COBALT WAVE RTR-64×64 Router User Manual

WAVE 64

WAVE RTR-64×64 Router
Product Manual

Contents

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WAVE RTR-64×64 Router. The WAVE 64 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 WAVE 64, please contact us at the contact information on the front cover. Congratulations on choosing the Cobalt

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Introduction

Overview

This manual provides installation and operating instructions for the WAVE 64×64-RTR 12G SDI / ASI / MADI router (also referred to herein as the WAVE 64).

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 WAVE RTR-64×64.

- Chapter 2, "Installation and Setup" – Provides instructions for installing the WAVE RTR-64×64 in a frame.

- Chapter 3, "Operating Instructions" – Provides overviews of operating controls and instructions for using the

WAVE RTR-64×64.

This chapter contains the following information:

Cobalt Reference Guides

From the Cobalt ® web home page, go to Support>Reference Documents for easy to use guides covering network remote control, card firmware updates, example card processing UI setups and other topics.

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

⚠	Important note regarding product usage. Failure to observe may result in unexpected or incorrect operation.
(ESD symbol)	Electronic device or assembly is susceptible to damage from an ESD event. Handle only using appropriate ESD prevention practices. If ESD wrist strap is not available, handle card only by edges and avoid contact with any connectors or components.
(WEEE symbol)	Symbol (WEEE 2002/96/EC) For product disposal, ensure the following: • Do not dispose of this product as unsorted municipal waste. • Collect this product separately. • Use collection and return systems available to you.

Safety and Regulatory 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

Refer to this Owner's Manual for important safety instructions regarding the proper installation and safe operation of the router frame as well as its component products.

CAUTION

Heat and power distribution requirements within a frame may dictate specific slot placement of cards. Cards with many heat-producing components should be arranged to avoid areas of excess heat build-up, particularly in frames using only convection cooling. If in doubt about the placement and heat load in the area of the Cobalt Digital router frame, consider ordering the optional fan kit.

WAVE 64 Overview

The WAVE RTR-64×64 router is a midsize 64×64 Crosspoint solution contained within a compact 4U (7 inch) tall frame. The frame is a thin 3.75 inch deep chassis. The router provides a high density solution that offers unprecedented flexibility, ease of use & integration.

The router provides a single 10/100/1000 Ethernet port for IP-based controls such as General Remote protocol SW-P-08 and PESA PNET.

The unit also has RS-422 and RS-232 9pin serial communication ports. The integrated web server supports browser control and system setups which can be saved and recalled quickly.

This compact design is specifically optimized for 12G SDI operation but handles lower SDI rates with ease.

Features

The WAVE RTR-64×64 includes the following features:

- High-density 4RU 12G SDI router with full size 75 ohm BNC connectors

- 64×64 Crosspoint with support for signals up to 12G

- Supported signals include 12G, 6G, 3G, HD, SD-SDI, ASI, and MADI

- External analog reference for RP-168 switch point timing

- Direct interface compatibility with SW-P-08 and PESA PNET remote control protocols

- Redundant power supply connections

- Quiet fan-less design

- Includes a fan option for environments above 55 degrees C

- Compatible with Cobalt Digital WAVE control panels

WAVE RTR-64×64 Functional Description

This section describes the front and real panels of the router.

Front Panel

The WAVE RTR-64×64 front panel contains three LED indicators as described in Table 1-1. The front panel bezel is also removable to access the DIP switches used to set the IP address and install an optional second fan. See Figure 1-1.

Figure 1-1 WAVE RTR-64 Front Panel

Table 1-1 Front Panel LED Indicators

Indicator Name	Description	Indicator Meaning
Status	Router Status	Green: Operating correctly Blue: Info indicating a setting has been changed, but not yet saved in Autosave. Note: After settings have been made and the system has been idle, the settings are saved in the internal FLASH after 30 seconds. Red: Error condition affecting service.
PS1 PS2	Power Supply 1 Power Supply 2	Blue: (On) Power good Gray: (Off) No power

WAVE RTR-64×64 Rear Panel Components

The WAVE RTR-64×64 router rear panel consists of full size BNC – SDI 12G video inputs 1-64 (top rows) and BNC – SDI 12G video outputs 1-64 (bottom rows).

Two redundant power supply connectors are located on the lower left of the router. External power supplies that accept 110-240VAC 50/60Hz power inputs and supply +12VDC to the WAVE 64×64 frame can be connected. The 64×64-RTR-12G SDI Router requires one power supply to operate properly.

For redundant operation, a second power supply can be purchased separately.

An optional fan kit is available for continuous operation in environments above 50° C. If the optional fan kit is installed, both power supplies are required to be installed and operating.

A RJ-45 Ethernet 10/100/1000 LAN connector is located on the lower center of the frame. The RJ-45 Ethernet connector allows you to connect the router to a 10/100/1000 Ethernet LAN using CAT5 or greater cable and will be able to access the router's built-in web server with an Internet browser. Multiple configurations are possible, including standalone control, a local LAN, or even a WAN control set-up. This Ethernet connection also allows control over the network using the WAVE Routers user interface or other control protocols.

One RS-232 9 pin Serial female D connector is located to the left of the LAN connector and one RS-422 Serial 9 pin female D connector is located to the right of the LAN connector.
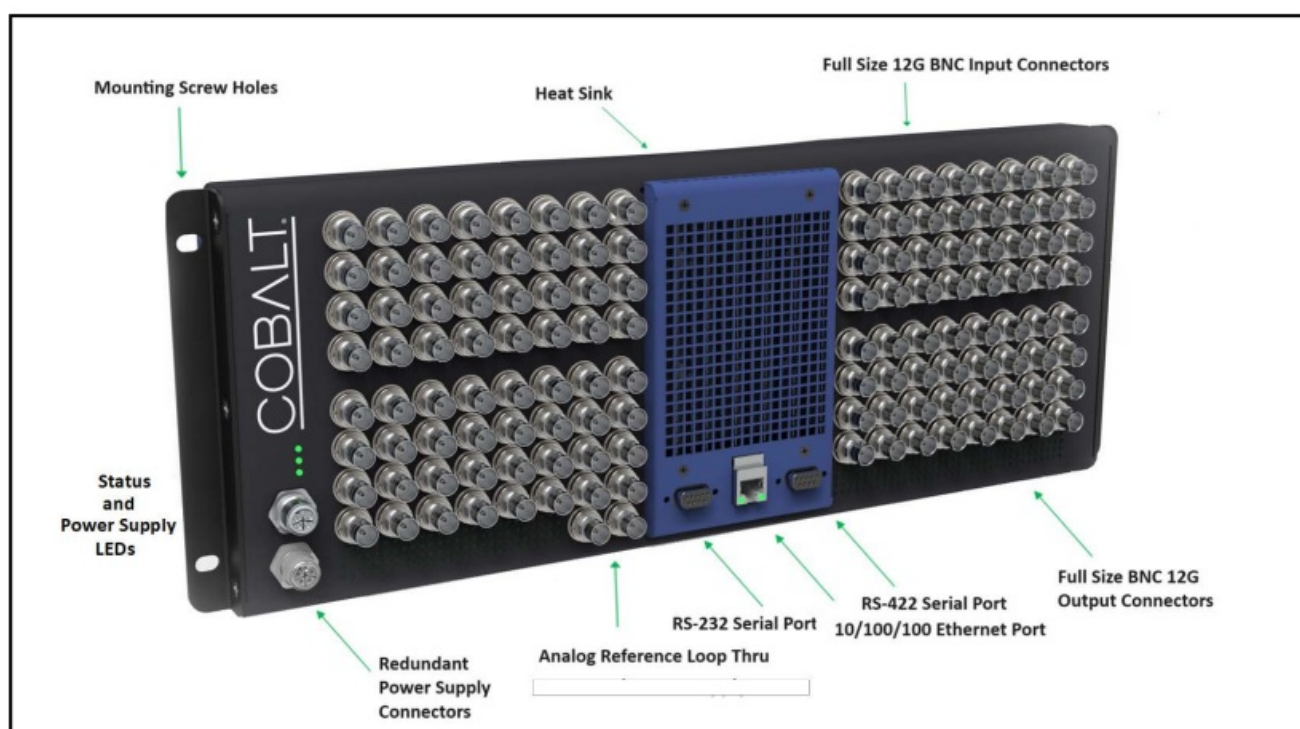
Three status LED indicators for router, power supply 1 and power supply 2. See x for information.

Functional Diagram

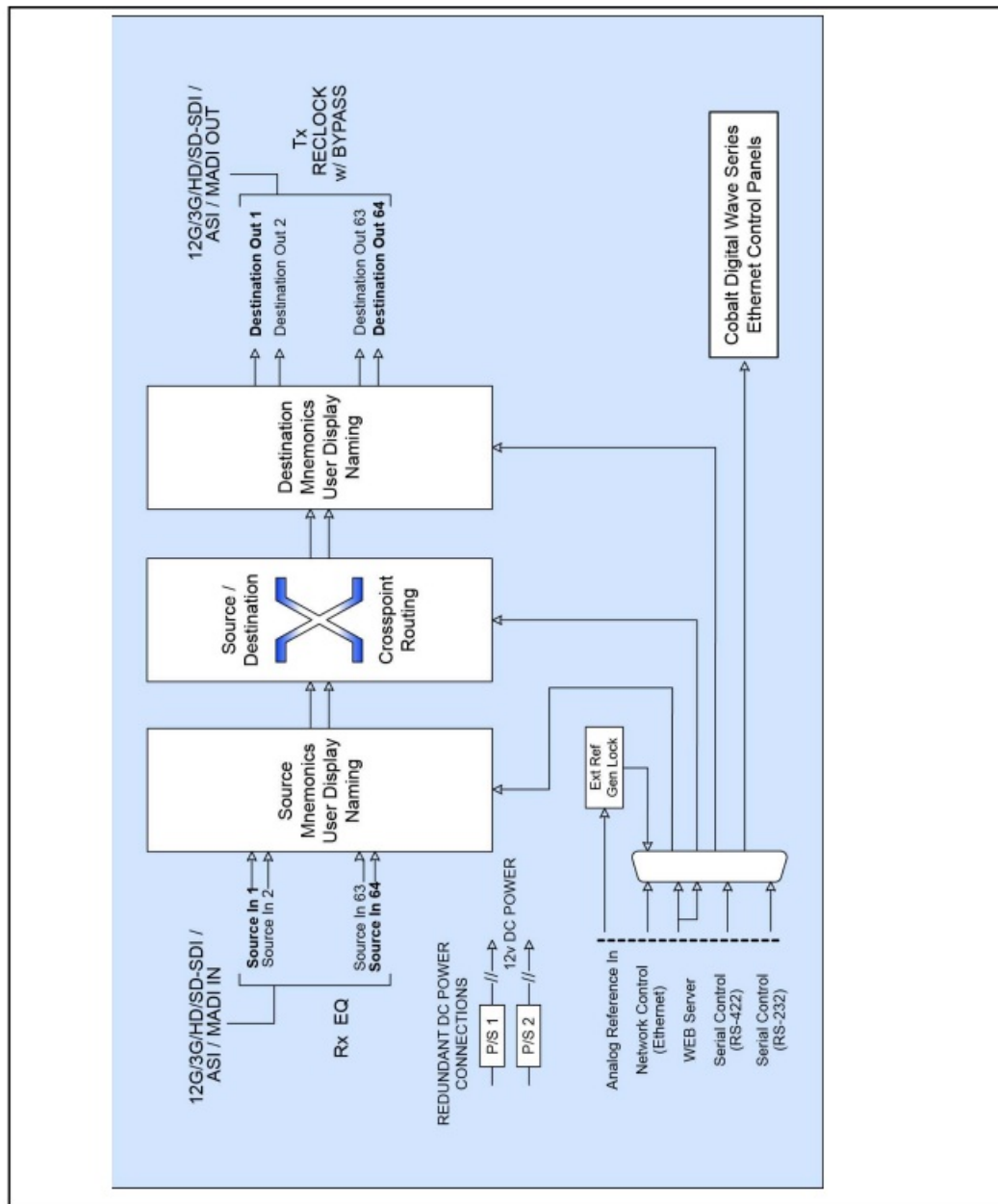Figure 1-1 shows a functional block diagram of the WAVE RTR-64x64.

Figure 1-3 WAVE RTR-64x64 Functional Block Diagram

User Control Interfaces

The WAVE RTR-64×64 can be controlled by the following interfaces. These user control interfaces are cross-compatible and can operate together as desired. Where applicable, any controller setting change made using a particular user interface is reflected on any other connected interface.

- WAVE Routers User Interface – Using the WAVE Routers user interface, the WAVE RTR-64×64 can be controlled from a computer and monitor and is accessible from a web browser.

- Cobalt ® WAVE Control Series CP-78 Control Panel and WAVE Control Series CP-84L Control Panel – The CP-78 and CP-84L Remote Control Panels provide a convenient mechanism to monitor and control the WAVE RTR-64×64. These remote control panels will be available in Q1 2024.

Technical Specifications

lists the technical specifications for the WAVE RTR-64×64 card.

Table 1-2 Technical Specifications

Item	Characteristic
Part number, nomenclature	WAVE RTR-64×64
Installation Density	19 inches wide rack mount. 7 inches tall (4RU) 3.75" deep – including front bezel & rear connectors. Weight: < 11 lb
Frame communication	10/100/1000 Mbps Ethernet
Source Inputs	(64) 12G Full Size BNC
Destination Outputs	(64) 12G Full Size BNC
Serial Ports	(1) RS-422 (1) RS-232

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 hall 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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- Product information and pricing
- Technical support
- Upcoming trade show information

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Installation and Setup

Overview

This chapter contains the following information:

- Installing and Setting Up the WAVE RTR-64×64
- Setting up the Initial Configuration
- Installing the optional Fan Kit

Installing and Setting Up the WAVE RTR-64×64

To install and set up the WAVE RTR-64×64:

Note: If installing the optional fan kit, see "Installing the Optional Fan Kit" (p. 2-4).

1. Assemble the Ethernet network connections to your LAN using Cat 5 or better Ethernet cables. Refer to Chapter 1 for the router's rear panel component layout.
2. Connect the DC power cable from the power supply brick(s) to the router frame low voltage power connectors. Using the proper power cord for your country, connect the AC power cord to the mains supply.
3. Configure the device network settings as needed for operation in your facility.
4. Hook up the SDI Source and Destination cables and the external reference signal if required. The Ext Ref is optional. The router will switch Crosspoint's based on the internal clock if no reference is connected.

Initial WAVE RTR-64×64 Configuration

To set the IP address for the first time must set the dip switches located on the front of the router. To configure the router:

1. Gently remove the plastic bezel from the router to view the label.

The label above is a sample label. The information on your label will contain a different serial number, MAC address, and values.

2. Set the dip switches to one of the factory forced IP addresses. Reboot the router.

3. Open a browser on your computer and type in the factory IP address you chose with the dip switches.

4. Press ENTER. The WAVES Router Interface is displayed. The following screen displays an example of the router table already configured.

5. Click the Settings tab and then expand the IP Settings section to display the factory IP address you selected with the DIP switches.

IP Settings

IP Assignment

Static

Select either DHCP or Static Address assignment

Static IP Address

Address

10.99.20.40

Please enter IP4 address (x.x.x.x)

Netmask address

255.255.255.0

Please enter IP4 address (x.x.x.x)

Gateway Address

10.99.20.1

Please enter IP4 address (x.x.x.x)

Name Server

10.99.20.1

Please enter a name server. If more than one, please separate with commas

Set IP Setting   Cancel IP Setting

6. If desired, obtain a static address from your System Administrator and change the dip switch settings to IP User Selectable. Edit the settings in the WAVE Routers user interface to set the static address as needed for your environment.

7. Reboot the router any time the DIP switch settings are changed.

The Fan Kit consists of one Fan and Bracket Assembly and four (4) M3 x 6mm screws.
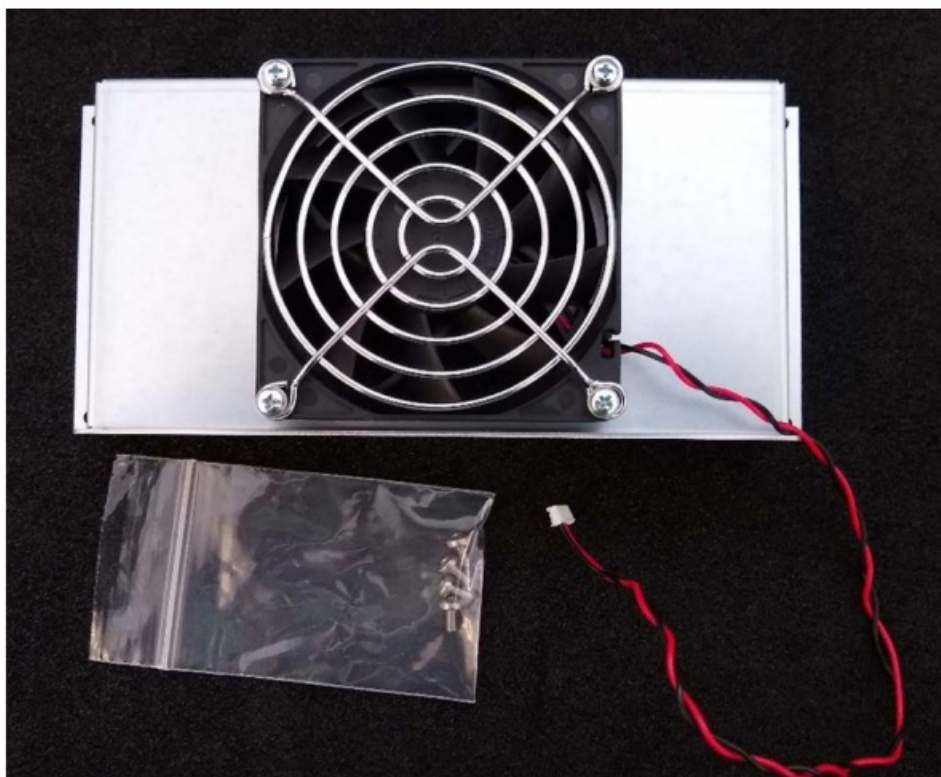
To install the optional fan kit:

Note: It is recommended that the power is turned off on the router before installing the fan.

1. Place the router on a flat surface with the bezel side up.

2. Grasp the bezel and pull upward to remove.
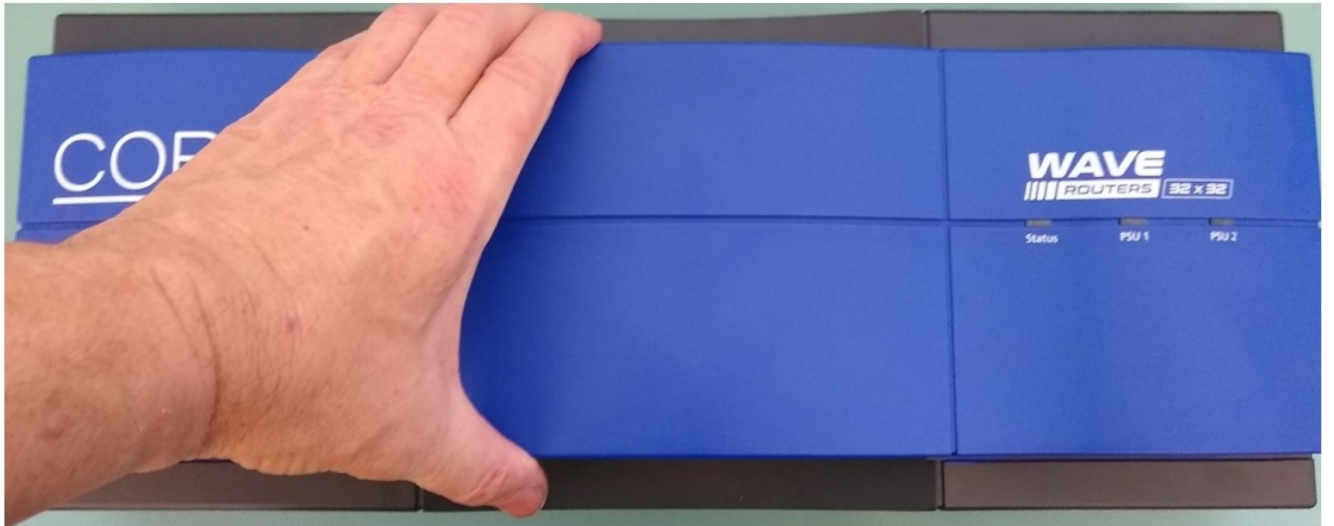
3. With the cover removed you will see a large heat sink located in the middle of the panel; this is where the Fan Kit will be installed. Note the location of the four (4) mounting holes and the fan connector. The location of the status lights are also shown.
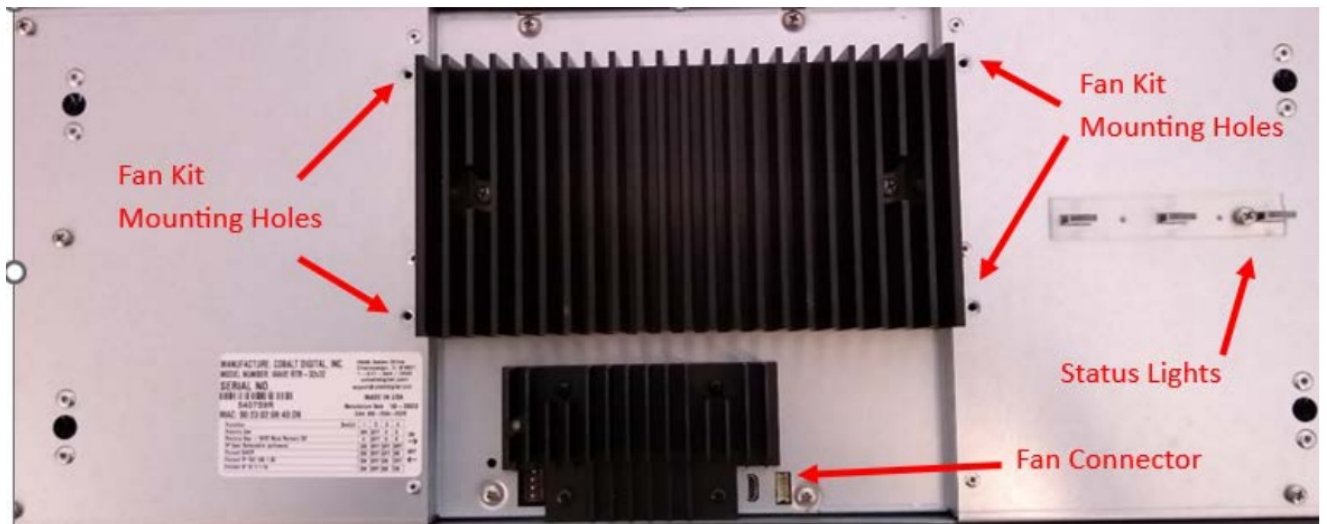
4. Place the Fan and Bracket Assembly over the large heat sink. Notice that the bracket ledge is towards the smaller heat sink. Attach the Fan and Bracket Assembly to the router with the four (4) supplied M3 screws.

5. Connect the fan power wires to the fan connector, the connector is keyed so it can only go on one way. A two (2) wire fan is being used for demonstration purposes only, the actual fan is a four (4) wire fan.

6. Reinstall the bezel to the router, ensuring that the indicator light openings are over the status lights and gently press down on the outer edges of the bezel until the bezel is secure.
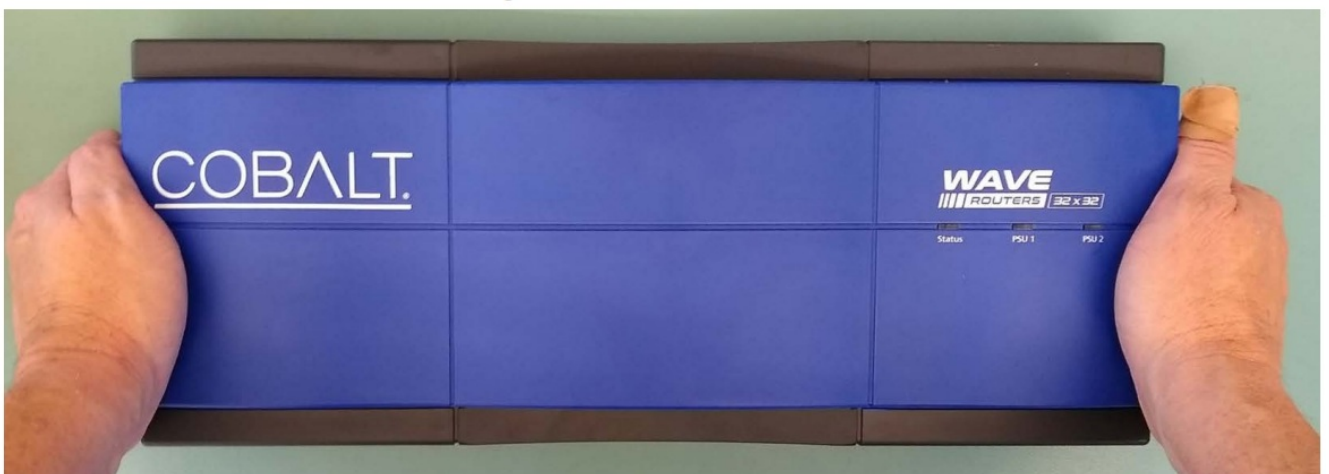
Operating Instructions

Overview
This chapter contains the following information:

- Control and Display Descriptions (p. 3-1)
- WAVE Routers User Interface interface (p. 3-2)
- Cobalt® Remote Control Panel User Interfaces (p. 3-3)

- Accessing the WAVE RTR-64×64 User Interface (p. 3-4)
- WAVE RTR-64×64 Tab Functions (p. 3-4)
- Troubleshooting (p. 3-16)

Control and Display Descriptions

This section describes the user interface controls, indicators, and displays for using the WAVE RTR-64×64 card. The WAVE RTR-64×64 functions can be accessed and controlled using any of the user interfaces described here. The format in which the WAVE RTR-64×64 functional controls, indicators, and displays appear and are used varies depending on the user interface being used. Regardless of the user interface being used, access to the WAVE RTR-64×64 functions (and the controls, indicators, and displays related to a particular function) follows a general arrangement of Function Menus under which related controls can be accessed (as described in the Function Menus as described blow).

Note: When a setting is changed, settings displayed on via the WAVE Router interface (or a Remote Control Panel) are the settings as effected by the router it selfand reported back to the remote control; the value displayed at any time is the actual value as set on the router.

WAVE Routers User Interface

The WAVE Router user interface is an internal web-based interface to control and view various settings. The router function menus are organized in the WAVE Router interface using tabs. When a tab is selected, the options associated with the tab are displayed. A tab may contain a combination of informational, status, and control settings.
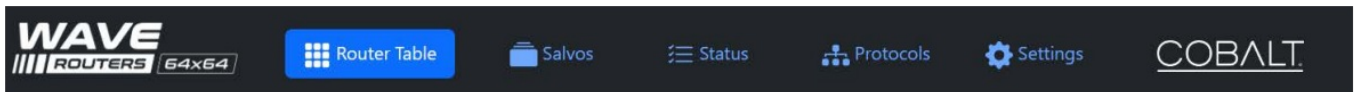
Figure 3-1   WAVE RTR-64x64 User Interface Tabs

The user interface provides the following tabs:

- Router Table
- Salvos
- Status
- Protocols
- Settings

  The available functions found under each tab are described in this chapter.

Cobalt® Remote Control Panel User Interfaces

In addition to the web-based user interface, the WAVE RTR-64×64 can be controlled via two remote control panels:

- The Cobalt WAVE Remote Control Panel CP-84L
- The Cobalt WAVE Remote Control Panel CP-78

The Cobalt WAVE Remote Control Panel CP-84L features 84 R/G/B back-lit LCD dot matrix display buttons while the Cobalt WAVE Remote Control Panel CP-78 features 78 R/G/B back-lit LCD dot matrix display buttons. Both remote control panels contain two General Purpose Inputs (GPI) and two General Purpose Outs (GPO). Eighteen additional ports can be added using the + GPI option. Both contain a PoE++ compatible Ethernet port. PoE++ functionality is available using the + PoE option. Dual DC power inputs provide for redundant operation.

Note: The CP-84L and CP-78 Remote Control Panels are scheduled for release in Q1 2024. Users manual for these control panels will be available at that time.
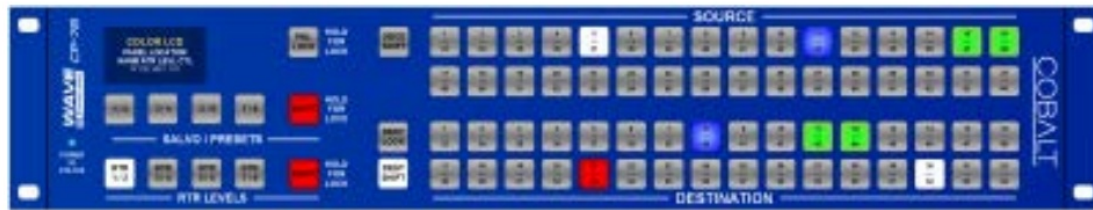
Figure 3-2   CP-84L (Top) and CP-78 (Bottom) Remote Control Panels

Accessing the WAVE RTR-64×64 User Interface

To access the WAVE router user interface, open a web browser and type in the IP address that was previously configured. The WAVE Routers interface opens displaying the currently loaded Salvos.

WAVE RTR-64×64 Tab Functions

The WAVE Router interface consists of the following tabs:

Table 3-1 WAVE Router Tabs

Tab Name	Description
Router Table	Displays the currently loaded routes.
Salvos	Provides options to manage salvos.
Status	Provides status information when setting are changed.
Protocols	Provides PESA and SW-P-08 protocol configuration settings.
Settings	Provides IP configuration settings, administration functions, and product/software information.

Router Table Tab

The Router Table tab provides a visual representation of the currently loaded salvo. The source inputs are located on the right of the table and the destination outputs are located at the top.
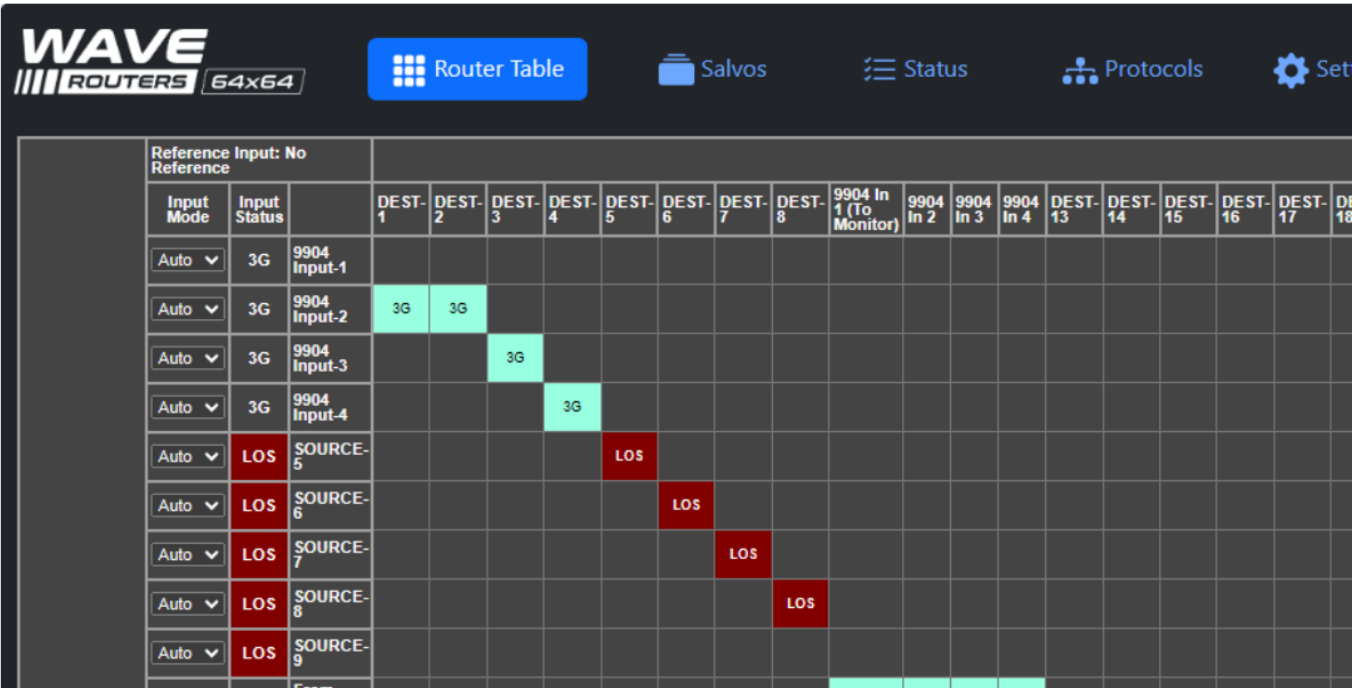
From the router table you can:

- View each connected route.
- View the RP-168 reference input status (Reference Input). The status will display the kind of signal feeding the router from a source.
- View the input signal type (Input Status). Examples include 3G, 12G and MADI. A loss of signal is displayed in a red shaded square with the label of LOS.
- Set the input mode to automatically detect all video modes except MADI or to force the input to detect MADI. When MADI is elected, other video modes are not detected; the Input Status will only display MADI or LOS. Select the desired item from the pull-down menu.

- Edit source and destination names by clicking on the desired input or destination output. By default, sources are named SOURCE-1 through SOURCE-64 and destinations are named DEST-1 through DEST-64. Clicking on the desired source input expands the entire column allowing you to rename the source. Clicking on the desired destination output expands only the selected destination.

- Reroute an existing route by clicking on the desired source/ destination location.

Salvos Tab

The Salvos tab provides options to create a new salvo. Salvos can be created either manually or using the most recently existing salvo. To create a new salvo, perform on of the following:

New Blank Route

1. Click New Salvo. A blank salvo is added to the end of the list with a label of "UNNAMED" in the Name field.

2. Provide the desired name in the Name field.

3. Click Add Route and select the desired Source input and Destination output from the pull-down menus.

4. Repeat this step for each route you want to add.
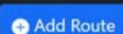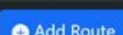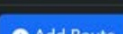
5. To delete a route, click x under the Source input field you want to delete.

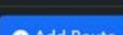6. Click the Expand/Collapse button to close the route list.
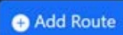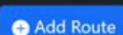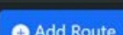
New Salvo from Route
Use this option to create a salvo based on the currently loaded salvo.

1. Click New Salvo > New from Router table. A new salvo is added to the end of the list with a label of "UNNAMED" in the Name field.

2. Click the Expand/Collapse button to view the currently configured routes.

3. Edit, add, or delete routes as necessary.

4. Click the Expand/Collapse button to close the route list.

   Trigger a Salvo

   To trigger a Salvo, click the Trigger button associated with the desired Salvo.

   The Router Table is updated to reflect the routes associated with the Salvo.

Delete a Salvo

To delete a Salvo, click the trash icon with the Salvo you want to delete. The Salvo is immediately deleted.

Status Tab

The Status tab provides information on the current status as well as the ability to display or hide specific types of messages.
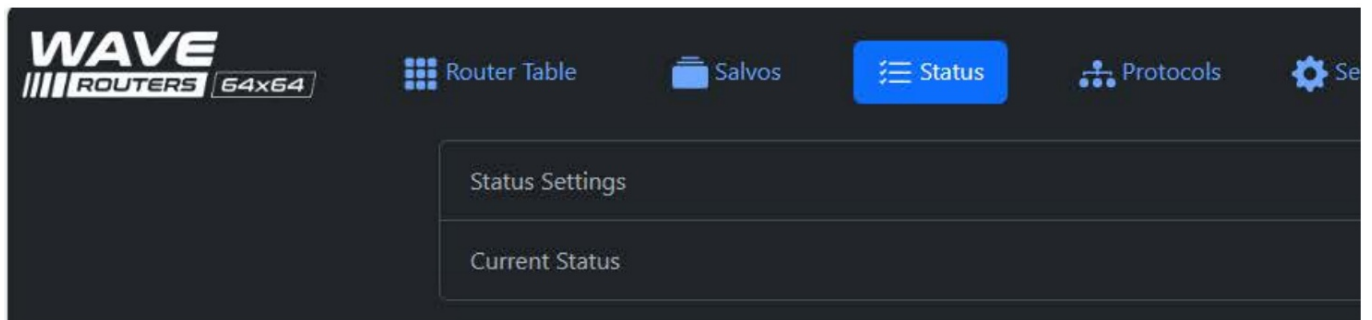

Status Settings

By default, users are notified whenever an event occurs. User can view the status message associated with the event. Users have the option to ignore any status messages that may be displayed.

To ignore messages, click anywhere in the Status Settings field and add a check mark to the desired message under the Ignore column. Selected status messages are immediately ignored from displaying in the status field and will also be ignored on the LED status lights on the front and rear of the router.
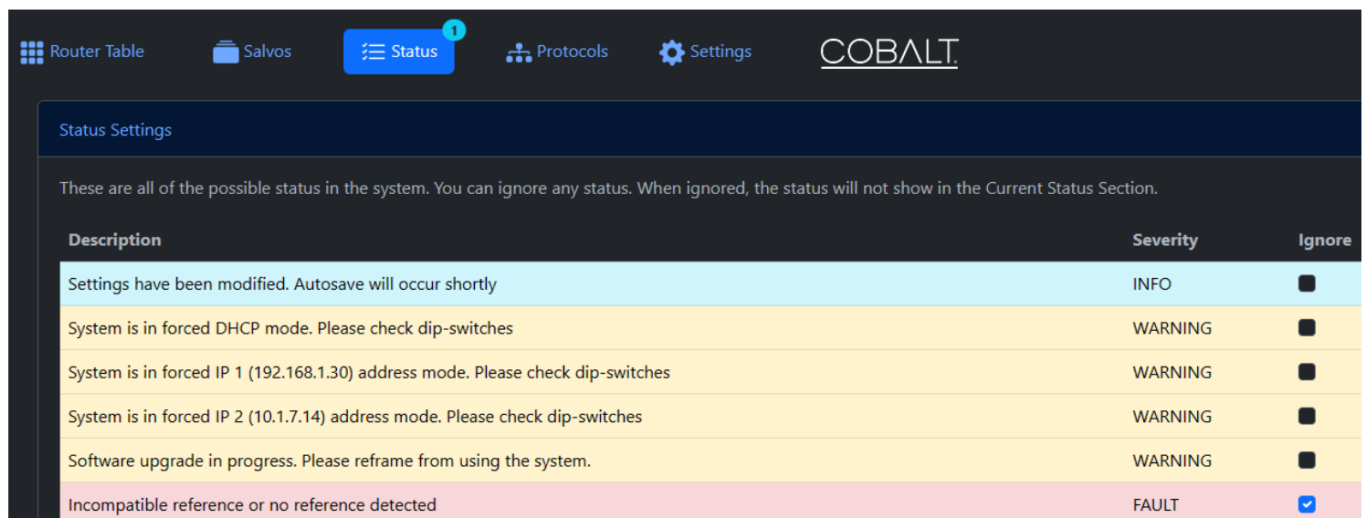

Current Status

By default, the Current Status field displays the current status. Clicking anywhere within the Current Status field expands the field to display the status. Outstanding issues with the unit, if any, are displayed. If no issues exist, the following message is displayed.
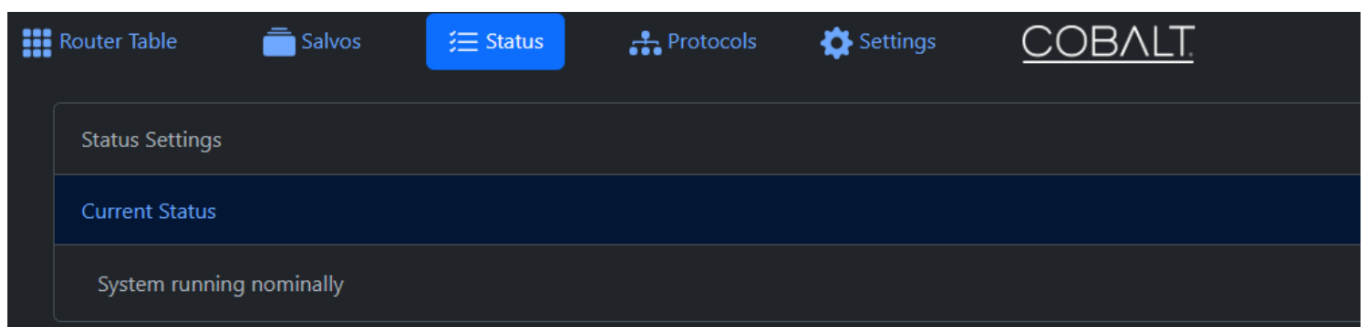
Any time a change is made (such as creating a new Pesa Panel) or an event occurs (such as triggering a salvo), the Status tab provides an indicator that a change or event has occurred. The indicator badge is displayed above the Status tab. Clicking anywhere within the Current Status field expands the field to display a description of the event that occurred.
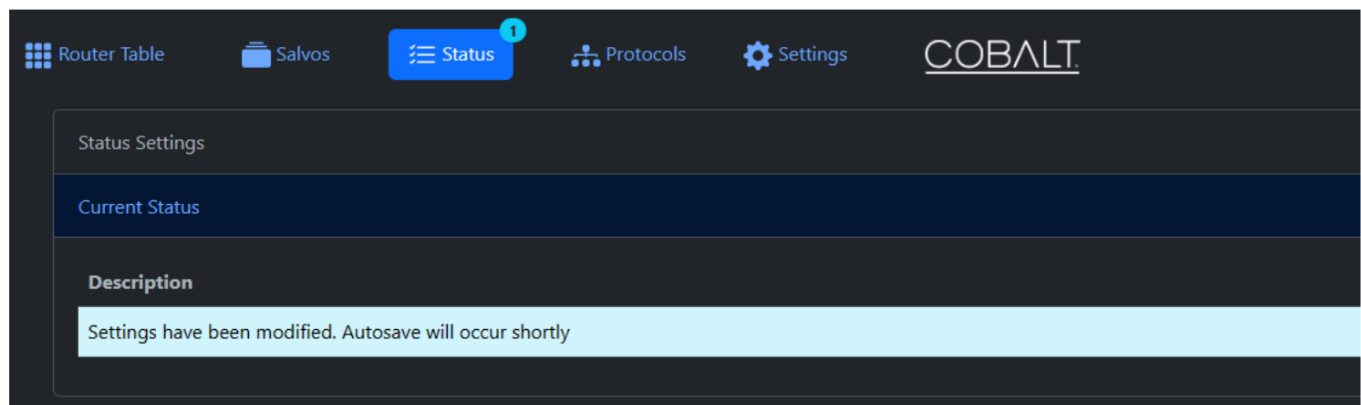
Reference Input (Ext Ref Loop) Error/Alarm Condition

The reference input forces the router to comply with RP-168 during a switch if present. If there is no reference present or the reference is incompatible, the router will display a service-affecting error (RED). If an error/alarm condition occurs and the user chooses to switch to a different path, the switch will occur immediately and will not comply to RP-168. If the user does not want to use a reference input and also does not want the error/alarm condition to be shown, they have the option to ignore that error status by using the Status tab to ignore the status message. This will cause the RED LEDs to not show red and the status badge indicator to not display.
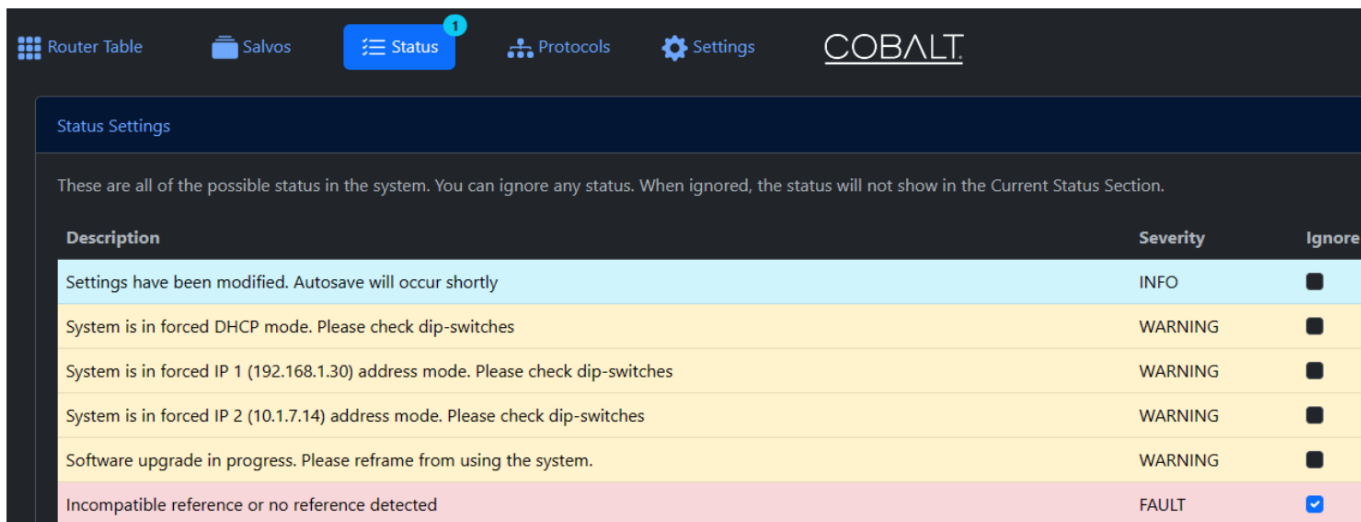
Note: Not all video signals can be used as a reference. Table 3-2 lists the RP-168 compatible video signals. Non-supported references will not switch within the RP-168 timing window.

Table 3-2 Compatible RP-168 Video Signals

Reference Format	Video Format	Video Rate
525i59	525i59	SD
525i59	1080i59	HD
525i59	1080p29 / 2160p29	HD / 6G
525i59	1080p29 / 2160p29	3G / 12G
625i50	625i50	SD
625i50	1080i50	HD

Table 3-2 Compatible RP-168 Video Signals

Reference Format	Video Format	Video Rate
625i50	1080p25 / 2160p25	HD / 6G
625i50	1080p50 / 2160p50	3G / 12G
720p50	625i50	SD
720p50	1080i50	HD
720p50	1080p25 / 2160p25	HD / 6G
720p50	1080p50 / 2160p50	3G / 12G
720p59	525i59	SD
720p59	1080i59	HD
720p59	1080p29 / 2160p29	HD / 6G
720p59	1080p59 / 2160p59	3G / 12G
720p60	1080i60	HD
720p60	1080p30 / 2160p30	HD / 6G
720p60	1080p60 / 2160p60	3G / 12G
1080i50 / 1080psf25	625i50	SD
1080i50 / 1080psf25	1080i50	HD
1080i50 / 1080psf25	1080p25 / 2160p25	HD / 6G
1080i50 / 1080psf25	1080p50 / 2160p50	3G / 12G
1080i59 / 1080psf29	525i59	SD
1080i59 / 1080psf29	1080i59	HD
1080i59 / 1080psf29	1080p29 / 2160p29	HD / 6G
1080i59 / 1080psf29	1080p59 / 2160p59	3G / 12G
1080i60 / 1080psf30	1080i60	HD
1080i60 / 1080psf30	1080p30 / 2160p30	HD / 6G
1080i60 / 1080psf30	1080p60 / 2160p60	3G / 12G
1080psf23.98	1080psf23.98	HD / 6G
1080psf23.98	1080psf23.98	3G / 12G

Table 3-2 Compatible RP-168 Video Signals

Reference Format	Video Format	Video Rate
1080psf24	1080psf24	HD
1080psf24	1080p24 / 2160p24	HD / 6G
1080psf25	625i50	SD
1080psf25	1080psf25	HD
1080psf25	1080p25 / 2160p25	HD / 6G
1080p23.98	1080p23.98 / 2160p23.98	HD / 6G
1080p24	1080p24 / 2160p24	HD / 6G
1080p25	625i50	SD
1080p25	1080p25 / 2160p25	HD / 6G
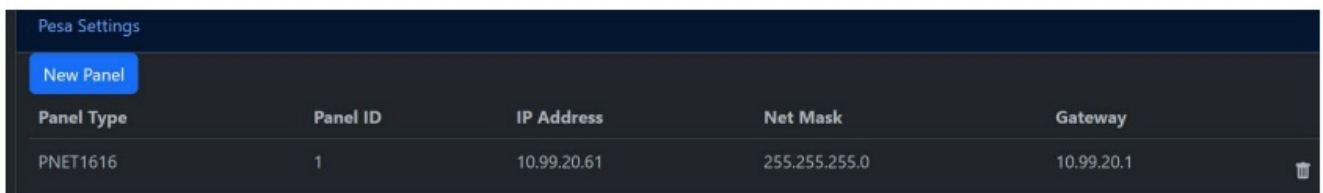
Protocols Tab

The Protocols Tab provides options to define PESA settings and SW-P-08 settings.

Pesa Settings

To add a new panel:

1. Use the Pesa Settings section to create, modify, and delete panels. To create a new panel:

2. Expand the Pesa Settings. Existing panels are displayed.

Pesa Settings				
New Panel				
Panel Type	**Panel ID**	**IP Address**	**Net Mask**	**Gateway**
PNET1616	1	10.99.20.61	255.255.255.0	10.99.20.1

3. Click New Panel to display the Pesa Control Panel dialog and perform the following:

    a. Select the Panel Type from the pull-down menu.

    b. Type the IP ID, IP Address, Subnet Mask, and Gateway

    Address in the corresponding fields. Use IP4 addresses.

4. Click OK.

The Panel is added to the list.

SW-P-08 Settings
Use the SW-P-08 Settings to specify the TCP/IP port. To specify the port, expand the SW-P-08 Settings field and type in the desired port number and click Apply.
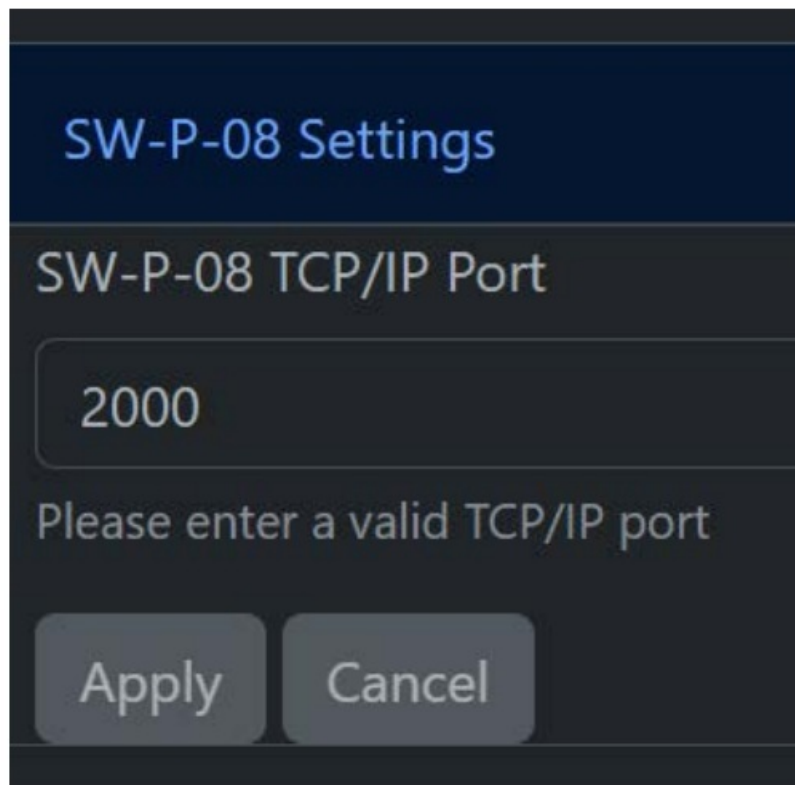
Settings Tab

The Settings tab provides options to view and configure various settings.

Specifically, it includes an information section, options to configure IP settings, and a section that provides administration options.

About

The About section contain the following information:

Product Name	Company Name
Software Revision (Platform)	Software Revision (Neo)
Hardware Revision	Serial Number
Tempe Zone (C or F)	CPU temperature
Switch Matrix dimensions (Top Right/ Top Left/Bottom Right/Bottom)	LED Status: Provides the following status conditions: RED: Service affecting error Blue: A setting has been changed, but not yet saved in Autosave. NOTE: After settings have been made and the system has been idle, then the settings are save in the internal FLASH after 30 seconds. Green: All systems are normal Power supply LEDs (PS-1 and 2) – Blue (On) Power good, Gray (Off) No power

IP Settings

This section provides you the option to assign DHCP or Static address.

Static IP Address

1. Under IP Assignment select Static from the pull-down menu.

2. Under Static IP Address, provide the appropriate information in the following fields:

   • Address

   • Netmask address

   • Gateway Address

   • Name Server – If more than one server, separate each with a comma (no spaces)

3. Click Set IP Setting.

DHCP Assignment

1. Under IP Assignment select DHCP from the pull-down menu.
2. Under Current IP Address, provide the appropriate information in the following fields:
   - Address
   - Netmask address
   - Gateway Address
3. Click Set IP Setting.

Administration

This tab provides options to upload files, enable SSH, reboot the router, download logs, enable remote sys logging, and to restore the router to factory default.

File Upload

Uploads binary files such as firmware updates and licenses to the router.

1. Click Chose File and locate the desired file.

2. Click the Upload button.

Support SSH

Enables SSH. By default this, option is disabled and should only be use for support. Enabling SSH may degrade router security. To enable SSH, click the Enable SSH slider.

Reboot

Reboots the router. To perform a reboot, click Reboot Now.

Download Logs

Downloads the system logs to your local machine. System logs contain the events and messages that are generated. The logs that can be can be used by support in the event of any issues that may occur. Logs are contained in a GZ file and contain information such as a connection being accepted or dropped or when a message was sent. Click Download Logs to download the logs to the Downloads folder.

Remote Server Logging

Enable and disables remote syslog logging. When enabled, sys logs are sent to the specified remote server. To enable, click the Enable remote Syslog Logging slider and enter the IP address (IP4) and port number in the appropriate fields.

Factory Default

Resets the configuration to factory default. To reset, click Factory Reset.

Troubleshooting

This section provides general troubleshooting information and specific symptom/corrective action for the WAVE RTR-64×64 router and its remote control interface. The WAVE RTR-64×64 router 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.

Error and Failure Indicator Overview

The WAVE RTR-64×64 card itself and its remote control systems all (to varying degrees) provide error and failure indications. Depending on how the WAVE RTR-64×64 is being used (i.e, standalone or network controlled through the WAVE RTR-64×64 user interface or a Remote Control Panel), check all available indications in the event of an error or failure condition. The various WAVE RTR-64×64 router and remote control error and failure indicators are individually described below.

Note: The descriptions below provide general information for the various status and error indicators. For specific failures, also use the appropriate subsection listed below.

- Basic Troubleshooting Checks (p. 3-23)
- In Case of Problems (p. 3-23)

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
Check Cable connection secureness and connecting points	Make certain all cable connections are fully secure (including coaxial cable attachment to cable ferrules on coaxial 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.
Check status indicators and displays	On both WAVE Router interface and the WAVE RTR-64×64 card 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.

In Case of Problems
Contact and Return Authorization
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. 1-11) in Chapter 1, "Introduction" for contact information.

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Documents / Resources

	COBALT WAVE RTR-64x64 Router [pdf] User Manual WAVE RTR-64x64 Router, WAVE RTR-, 64x64 Router, Router

References

- ◗ **Cobalt Digital Inc. | Professional Audio/Video Processing Equipment**
- **User Manual**