 2-2, OUT 2-4, and OUT 1-3. A single output labeled OUT 1-4 is centered below the other two columns. The label RM20-9917-B-HDBNC is at the bottom.</p>	<p>Provides the following connections:</p> <ul style="list-style-type: none"> • Two SDI/ASI video inputs (IN A and IN B) • Eight DA outputs: OUT 1-1 thru 1-4 OUT 2-1 thru 2-4 • Two relay bypasses: IN A > OUT 1-1-4 IN B > OUT 2-1

Table 2-1 Royal 9917-DA-1x8/2x4-12G Rear I/O Modules — *continued*

Royal 9917-DA-1x8/2x4-12G Rear I/O Modules	Description
<p>RM20-9910-B/S-HDBNC</p>  <p style="text-align: center;">RM20-DA-1x8/2x4-B/S-HDBNC</p>	<p>The RM20-DA-1x8/2x4-B/S-HDBNC allows two cards to be installed in adjacent slots and provides the following connections:</p> <ul style="list-style-type: none"> • Four SDI/ASI video inputs (IN A (2) and IN B (2)) • 16 DA outputs: <ul style="list-style-type: none"> OUT 1-1 thru 1-4 (two sets) OUT 1-1 thru 1-4 (two sets)

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Operating Instructions

Overview

This chapter contains the following information:

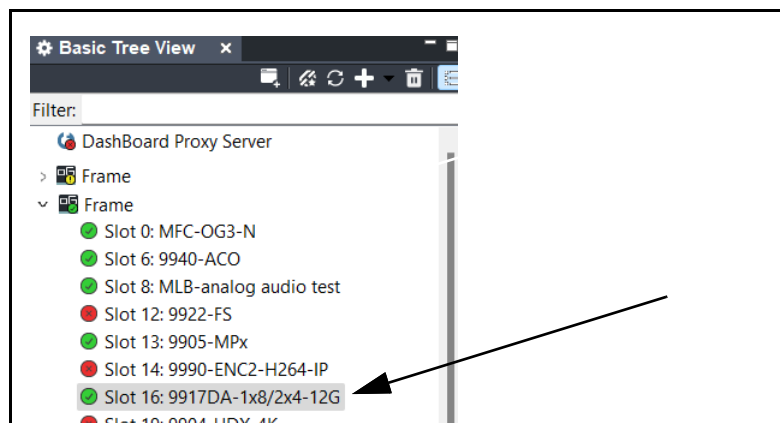
- Accessing the Royal 9917-DA-1x8/2x4-12G Card via Remote Control (p. 3-1)
- Checking Royal 9917-DA-1x8/2x4-12G Card Information and Status (p. 3-2)
- Troubleshooting (p. 3-4)

Accessing the Royal 9917-DA-1x8/2x4-12G Card via Remote Control

The Royal 9917-DA-1x8/2x4-12G card can be remote monitored via DashBoard™ or Cobalt® Remote Control Panel. Access the Royal 9917-DA-1x8/2x4-12G card using DashBoard™ or Cobalt® Remote Control Panel as described below.

Accessing the Royal 9917-DA-1x8/2x4-12G Card Using DashBoard™

1. On the computer connected to the frame LAN, open DashBoard™.
2. As shown below, in the left side Basic View Tree locate and expand the Frame containing the Royal 9917-DA-1x8/2x4-12G card to be accessed.



Checking Royal 9917-DA-1x8/2x4-12G Card Information and Status

The operating status of the Royal 9917-DA-1x8/2x4-12G card can be checked using DashBoard™. shows and describes the Royal 9917-DA-1x8/2x4-12G card information screen using DashBoard™.

The section above the **Status/ Product Info** tabs displays the the Card and Connection status.

The **Status** tab displays the:

- Status of how long it takes to save changes. When changes are made, the **Auto save** indicator is yellow and displays a status of pending along with the number of seconds remaining before changes are saved. Once saved, the indicator turns green and displays **Idle**. An Idle status indicates no changes are pending.
- Status of signals being received by the card.
- Status of the output signals.
- Position of the card's switches (on or off)
- Card's operating temperature.
- Internal part number of the Rear I/O module.

The **Product Info** tab shows product identification and firmware version and other details.

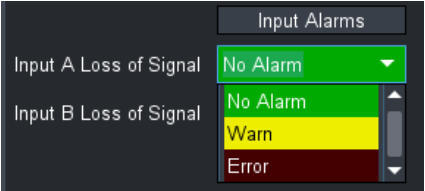
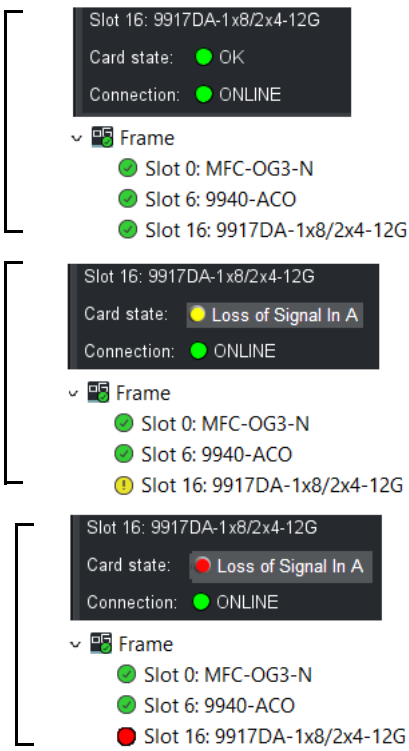
Figure 3-1 Royal 9917-DA-1x8/2x4-12G Card Info/Status Utility

Royal 9917-DA-1x8/2x4-12G Function Menu List and Descriptions

Table 3-1 individually lists and describes each Royal 9917-DA-1x8/2x4-12G function menu and its related list selections, controls, and parameters. Where helpful, examples showing usage of a function are also provided. Table 3-1 is primarily based upon using DashBoard™ to access each function and its corresponding menus and parameters.

Note: If card edge control is to be used for card DA mode, refer to Card Control and Status (p. 2-1) in Installation and Setup, Chapter 2.

Table 3-1 9917-DA Function Menu List

<div style="text-align: center; background-color: #4a7c9c; color: white; padding: 10px; border: 1px solid black;"> <h3>Device Mode</h3> </div>	<p>Provides relock enable/disable for each of the four DA quadrants.</p>
<p>• Reclock Enable/Disable</p> 	<p>Enables/disables the output ports. If you select to disable the port, there will be no SDI signal on that output. This can be used in lieu of using HDBNC terminators.</p>
<div style="text-align: center; background-color: #4a7c9c; color: white; padding: 10px; border: 1px solid black;"> <h3>Alarms</h3> </div>	<p>For each input, provides independent controls for setting up LOS alarm propagation to Card state and DashBoard tree view alarm indicators/messages.</p>
<ul style="list-style-type: none"> • Warn propagates a Yellow alarm to both the Card state and DashBoard Tree View indicator • Warn propagates a Yellow alarm to both the Card state and DashBoard Tree View indicator  <ul style="list-style-type: none"> • Error propagates a Red alarm to both the Card state and DashBoard Tree View indicator <p>Note: For any unused inputs, set control for No Alarm to avoid nuisance false alarms.</p>	

Troubleshooting

This section provides general troubleshooting information and specific symptom/corrective action for the card and its remote control interface. The card requires no periodic maintenance in its normal operation; if any error indication (as described in this section) occurs, use this section to correct the condition.

DashBoard™ Status/Error Indicators and Displays

Figure 3-2 shows and describes the DashBoard™ status indicators and displays. These indicator icons and displays show status and error conditions relating to the Royal 9917-DA-1x8/2x4-12G card itself and remote (network) communications.

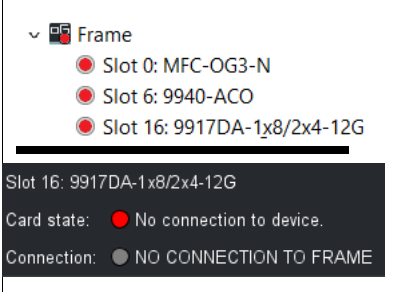
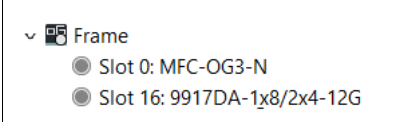
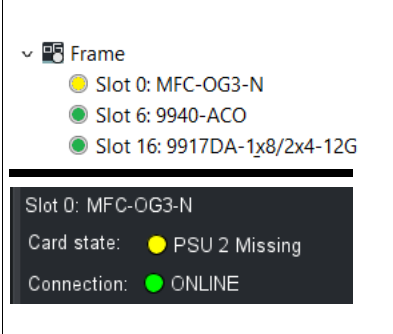
Indicator Icon or Display	Error Description
	<p>Red indicator icon in Card Access/Navigation Tree pane shows card with Error condition (in this example, the Card Access/Navigation Tree pane shows a general error issued by the 9917-DA-1x8/2x4-12G card in slot16).</p> <p>Specific errors are displayed in the Card Info pane (in this example "No connection to device" indicating Royal 9917-DA-1x8/2x4-12G card is not connecting to frame/ LAN).</p>
	<p>Gray indicator icon in Card Access/Navigation Tree pane shows card(s) are not being seen by DashBoard™ due to lack of connection to frame LAN (in this example, the Frame and all cards associated with it along with the 9917-DA-1x8/2x4-12G card in Slot 16 and the Network Controller Card for its frame in slot 0 are not being seen).</p>
	<p>Yellow indicator icon in Card Access/Navigation Tree pane shows card with Alert condition (in this example, the Card Access/Navigation Tree pane shows a general alert issued by the 9917-DA-1x8/2x4-12G card in slot16).</p> <p>Clicking the card slot position in the Card Access/Navigation Tree (in this example Network Controller Card "Slot 0: MFC-OG3-N") opens the Card Info pane for the selected card. In this example, a "Fan Door Open" specific error is displayed.</p>

Figure 3-2 DashBoard™ Status Indicator Icons and Displays

Basic Troubleshooting Checks

Failures of a general nature (affecting many cards and/or functions simultaneously), or gross inoperability errors are best addressed first by performing basic checks before proceeding further. Table 3-2 provides basic system checks that typically locate the source of most general problems. If required and applicable, perform further troubleshooting in accordance with the other troubleshooting tables in this section.

Table 3-2 Basic Troubleshooting Checks

Item	Checks
Verify power presence and characteristics	<ul style="list-style-type: none"> • On both the frame Network Controller Card and the Royal 9917-DA-1x8/2x4-12G, in all cases when power is being properly supplied there is always at least one indicator illuminated. Any card showing no illuminated indicators should be cause for concern. • Check the Power Consumed indication for the Royal 9917-DA-1x8/2x4-12G card. This can be observed using the DashBoard™ Card Info pane. <ul style="list-style-type: none"> • If display shows no power being consumed, either the frame power supply, connections, or the Royal 9917-DA-1x8/2x4-12G card itself is defective. • If display shows excessive power being consumed (see Technical Specifications (p. 1-6) in Chapter 1, “Introduction”), the Royal 9917-DA-1x8/2x4-12G card may be defective.
Check Cable connection secureness and connecting points	Make certain all cable connections are fully secure (including coaxial cable attachment to cable ferrules on BNC connectors). Also, make certain all connecting points are as intended. Make certain the selected connecting points correlate to the intended card inputs and/or outputs. Cabling mistakes are especially easy to make when working with large I/O modules.
Card seating within slots	Make certain all cards are properly seated within its frame slot. (It is best to assure proper seating by ejecting the card and reseating it again.)
Check status indicators and displays	On both DashBoard™ and the Royal 9917-DA-1x8/2x4-12G card edge indicators, red indications signify an error condition. If a status indicator signifies an error, proceed to the following tables in this section for further action.
Check card-edge switch settings	Refer to Chapter 2, Setup and Installation. Make certain switches are set for intended control mode (local or remote). If set for local, remote control is locked out.
Troubleshoot by substitution	All cards within the frame can be hot-swapped, replacing a suspect card or module with a known-good item.

Royal 9917-DA-1x8/2x4-12G Processing Error Troubleshooting

Table 3-3 provides card processing troubleshooting information. If the card exhibits any of the symptoms listed in Table 3-3, follow the troubleshooting instructions provided.

In the majority of cases, most errors are caused by simple errors where the card is not appropriately set for the signal(s) to be received by the card.

Table 3-3 Troubleshooting Processing Errors by Symptom

Symptom	Error/Condition	Corrective Action
DashBoard™ shows red icon (No Signal) in Card Info pane.	No video input present on a source input	Make certain intended video sources are connected to appropriate card video inputs. Make certain coaxial cable connections between Rear I/O Module for the card and signal source are OK.
Card will not save presets.	Memory needs reset (rare condition corrected in latest firmware releases)	<ol style="list-style-type: none"> 1. Power-down card (pull from frame enough to access DIP switch). 2. Set SW4 to ON (down) position. 3. Push card back into slot to power-up card again. 4. Immediately (within 3 seconds) set SW4 to OFF (up) position. Card will now save presets.

Troubleshooting Network/Remote Control Errors

Refer to Cobalt® reference guide “Remote Control User Guide” (PN 9000RCS-RM) for network/remote control troubleshooting information.

In Case of Problems

Should any problem arise with this product that was not solved by the information in this section, please contact the Cobalt Digital Inc. Technical Support Department.

If required, a Return Material Authorization number (RMA) will be issued to you, as well as specific shipping instructions. If required, a temporary replacement item will be made available at a nominal charge. Any shipping costs incurred are the customer’s responsibility. All products shipped to you from Cobalt Digital Inc. will be shipped collect.

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

See Contact Cobalt Digital Inc. (p. 1-8) in Chapter 1, “Introduction“ for contact information.

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