

8964MON

4-CH SDI TO NTSC/PAL MONITOR MODULE

Instruction Manual



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FAQ Database — Solutions to problems and troubleshooting efforts can be found by searching our Frequently Asked Questions (FAQ) database.

Software Downloads — Software updates, drivers, and patches can be downloaded.

Contents

- Preface**..... 5
 - About This Manual..... 5

- 8964MON 4-Channel SDI To NTSC/PAL Monitor**
 - Introduction 7
 - Installation 8
 - Frame Capacity 8
 - Module Placement in the Gecko 8900 Frame 8
 - Cabling 10
 - Inputs..... 10
 - Outputs 10
 - Power Up 11
 - Operation Indicator LEDs 11
 - Configuration..... 13
 - Configuration Summary..... 13
 - Composite Output Adjustments 13
 - Local Onboard Module Configuration..... 15
 - Configuration Switches and Controls..... 15
 - 8964MON Module On-board Configuration Settings 17
 - Onboard Jumper 17
 - Remote Configuration and Monitoring 18
 - 8900NET Module Information..... 18
 - Newton Control Panel Configuration..... 18
 - Web Browser Interface 19
 - 8964MON Links and Web Pages..... 21
 - Status Web Page..... 22
 - I/O Config Web Page 24
 - Functional View Web Page..... 25
 - Module Configuration Pages 26
 - Slot Config Web Page 30
 - Software Update Web Page 32
 - Specifications 33
 - Service..... 34
 - Status Monitoring 35
 - LEDs 35
 - Frame Alarm 36
 - Web Browser Interface 36
 - SNMP Reporting 37

- Index**..... 39

Preface

About This Manual

This manual describes the features of a specific module of the Gecko 8900 Signal Processing System. As part of this module family, it is subject to Safety and Regulatory Compliance described in the Gecko 8900 Series frame and power supply documentation (see the *Gecko 8900TX/8900TF/8900TFN Frames Instruction Manual*).

8964MON 4-Channel SDI To NTSC/PAL Monitor

Introduction

The 8964MON module offers four independent encoders on one module. With 10-bit D-A, the 8964MON provides high quality conversion of SDI to NTSC/PAL video for output monitoring purposes.

The 8964MON features:

- Four SDI 270 Mb/s inputs with embedded audio indication,
- SDI inputs can be either PAL or NTSC,
- Four 270 Mbs SDI to NTSC or PAL composite video encoders with independent controls for:
 - Output gain adjustment,
 - Color Bars test signal, and
 - Choice of setup on 525 channel outputs.
- Remote interface with the 8900NET module (version 3.2.2 or later):
 - Web browser configuration and control,
 - SNMP traps for use with NetCentral,
 - NetConfig Networking application, and
 - Control panel connections.

Installation

Installation of the 8964MON module is a process of:

1. Placing the module in the proper frame slot, and
2. Cabling and terminating signal ports.

The 8964MON module can be plugged in and removed from a Gecko 8900 video frame with power on. When power is applied to the module, LED indicators reflect the initialization process (see [Power Up](#) on page 11).

Frame Capacity

The 8964MON module can be installed in all Gecko 8900 video frames but with varying maximum quantities determined by frame cooling capacity. [Table 1](#) provides the power capacity, cooling capacity, and maximum module count for each frame type.

Table 1. Video Frame Power Capacity

Capacity Calculated	8900TX Frame	8900TF Frame	8900TFN Frame
Power (W)	100	100	100
Recommended Module Cooling (W)	30	90	90
8964MON Modules	5	10	10

Note Module capacity figures assume no other modules are in the frame.
X = Not recommended without forced air cooling.

Module Placement in the Gecko 8900 Frame

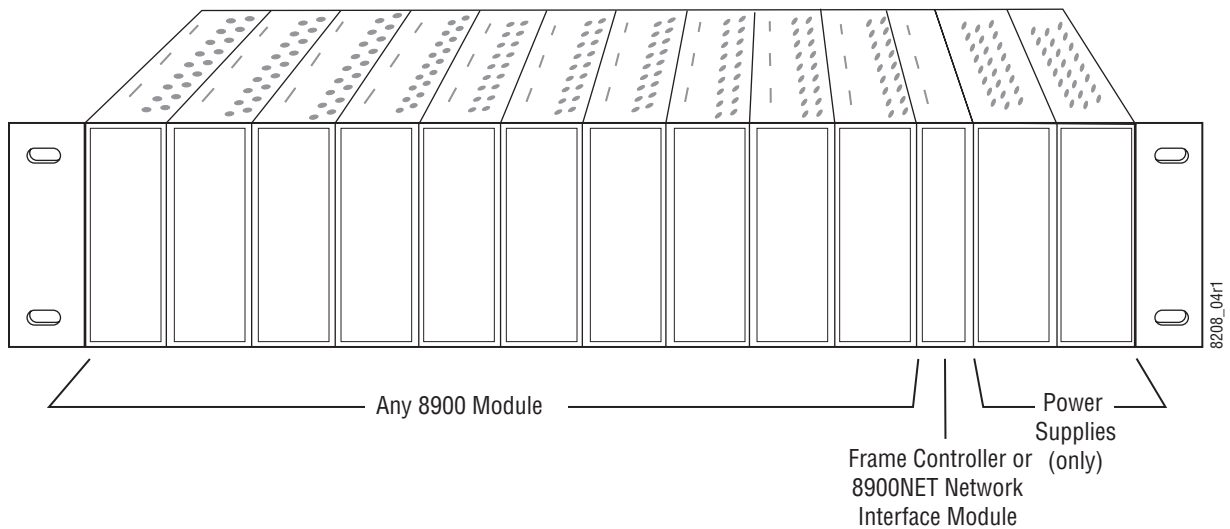
There are ten cell locations in the frame to accommodate either analog or digital modules. These are the left ten locations. Refer to [Figure 1](#) on page 9.

The two cells on the right are allocated for the power supplies. For additional information concerning the Power Supply module, refer to the 8900 Power Supply manual.

The third cell from the right is allocated for the Frame Monitor or 8900NET Network Interface module. These modules provide health monitoring and control options.

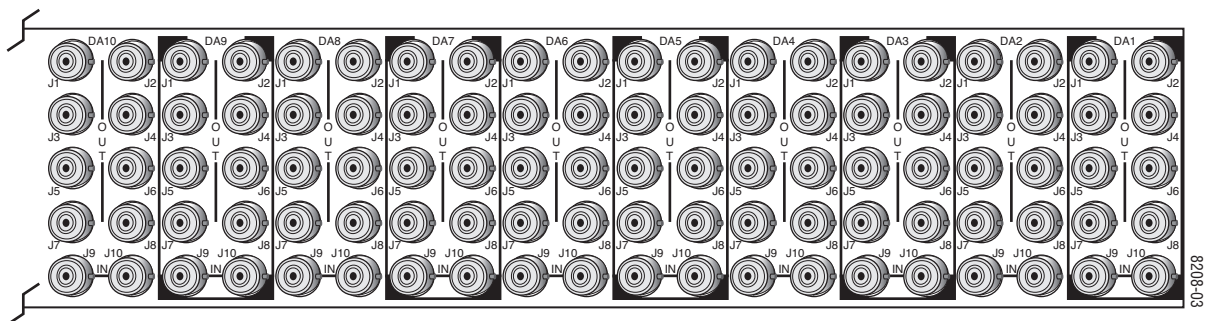
Note If using an 8900NET module in the frame, it must be running software version 3.2.3 or higher for optimum operation of the 8964MON module.

Figure 1. Gecko 8900 Series Frame



8900 module slots are interchangeable within the frame. There are 10 BNC connectors in each slot's I/O group. The functional assignment of each connector in a group is determined by the module that is placed in that slot. The maximum number of modules a Gecko 8900 frame can accept is ten. [Figure 2](#) illustrates the rear connector plate for a Gecko 8900 frame.

Figure 2. Gecko 8900 Series Frame Rear Connector



To install a module in the frame:

1. Insert the module, connector end first, with the component side of the module facing to the right and the ejector tab to the top.
2. Verify that the module connector seats properly against the backplane.
3. Press in the ejector tab to seat the module.

Cabling

Cabling to and from the module is done at the back of the Gecko 8900 frame. Refer to [Figure 3](#).

Note At the back of this manual are overlay cards that can be placed over the rear connector BNCs to identify the specific 8964MON connector functions.

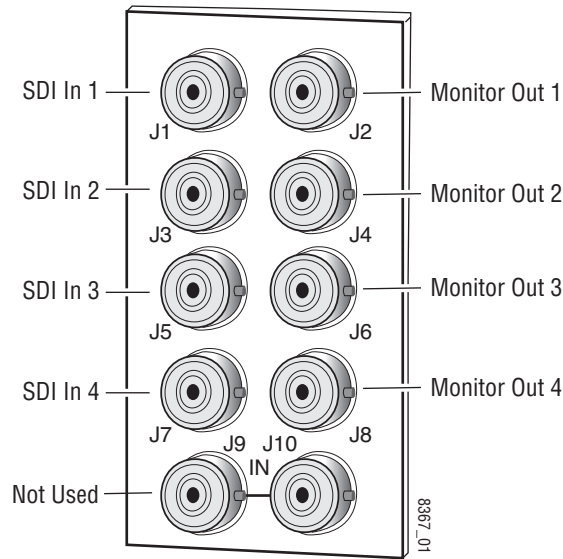
Inputs

Four serial digital video inputs are provided at BNCs J1, J3, J5, and J7. The inputs are non-looping and internally terminated. Each input is independent and can be either 525 or 625 mode.

Outputs

Four corresponding NTSC or PAL composite video monitor outputs are provided at BNCs J2, J4, J6, and J8.

Figure 3. 8964MON Input/Output Connectors



Power Up

The front LED indicators and configuration switches are illustrated in [Figure 4](#). Upon power-up, the green PWR LED should light and the yellow CONF LED should illuminate for a few seconds for the duration of module initialization.

Operation Indicator LEDs

With factory default configuration and a valid input signal connected, the green PWR LED and one of the green signal standard LEDs (525 or 625) should illuminate (refer to [Table 2](#) on page 12 to see the possible operating indicator combinations).

Video input presence on each encoder channel is indicated by the CH1–CH4 green LEDs on.

Figure 4. LEDs and Configuration Switches

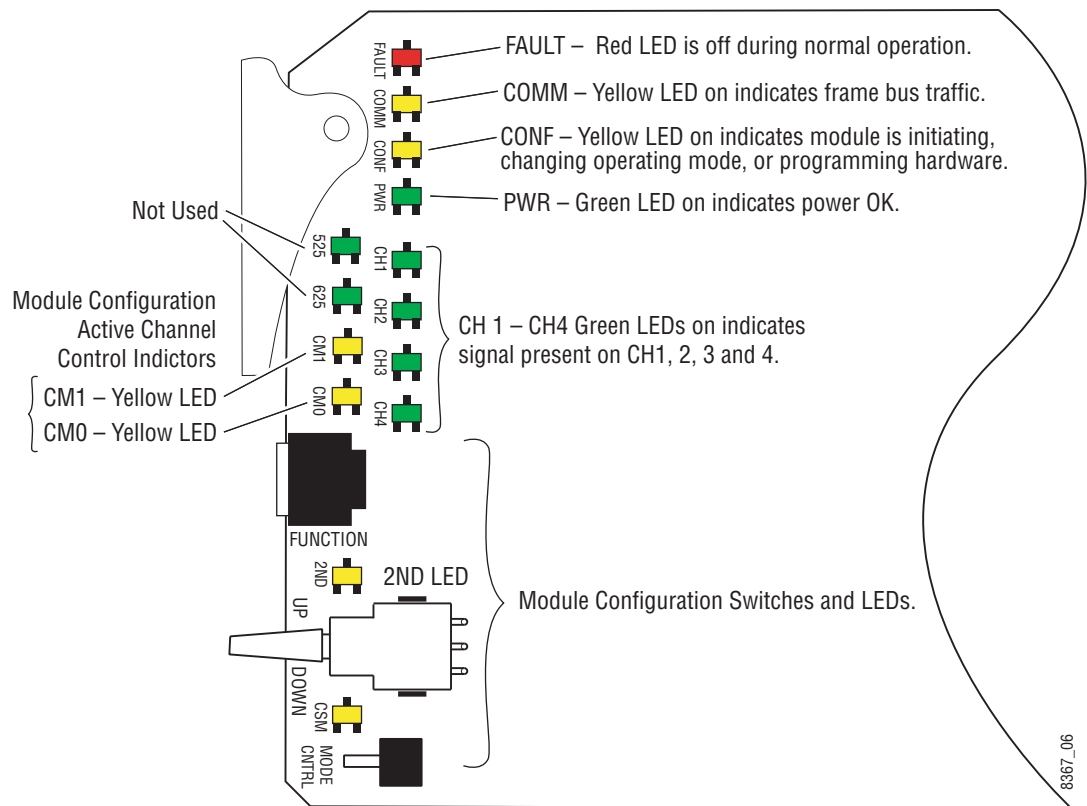


Table 2. Board Edge LED Names and Meaning

LED	Indication	Condition
FAULT (red)	Off	Normal operation.
	On continuously	Module has detected an internal fault. (Refer to Service on page 34.)
	Flashing	Configuration problems. Check inputs and settings. Missing video.
COMM (yellow)	Off	No activity on frame communication bus.
	3 Quick Pulses	Locate Module command received by the module from a remote control system.
	Short flash	Activity present on the frame communication bus.
CONF (yellow)	Off	Module is in normal operating mode.
	On continuously	Module is initializing, changing operating modes or programming hardware.
	3 Quick Pulses	Locate Module command received by the module from a remote control system.
PWR (green)	Off	No power to module or module's DC/DC converter failed.
	On continuously	Normal operation, module is powered.
525/625 (green)	Off	Not Used
CM1 (yellow)	Off	On/Off combination Indicates what channel is enabled for configuration when Channel Select Mode (CSM) LED is on (described in Table 4 on page 16.)
	On	
CM0 (yellow)	Off	
	On	
CH1 (green)	Off	No signal present on Channel 1.
	On continuously	Valid signal is present on Channel 1.
CH2 (green)	Off	No signal present on Channel 2.
	On continuously	Valid signal is present on Channel 2.
CH3 (green)	Off	No signal present on Channel 3.
	On continuously	Valid signal is present on Channel 3.
CH4 (green)	Off	No signal present on Channel 4.
	On continuously	Valid signal is present on Channel 4.
2ND (yellow)	Off	Not Used
CSM (yellow)	Off	Paddle switch controls current Bank parameter mode.
	On continuously	Paddle switch controls channel selection.

Configuration

The 8964MON can be configured locally using onboard switches or remotely using the 8900NET network interface GUI or a networked control panel.

Refer to the following sections for configuration instructions:

- Configuration Summary ([page 13](#))
- Local Onboard Module Configuration ([page 15](#))
- Remote Control and Monitoring ([page 18](#))
- Control Panel Configuration ([page 18](#))

Operation of these control types is explained in detail in their respective sections of this manual.

Configuration Summary

This section provides a summary of all parameters that can be configured on the 8964MON module. Use this section in conjunction with the specific configuration method instructions for each configuration type. [Table 3 on page 14](#) provides a summary in table format of all parameters and their ranges, default values, and remote, local, and control panel function names and locations for setting each value.

Composite Output Adjustments

The composite monitor output on each channel can be adjusted for the following:

- Enable or disable color bars test signal on each channel.
- Add Active Video Setup – add setup to active video in 525 mode.
- Output Video Gain – adjust the percent of output video gain relative to 1 V p-p.

Table 3 provides a complete summary of the 8964MON functions and a comparison of the functionality available with each control type along with the ranges and default values for each parameter.

Table 3. Summary of 8964MON Configuration Functions

Function Type	Default	Range/Choices Resolution	Web Page/ Function Name	Function Switch Setting	Newton Control Panel
Input status reporting	Enabled	Enable or Disable	I/O Config/ Input Reporting checkboxes	N/A	N/A
Add setup to output	Setup	Setup or No Setup	Composite Out/ Setup Add checkbox	2	Setup1-4
Adjust output video gain	100%	61.0 to 138.5%	Composite Out/ Output Video Gain control (%)	4	OutGn1-4
Enable test signal generator	Disable	Disable or Color Bars	Composite Out/ Test Signal Generator Enable or Color Bars radio button	C	Tst1-4
Recall Factory Defaults	See above	–	Composite Out/ Recall Defaults for: Current Channel or All Channels button	F	N/A

Local Onboard Module Configuration

The 8964MON module can be configured locally using the rotary and paddle switches. Several LEDs interact with the switches to indicate status of the configuration process.

Configuration Switches and Controls

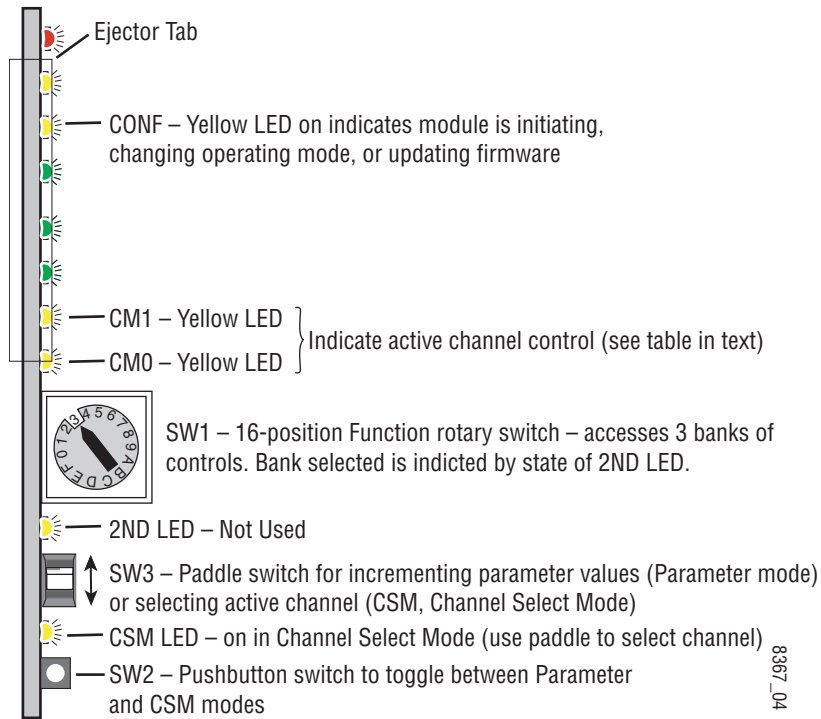
Each of the four encoder channels is adjusted separately. Selection of each channel is done with the paddle switch while in Channel Select Mode as explained below. Refer to [Figure 5 on page 16](#) for the following descriptions. Use the onboard configuration components as follows:

- SW1 Function (rotary) switch — This switch accesses a desired function for configuration (see [Table 5 on page 17](#)).

Note The Function switch should be kept in position 0 (parked) when not in use to avoid any inadvertent change in configuration. Position 0 is inactive.

- SW3 (paddle) switch – actuates or selects the desired setting or channel selection for the selected function when the switch is held momentarily in either the up or down position. Switch between Parameter and Channel Select Mode with pushbutton SW2.
- CSM (Channel Select Mode) yellow LED – when on, paddle switch is in Channel Select Mode. Use the paddle switch to select channel 1, 2, 3, or 4. When off, paddle switch is in Parameter mode.
- CM1 and CM0 yellow LEDs – indicate what channel is active for adjustment. Refer to [Table 4 on page 16](#).
- SW2 (pushbutton) switch – press to toggle assignment of paddle switch SW3 between Parameter mode (CSM LED off) and Channel Select Mode (CSM LED on).
- CONF (configuring) yellow LED – when on, indicates the module is programming hardware.

Figure 5. Onboard Configuration Components – Front View



Refer to [Table 4](#) for reading the CM1 and CM0 active channel LED indicators.

Table 4. CM1 and CM0 LED Table

CM1 LED State	CM0 LED State	Channel Control
Off	Off	Channel 1 is active
Off	On	Channel 2 is active
On	Off	Channel 3 is active
On	On	Channel 4 is active

8964MON Module On-board Configuration Settings

On-board configuration is done on a channel-by-channel basis, there is no gang mode (apply settings to all channels).

To make a configuration setting, do the following:

1. Select the channel to be adjusted by pressing pushbutton SW2 to toggle to the Channel Select Mode (yellow CSM LED on). This allows using the paddle switch to increment through the channel selections. The currently selected channel is indicated by the state of the CM1 and CM0 LED. Refer to [Table 4 on page 16](#) for reading LED states.
2. When the desired channel is active, use pushbutton SW2 to toggle back to Parameter mode (CSM LED off).
3. Rotate the Function switch the desired setting.
4. Move the paddle switch to the up or down position and hold momentarily to set the desired function (refer to [Table 5](#)).

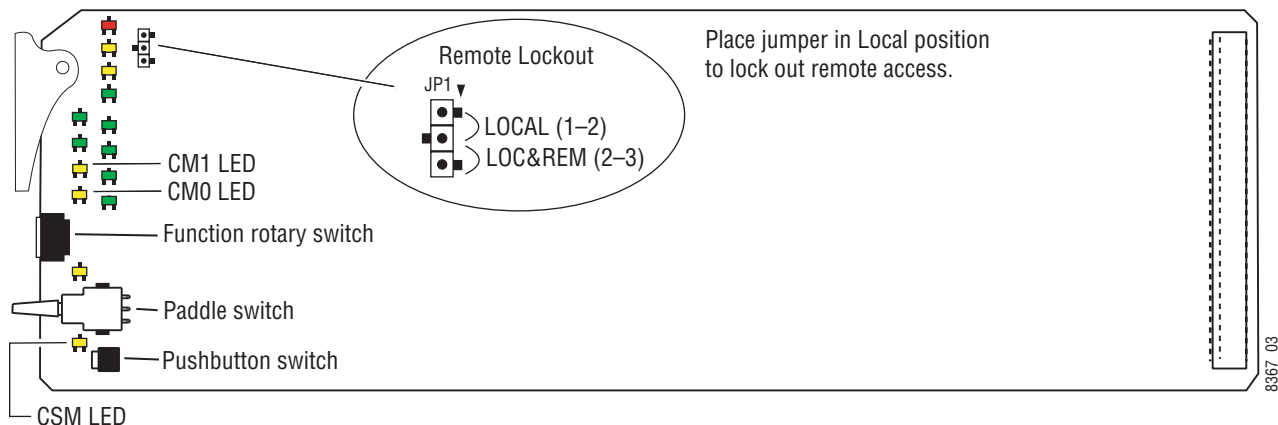
Table 5. Local Rotary and Paddle Switch Functions

Function Switch Setting	Paddle Switch Up	Paddle Switch Down	Function Description
2	Add setup	No Setup	In 525 mode, add setup to composite output.
4	Increase	Decrease	Adjust composite output gain.
D	Enable	Disable	Enable or disable color bars test signal.
F	–	Recall	Recall Factory Defaults

Onboard Jumper

Jumper JP1 allows (LOC&REM position) or locks out (LOCAL position) remote control.

Figure 6. Module Configuration Switches and LEDs



Remote Configuration and Monitoring

8964MON configuration and monitoring can be performed using a web browser GUI interface or a networked Newton Control Panel when the 8900NET Network Interface module is present in the video frame (Gecko 8900TFN-V frame). Each of these interfaces is described below.

Note For remote access, make sure the jumper block on the module is set for both Local and Remote access ([Figure 6 on page 17](#)).

8900NET Module Information

Refer to the 8900NET Network Interface Module Instruction Manual for information on the 8900NET Network Interface module and setting up and operating the Gecko 8900 frame network. Make sure you are using the latest 8900NET version for this module.

Note Upgrade software and instructions for the 8900NET can be downloaded from the Grass Valley web site at <http://gvg.custhelp.com>.

Newton Control Panel Configuration

A Newton Control Panel (hard or soft version) can be interfaced to the Gecko 8900 Series frame over the local network. Refer to the documentation that accompanies the Newton Modular Control System for installation, configuration, and operation information.

Control panel access offers the following considerations for module configuration and monitoring:

- Ability to separate system level tasks from operation ones, minimizing the potential for on-air mistakes.
- Ability to group modular products—regardless of their physical locations—into logical groups (channels) that you can easily manipulate with user-configured knobs.
- Update software for applicable modules and assign frame and panel IP addresses with the NetConfig Networking application.
- Recommended for real-time control of module configuration parameters, providing the fastest response time.

Note Not all module functions are available with the control panel, such as E-MEM and factory default recalls. The available control panel controls for the 8964MON module are listed in [Table 3 on page 14](#).

An example of the Newton Configurator is shown in [Figure 7 on page 19](#).

Figure 7. Newton Configurator Example

Module (drag and drop from Device View)

Module Name: 8964MON Frame Name: Bay 1 QA 8900 Video

Slot: 1 Frame IP Address: 10 . 16 . 18 . 66

Label	Description	Type	PID	IID
State	Overall Module Status	switch	51	5
InStt1	Ch1 Input Signal State	switch	203	0
InStt2	Ch2 Input Signal State	switch	203	1
InStt3	Ch3 Input Signal State	switch	203	2
InStt4	Ch4 Input Signal State	switch	203	3
Tst1	Ch1 TestSignal	switch	820	0
Tst2	Ch2 TestSignal	switch	820	1
Tst3	Ch3 TestSignal	switch	820	2
Tst4	Ch4 TestSignal	switch	820	3
OutGn1	Ch1 Output Video Gain	control	985	0
OutGn2	Ch2 Output Video Gain	control	985	1

Web Browser Interface

The web browser interface provides a graphical representation of module configuration and monitoring.

Use of the web interface offers the following considerations on most modules:

- Provides complete access to all module status and configuration functions, including naming of inputs and outputs, factory parameter and name default recalls, E-MEM functions, slot configuration, and SNMP monitoring controls.
- Web access will require some normal network time delays for processing of information.
- Configuration parameter changes may require pressing **Apply** button or **Enter**, upload processing time, and a manual screen refresh to become effective.
- Web interface recommended for setting up module signal and slot names, E-MEMS, and reporting status for SNMP and monitoring.

Refer to the Frame Status page shown in [Figure 8 on page 20](#). The 8900 modules can be addressed by clicking either on a specific module icon in the frame status display or on a module name or slot number in the link list on the left.

Note The physical appearance of the menu displays on the web pages shown in this manual represent the use of a particular platform, browser and version of 8900NET module software. They are provided for reference only. Displays will differ depending on the type of platform and browser you are using and the version of the 8900NET software installed in your system. This manual reflects 8900NET software version 3.2.2.

For information on status and fault monitoring and reporting shown on the Status page, refer to *Status Monitoring on page 35*.

Figure 8. Gecko 8900 Frame Status Page

The Links section lists the frame and its current modules. The selected link's Status page is first displayed and the sub-list of links for the selection is opened. The sub-list allows you to select a particular information page for the selected device.

Content display section displays the information page for the selected frame or module (frame slot icons are also active links).

Refresh button for manual update of page

Status

Model: 8900TFN-V Description: Module Frame
 Frame Location: 8900: QA Bay 1
 Frame Health Alarm **WARNING** Temperature Status **Pass**
WARNING - Module Data or Config Errors

Module	Empty	Empty	Module	Empty	Module	Empty	Empty	Empty	Empty	Empty	Net Card	Empty	Power Supply
--------	-------	-------	--------	-------	--------	-------	-------	-------	-------	-------	----------	-------	--------------

Front Cover No Cover

Properties

Vendor	Thomson, Grass Valley	Software Version	3.2.2
Media Slots	10	Network Config	Network configuration stored on frame

[Bay 1 QA 8900 Video](#)
[Status](#)
[Configuration](#)
[Connections](#)
[1 8964MON](#)
[2 Media Slot 2](#)
[3 Media Slot 3](#)
[4 8964ENC](#)
[5 Media Slot 5](#)
[6 8990ARC](#)
[7 Media Slot 7](#)
[8 Media Slot 8](#)
[9 Media Slot 9](#)
[10 Media Slot 10](#)
[11 8900NET](#)
[12 Power Supply 1](#)
[13 Power Supply 2](#)

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8964MON Links and Web Pages

The 8900 GUI provides the following links and web pages for the 8964MON module (Figure 9):

- Status – reports input and reference signal status and module information (page 22),
- I/O Config – shows a graphic representation of inputs and outputs to the module and allows naming of each input (page 24),
- Functional View – shows a block diagram of the module with links to each configuration web page (page 25),
- Module Configuration web pages for setting up the module (page 26),
- Slot Config – provides a Locate Module function and Slot Memory (page 30), and
- Software Update – allows updating of software from a CD-ROM or the web site (page 32).

Figure 9. 8964MON Web Page Links

[1 8964MON](#)
[Status](#)
[I/O Config](#)
[Functional View](#)
- [SDI In](#)
- [Composite Out](#)
[Slot Config](#)
[Software Update](#)

Status Web Page

- Use this link
- [1 8964MON](#)
 - [Status](#)
 - [I/O Config](#)
 - [Functional View](#)
 - [SDI In](#)
 - [Composite Out](#)
 - [Slot Config](#)
 - [Software Update](#)

The Status web page (Figure 11 on page 23) shows the input signal status of each of the SDI input channels. Outputs are not monitored. Embedded audio detection is reported on each SDI input inside the Status graphic (see Note and Figure 10 below) and in text format below the Status graphic.

Color coding of the display indicates the signal status. Refer to *Status Monitoring* on page 35 for an explanation of the color coding.

Information about the module, such as part number, serial number, hardware revision and software and firmware versions are given in a read-only section at the bottom of the display. Enabled options are also reported.

An Asset Tag identifier can be assigned to the module on the Slot Config web page (see *Slot Config Web Page* on page 30).

Clicking on the model number in the center box will take you to the Functional View web page illustrating a block diagram overview of the module with links to each of the configuration web pages.

Note The graphics boxes inside the Status graphic are only active for reporting embedded audio when the frame has an 8900NET module running software version 4.0.0 or later. If the 8900NET software in the frame is not at this version, the Status graphic will appear as shown in Figure 10. To acquire the latest 8900NET software, refer to *8900NET Module Information* on page 18.

Figure 10. Status Web Page without Embedded Audio Detection

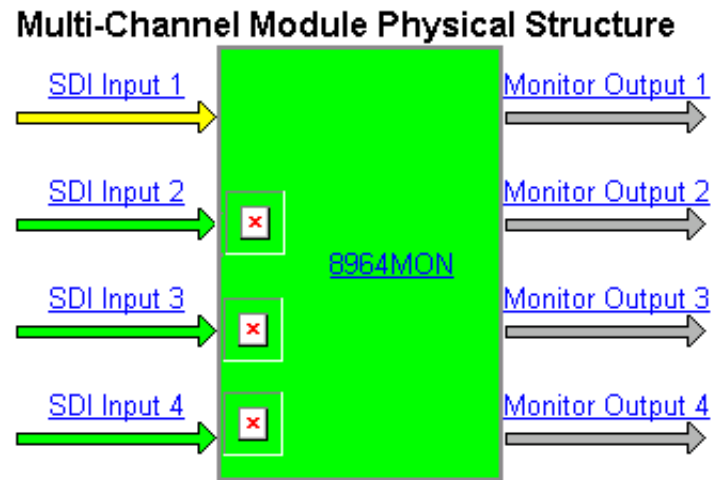
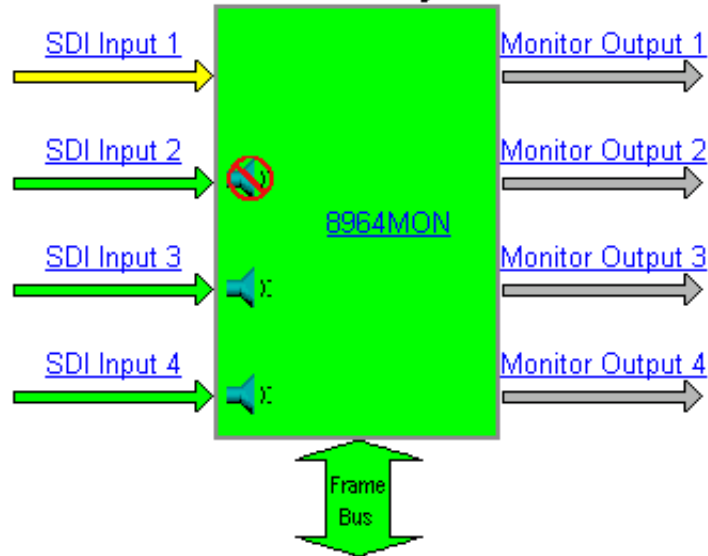


Figure 11. 8964MON Status Web Page (8900NET Software 4.0 and Later)



Model: [8964MON](#) Description: 4 Channel SDI to NTSC/PAL Monitor
 Frame Location: [8900: QA Bay 1](#) , Slot: 1

Multi-Channel Module Physical Structure



WARNING - SDI In 1 is not present

SDI Input 2: No Embedded Audio
 SDI Input 3: Embedded Audio Detected
 SDI Input 4: Embedded Audio Detected

Part Number: 671-6477
Serial Number: VT123456
Hardware Revision: 20
Firmware Version: 2
Software Version: 1.0.0
Asset Tag:

I/O Config Web Page

Use this link

- [1 8964MON](#)
- [Status](#)
- [I/O Config](#)
- [Functional View](#)
- [SDI In](#)
- [Composite Out](#)
- [Slot Config](#)
- [Software Update](#)

The I/O Config web page (Figure 12) shows the rear input and output connections to the module and allows you to name each input. Type the desired input name (up to 11 characters) into the corresponding box. The status of each input is indicated by the color of the display.

Note Outputs are not monitored in this application.

SNMP trap reporting of each channel input can be enabled or disabled by selecting or deselecting the corresponding checkbox in the **Reporting** column. You may disable reporting for channels not being used if desired. The **Reporting** column is also used when an SNMP monitoring application such as NetCentral is installed.

Refer to *Status Monitoring* on page 35 for an explanation of the color coding and using an SNMP monitoring application.

Figure 12. 8964MON I/O Config Web Page



Model: 8964MON Description: 4 Channel SDI to NTSC/PAL Monitor
 Frame Location: 8900: QA Bay 1 , Slot: 1

Rear Connections

Signal Names	Reporting				
<input type="text" value="Input 1"/>	<input checked="" type="checkbox"/> Enabled	J1 SDI Input 1			J2 Monitor Output 1
<input type="text" value="Input 2"/>	<input checked="" type="checkbox"/> Enabled	J3 SDI Input 2			J4 Monitor Output 2
<input type="text" value="Input 3"/>	<input checked="" type="checkbox"/> Enabled	J5 SDI Input 3			J6 Monitor Output 3
<input type="text" value="Input 4"/>	<input checked="" type="checkbox"/> Enabled	J7 SDI Input 4			J8 Monitor Output 4
		J9 Unused			J10 Unused

Functional View Web Page

Use this link

- [1 8964MON](#)
- [Status](#)
- [I/O Config](#)
- [Functional View](#)
- [- SDI In](#)
- [- Composite Out](#)
- [Slot Config](#)
- [Software Update](#)

The Functional View web page (Figure 13) illustrates a block diagram of the 8964MON module showing module functions and signal paths that are active or inactive in the current configuration. It can be used as a link map for configuring module functions. Each block has a link to the configuration web page for that function.

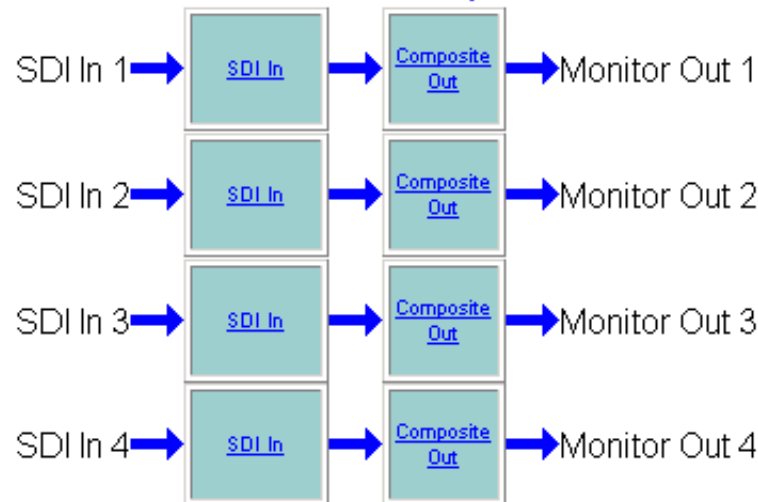
Color coding indicates active functions and signal flow. Grayed components are inactive due to hardware and/or software constraints. Underlined module functions are links to the web page for that function.

Use the Functional View to configure the 8964MON module in the order of the signal flow. Refer to each of the module configuration web pages given in the next section.

Figure 13. 8964MON Functional View Web Page

Functional View

Model: [8964MON](#) Description: [4 Channel SDI to NTSC/PAL Monitor](#)
 Frame Location: [8900: QA Bay 1 , Slot: 1](#)



Module Configuration Pages

Module configuration is provided for the following functions with the web page GUI interface:

- SDI In (page 26)
- Composite Out (page 28)

Read-only information about the module is given on the top of each web page including model name and description, frame and slot location.

When a channel is selected to configure, the input name (as defined on the I/O Config web page) will be displayed under the selected channel or will show the default name. Each channel will show the signal reference type (NTSC or PAL).

Select the **Back**, **Functional View**, or **Next** link to navigate to the next function or use the links on the left of the web page.



Click on the **Refresh** button at the top of the display to update the entire display.

SDI In Web Page

The SDI In web page (Figure 14 on page 27) provides the following status information on each of the SDI video inputs:

- Input Signal State (**Present** or **Not Present**)
- Input Signal Line Rate (**525** or **625**)
- Detected EDH Errors (the number of errors will appear or **No Error Info** will be reported when there is no input signal as shown in Figure 14.)

Press the **Clear Errors** button for each channel to reset the error counter and begin a new error counting sequence or the **Clear All Errors** button to clear all channel counters.

Errors are also reset when the module is removed and re-installed or the signal is lost and then returns.

A link is provided in each channel (**Channel 1-4 Next**) that opens the Composite Out web page with the selected channel active.

[1 8964MON](#)
[Status](#)
[I/O Config](#)
[Functional View](#)
- [SDI In](#)
- [Composite Out](#)
[Slot Config](#)
[Software Update](#)

Use
this
link

Figure 14. 8964MON SDI In Web Page



Model: [8964MON](#) Description: 4 Channel SDI to NTSC/PAL Monitor
 Frame Location: [8900: QA Bay 1](#) , Slot: 1

Channel 1:	Input 1
Input Signal State	Present
Input Signal Line Rate	525
Detected Errors	No Error Info
<input type="button" value="Clear Errors"/>	Channel 1 Next
Channel 2:	Input 2
Input Signal State	Not Present
Input Signal Line Rate	-
Detected Errors	No Error Info
<input type="button" value="Clear Errors"/>	Channel 2 Next
Channel 3:	Input 3
Input Signal State	Not Present
Input Signal Line Rate	-
Detected Errors	No Error Info
<input type="button" value="Clear Errors"/>	Channel 3 Next
Channel 4:	Input 4
Input Signal State	Not Present
Input Signal Line Rate	-
Detected Errors	No Error Info
<input type="button" value="Clear Errors"/>	Channel 4 Next
<input type="button" value="Clear All Errors"/>	

[Back](#)

[Functional View](#)

[Next](#)

- Use
this
link
- [1 8964MON](#)
 - [Status](#)
 - [I/O Config](#)
 - [Functional View](#)
 - [SDI In](#)
 - [Composite Out Slot Config](#)
 - [Software Update](#)

Composite Out Web Page

Use the Composite Out web page (Figure 15 on page 29) to make final adjustments to the composite output video on each channel or all channels together. Select the channel to be adjusted from the **Channel 1– 4** buttons.

Set the following adjustments for each channel with this web page:

- Enable a color bars test signal by selecting the **Color Bars** radio button.
- In 525 mode, the **Setup** section will appear with an **Add** checkbox enabled by default. Uncheck the **Add** checkbox to remove setup from the output video if desired.
- Adjust the percent of Output Video Gain on each channel relative to 100%.



Use the single or double arrow keys to change gain values then click on the **Apply** button to activate gain settings. You may also enter a value in the field with a keyboard and select the **Enter** key to activate the value.

Each of the four output channels can be adjusted separately or settings can be applied to other or all channels. Use the **Apply Setting To (Channel 1, 2, 3 or 4 as applicable) or All** buttons to apply the same values to the other channels selected or all channels.

To reset the current channel or all channels to factory defaults, select the Reset defaults for **Current Channel** or **All Channels** buttons.

Note VBI data is automatically blanked on all output channels.

Figure 15. 8964MON Composite Out Web Page

 **Composite Out** 

Model: [8964MON](#) Description: [4 Channel SDI to NTSC/PAL Monitor](#)
 Frame Location: [8900: QA Bay 1](#) , Slot: [1](#)

Channel 1	Channel 2	Channel 3	Channel 4
Input 1	Input 2	Input 3	Input 4
Test Signal Generator: <input checked="" type="radio"/> Disable <input type="radio"/> Color Bars			
Input Video: NTSC		Setup: <input checked="" type="checkbox"/> Add	
Output Video Gain (%) << 100.0 >> < Apply >			
Apply Settings To:	Channel 2	Channel 3	Channel 4 All
Reset Defaults For:	Current Channel	All Channels	

[Back](#) [Functional View](#) [Next](#)

Slot Config Web Page

[1 8964MON](#)
[Status](#)
[I/O Config](#)
[Functional View](#)
[- SDI In](#)
[- Composite Out](#)
[Slot Config](#)
[Software Update](#)

Use
this
link

Use the Slot Config web page (Figure 16 on page 31) to perform the following functions on the 8964MON module:

- **Locate Module** – selecting **Flash** from the **Locate Module** pulldown flashes the yellow COMM and CONF LEDs on the front of the module so it can be located in the frame.
- **Slot Identification** – You may type a specific name in the **Name** field. The assigned name is stored on the 8900NET module and travels with the 8900NET module if it is moved to another frame. Select **Default** to enter the factory default module name.

An asset identifier may be entered into the **Asset Tag** field for inventory purposes (functionality requires 8900NET software 3.2.2 or later). The asset tag will appear on the Status web page and can be used in the Inventory function with the NetConfig Network Configuration application.

- **Slot Memory** – the slot configuration for each media module is automatically saved periodically (once an hour) to the 8900NET module in that frame. You may also select the **Learn Module Config** button at any time to save the current configuration for this slot. The configuration is saved on the 8900NET module. If the 8900NET module is removed or powered down, the stored configurations are not saved.

When the **Restore upon Install** box has been checked, the current configuration saved to this slot is saved as slot memory. When the current module is removed and another module of the same type is installed, the configuration saved to the 8900NET module will be downloaded to the new module. The box must be checked before the current module with the saved configuration is removed.

- **Hardware Switch Controls** – a read-only status report of 8900NET module switch settings for Module Status Reporting and Asynchronous Status Reporting. These functions must be enabled for the following Slot SNMP Trap Reports to function.
- **Frame Health Reporting** – this function is not used on the current version of 8900NET software which controls this page.
- **Slot SNMP Trap Reports** – displayed only when the SNMP Agent software has been installed on the 8900NET module. Slot SNMP traps can be enabled only when the hardware switches for Module Fault reporting and Asynchronous Status reporting are enabled on the 8900NET module (dipswitch S1 segment 5 and dipswitch S2 segment 1).

The enabled SNMP traps will be reported to any SNMP manager that is identified as an SNMP Report Destination in 8900NET configuration. Trap severity is read-only hard-coded information that is interpreted and responded to by the SNMP Manager software configuration.

Figure 16. 8964MON Slot Config Web Page

 **Slot Config** 

Model: [8964MON](#) Description: [4 Channel SDI to NTSC/PAL Monitor](#)
 Frame Location: [8900: QA Bay 1](#) , Slot: [1](#)

Locate Module

▼

Slot Identification

Name:

Asset Tag:

Slot Memory

Restore upon Install

Frame Health Reporting

	Slot Fault	Signal Loss	Reference Loss
Enabled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Hardware Switch Controls

Module Status Reporting: [Enabled](#) Asynchronous Status Reporting: [Enabled](#)

Slot SNMP Trap Reports

	Slot Fault	Module Removed	Signal Loss	Reference Loss
Enabled	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Trap Severity	Alarm	Warning	Warning	Warning

Software Update Web Page

- Use this link
- [1 8964MON](#)
 - [Status](#)
 - [I/O Config](#)
 - [Functional View](#)
 - [SDI In](#)
 - [Composite Out](#)
 - [Slot Config](#)
 - [Software Update](#)

The Software update web page (Figure 17) allows updating of 8964MON software from remote locations such as a CD-ROM or the Grass Valley web site. For instructions on updating to the latest software, refer first to the 8964MON Release Notes that accompany the software update for complete details.

Updating with this method requires the use of an ftp server application available from the Grass Valley web site. Refer to the 8900NET Network Interface Instruction Manual for instructions for installing and using the ftp server application.

Software updates may also be performed using the NetConfig application available from Grass Valley. Refer to the NetConfig Instruction Manual for more information.

Figure 17. 8964MON Software Update Web Page



Model: [8964MON](#) Description: [4 Channel SDI to NTSC/PAL Monitor](#)
 Frame Location: [8900: QA Bay 1](#) , Slot: [1](#)
 Software Version: [1.0.0](#) Firmware Version: [2](#)
[Enter Username, Password and File to Initiate Update](#)

	selection	current setting
FTP Server Address:	<input type="text" value="10.16.4.103"/>	10.16.4.103
File Path:	<input type="text" value="Enter Filename Here"/>	Enter Filename Here
FTP UserName:	<input type="text"/>	
FTP Password:	<input type="text"/>	
	<input type="button" value="Apply"/>	

Specifications

Table 6. 8964MON Specifications

Parameter	Value
SDI Input (per channel)	
Number of inputs	4, one for each encoder
Signal type	SMPTE 259M, 10-bit 270 Mb/s serial component digital
Signal source	75 Ω terminating BNC on rear of frame
Return loss	> 15 dB, 5 to 270 MHz
Error checking	EDH monitored
Composite Output (per channel)	
Number of outputs	4, one for each encoder
Signal type	Composite analog video conforming to SMPTE170M for NTSC and CCIR624 for PAL
Connector type	75 Ω BNC
Signal level	1 V p-p nominal, adjustable in ± 3 dB range
Output return loss	> 40 dB to 5.0 MHz
Signal to noise	> 70 dB to 6 MHz
Field time distortion	< 0.5%
Line time distortion	< 0.5%
K-2T	< 1%
K-PB	< 1%
Frequency response	± 0.1 dB to 5 MHz
Differential phase	< 0.5 degrees
Differential gain	< 0.7%
Chroma luma delay	< 10 ns
Chroma luma gain	< 1%
Performance	
Quantization	10-bit
Accuracy	9.2-bit EDH detection
Output phasing	Full frame with frame synchronizer firmware
Cable length	300M of 1694A cable
Environmental	
Frame temperature range	0 to 45 degrees C
Operating humidity range	0 to 90% non-condensing
Mechanical	
Frame type	Gecko 8900 Video
Power Requirements	
Supply voltage	+ 12V
Power consumption	< 8.5 W (2 A fast blow fuse)

Service

The 8964MON modules make extensive use of surface-mount technology and programmed parts to achieve compact size and adherence to demanding technical specifications. Circuit modules should not be serviced in the field unless directed otherwise by Customer Service.

If your module is not operating correctly, proceed as follows:

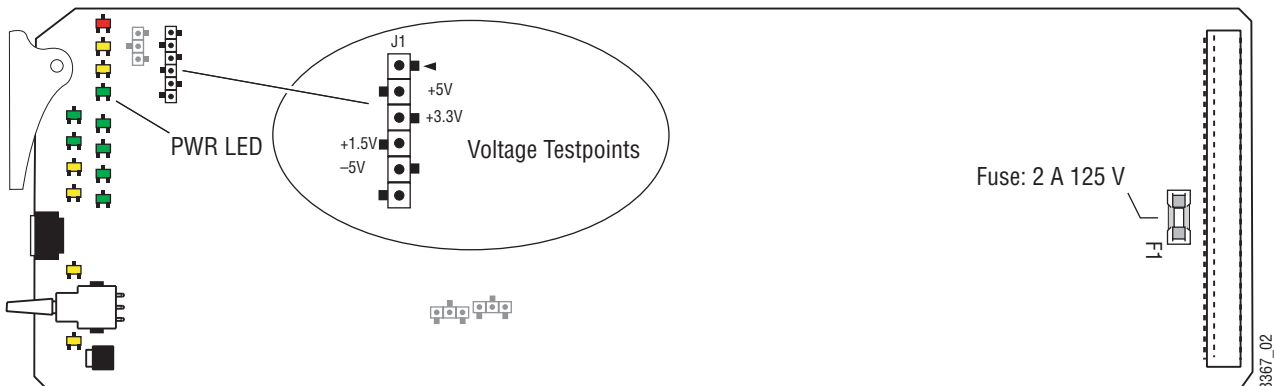
- Check frame and module power and signal present LEDs.
- Verify power at the voltage testpoints (see [Figure 18](#)) and check fuse if no voltage is detected.
- Check for presence and quality of input signals.
- Verify that source equipment is operating correctly.
- Check cable connections.
- Check output connections for correct I/O mapping (correct input connector is used for the corresponding channel output).

Refer to [Figure 18](#) for the location of PWR LED and [Table 2 on page 12](#) for proper LED indications.

If the module is still not operating correctly, replace it with a known good spare and return the faulty module to a designated Grass Valley repair depot. Call your Grass Valley representative for depot location.

Refer to the [Contacting Grass Valley](#) at the front of this document for the Grass Valley Customer Service Information number.

Figure 18. 8964MON Fuse and Voltage Testpoint Locations



Status Monitoring

This section provides a summary of status monitoring and reporting for a Gecko 8900 Series system. It also summarizes what status items are reported and how to enable/disable reporting of each item. There are a number of ways to monitor status of modules, power supplies, fans and other status items depending on the method of monitoring being used.

8900 Frame status will report the following items:

- Power supply health,
- Status of fans in the frame front cover,
- Temperature,
- Module health, and
- Frame bus status.

Module health status will report the following items:

- Internal module state (and state of submodule or options enabled) including configuration errors (warning), internal faults, and normal operation (Pass).
- Signal input states including valid/present (pass), not present or invalid (warning), not monitored, and not available (no signal inputs).
- Reference input states including locked/valid (pass), not locked/invalid (warning), and not monitored.
- Signal output states with reporting functionality (reference output).

LEDs

LEDs on modules in the frame and on the front of the 8900TF/TFN frames indicate status of the frame and the installed power supplies, fans in the front covers, and modules. (The 8900TX-V/A frames have no LED indicators on the front cover.)

When a red FAULT LED is lit on a frame front cover, the fault will also be reported on the 8900NET or Frame Monitor module. The LEDs on the front of these modules can then be read to determine the following fault conditions:

- Power Supply 1 and 2 health,
- Fan rotation status,
- Frame over-temperature condition,
- Frame Bus fault (8900NET only), and
- Module health bus.

In general, LED colors used on the frame and modules indicate:

- Green = normal operation, (Pass) or signal present, module locked.
- Red – On continuously = fault condition, flashing = configuration error.
- Yellow – On continuously = active condition (configuration mode or communication), flashing in sequence = module locator function.

Status LEDs for this module are described in [Operation Indicator LEDs on page 11](#). LEDs for the 8900NET module are described in the *8900NET Network Interface Instruction Manual*.

Frame Alarm

A Frame Alarm connection is available on pins 8 and 9 of the RS-232 connector on the rear of 8900 frame (Frame Monitor or 8900NET Network Interface module required). This will report any of the status items enabled with the 8900NET or Frame Monitor module configuration DIP switch. Connection and use of the Frame Alarm is covered in detail in the *8900NET Network Interface Instruction Manual*.

Web Browser Interface

When the 8900NET module is installed in the frame, a web browser GUI can indicate frame and module status on the following web pages:

- Frame Status web page – reports overall frame and module status in graphical and text formats.
- Module Status web page – shows specific input and reference signal status to the module along with enabled options and module versions.
- A Status LED icon on each web page to report communication status for the frame slot and acts as a link to the Status web page where warnings and faults are displayed (8900NET version 3.0 or later).

In general, graphics and text colors used indicate the following:

- Green = Pass – signal or reference present, no problems detected.
- Red = Fault – fault condition.
- Yellow = Warning – signal is absent, has errors, or is mis-configured.
- Gray = Not monitored (older 8900 module).
- White = Not present.

Status reporting for the frame is enabled or disabled with the configuration DIP switches on the 8900NET module. Most module status reporting items can be enabled or disabled on individual configuration web pages.

SNMP Reporting

The Gecko 8900 Series system uses the Simple Network Monitoring Protocol (SNMP) internet standard for reporting status information to remote monitoring stations. When SNMP Agent software is installed on the 8900NET module, enabled status reports are sent to an SNMP Manager such as the Grass Valley's NetCentral application.

There are both hardware and software report enable switches for each report. Both must be enabled for the report to be sent. Software report switches are set on the 8900NET Configuration web page for the Frame, the 8900NET module, and each module slot. Refer to the *8900NET Network Interface Instruction Manual* for installation instructions.

Index

Numerics

- 2ND LED 12
- 8900 frame
 - frame alarm 36
 - module capacity 8
 - status reporting 35
- 8900NET module
 - installation 8
 - required software version 8
- 8964MON
 - features 7

A

- Apply button 28
- Asset Tag
 - assigning 30
 - overview 22

B

- backplane 9

C

- cabling
 - inputs 10
 - outputs 10
- CH1-4 LEDs 12
- Clear Errors button 26
- CM0 LED 12, 15
 - channel indication table 16
- CM1 LED 12, 15
 - channel indication table 16
- COMM LED 12
- Composite Out web page 28
- composite video outputs
 - cabling 10
 - configuration 13
- CONF LED 12, 15
- configuration

- control summary 14
 - Local, onboard 15
 - overview 13
 - Remote, GUI 18

- connectors 9
- control panel 18
- controller module 8
- CSM LED 12, 15

D

- documentation online 2

E

- enable SNMP 37
- environmental 33

F

- factory defaults 11
 - control summary 14
 - local control 17
 - remote control 28
 - summary table 14
- FAQ database 2
- FAULT LED
 - states 12
 - troubleshooting 35
- Frame Controller module 8
- Frame Status page 36
- frequently asked questions 2
- Function rotary switch
 - settings table 17
- Functional View web page 25
- fuse 34

G

- Gecko frame 8, 33
- graphical user interface (GUI) 21

Grass Valley web site 2

I

I/O Config web page 24

inputs

 cabling 10

 specification 33

installation 8

J

jumper

 Local/Remote 17

L

LEDs

 front edge 11

 Names and Meanings table 12

Local/Remote jumper 17

locate module 30

M

module

 controller 8

 installation 8

 power supply 8

 slots 9

module health status 35

Module Status page 36

N

NetConfig

 software updating 32

Newton Control Panel 18

O

online documentation 2

output video gain

 local control 17

 overview 13

 remote control 28

 summary table 14

outputs

 composite video 10

 specification 33

overlay 10

P

power 33

power supply 8

PWR LED 12

R

rear connectors 9

Refresh button 26

repair depot 34

report enable switches 37

S

SDI IN In web page 26

serial digital inputs 10

setup

 local control 17

 overview 13

 summary table 14

Slot Config web page 30

slot memory 30

SNMP reporting

 enabling 30

 overview 37

software download from web 2

Software Update web page 32

status monitoring 35

Status web page 22

switches

 onboard control 15

T

test signal

 local control 17

 overview 13

 remote control 28

 summary table 14

testpoints 34

troubleshooting [34](#)

V

VBI data [28](#)

voltage [33](#)

voltage tespoints [34](#)

W

web browser

 overview [19](#)

web site

 documentation [2](#)

 FAQ database [2](#)

 Grass Valley [2](#)

 software download [2](#)

