

# 8964FS

4-CHANNEL VIDEO FRAME SYNCHRONIZER

Instruction Manual

SOFTWARE VERSION 1.0.1

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# Contents

- Preface**..... 5
  - About This Manual ..... 5
  
- 8964FS 4-Channel Video Frame Synchronizer**
  - Introduction ..... 7
  - Installation ..... 8
    - 8900NET Software Requirement ..... 8
    - Frame Capacity ..... 8
    - Module Placement in the Gecko 8900 Frame ..... 8
  - Cabling ..... 10
    - Inputs ..... 10
    - Outputs ..... 10
    - Reference Loop-through Input ..... 10
  - Power Up ..... 11
    - Operation Indicator LEDs ..... 11
  - Configuration..... 13
    - Configuration Summary..... 13
      - Video Timing and Freeze Controls ..... 13
      - Vertical Blanking Interval Controls..... 14
      - Video Processing Adjustments ..... 15
      - Reference Input Sync..... 15
      - Configuration Summary Table ..... 16
    - Local Onboard Module Configuration..... 17
      - Configuration Switches and Controls..... 17
      - Onboard Jumpers..... 19
      - 8964FS Module Onboard Configuration Settings ..... 20
    - Remote Configuration and Monitoring ..... 22
      - 8900NET Module Information..... 22
      - Newton Control Panel Configuration..... 22
      - Web Browser Interface ..... 23
      - Status Web Page..... 26
      - I/O Config Web Page ..... 28
      - Functional View Web Page..... 29
      - Module Configuration Pages ..... 30
        - E-MEM Page..... 37
        - OSD Control Web Page..... 41
        - Slot Config Page..... 42
        - Software Update Web Page ..... 44
  - Specifications ..... 45
  - Service..... 47
  - Status Monitoring ..... 48
    - LEDs ..... 48
    - Frame Alarm ..... 49

*Contents*

Web Browser Interface.....	49
SNMP Reporting.....	50
<b>Index.....</b>	<b>51</b>

# *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 8900 Frames Instruction Manual*).



# *8964FS 4-Channel Video Frame Synchronizer*

## **Introduction**

The 8964FS module offers four independent frame synchronizers on one module. Frame synchronization is performed from an external reference and additional vertical and horizontal delay can be applied to each channel output.

The 8964FS features the following:

- Four 270 Mb/s SDI signal paths with independent controls for:
  - Horizontal and vertical timing adjustments
  - Auto and manual freeze modes
  - Proc amp controls
  - Line-by-line VBI blanking
  - Test signal generator (color bars output)
- Passes horizontal (HANC) interval ancillary data
- EDH insertion on the output signals
- Analog color black NTSC/PAL reference inputs
- An OSD (On Screen Display) can be keyed in and out of video output
- Up to 10 8964FS modules in a 2 RU Gecko™ 8900 video frame providing up to 40 frame synchronizers in one frame
- Remote interface with the 8900NET module (version 3.2.2 or later) providing support for the following:
  - Web browser configuration and control
  - SNMP trap reports for use with NetCentral and other SNMP applications
  - NetConfig Networking application
  - Newton Control Panel control

# Installation

Installation of the 8964FS module is a process of:

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

The 8964FS 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](#)).

## 8900NET Software Requirement

If using an 8900NET module in the frame for remote control, it must be running software version 3.2.2 or higher for proper remote operation of the 8964FS module.

## Frame Capacity

The 8964FS 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
8964FS Modules	4	10	10

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

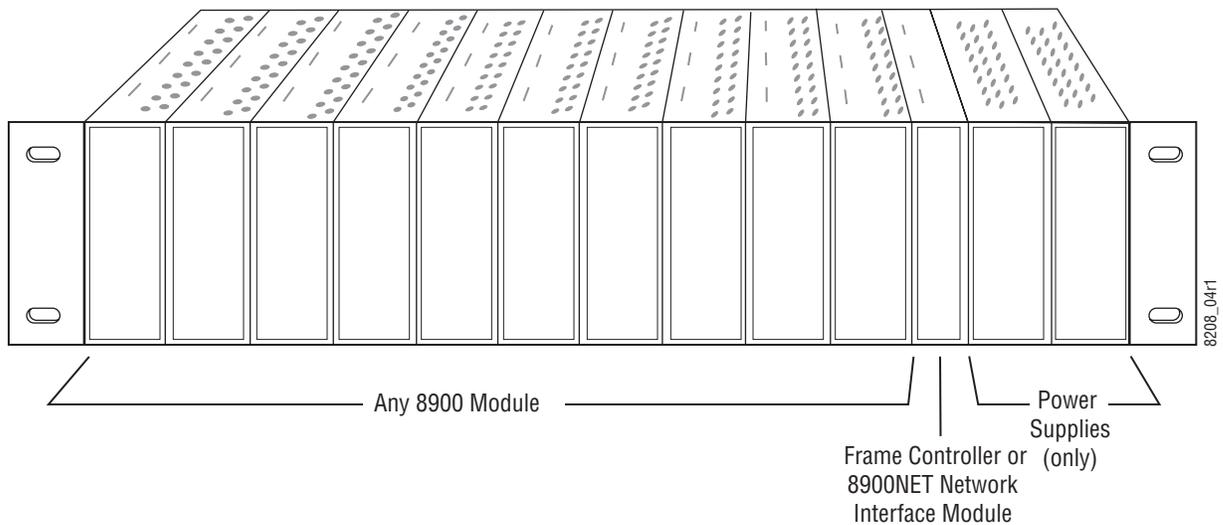
## Module Placement in the Gecko 8900 Frame

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.

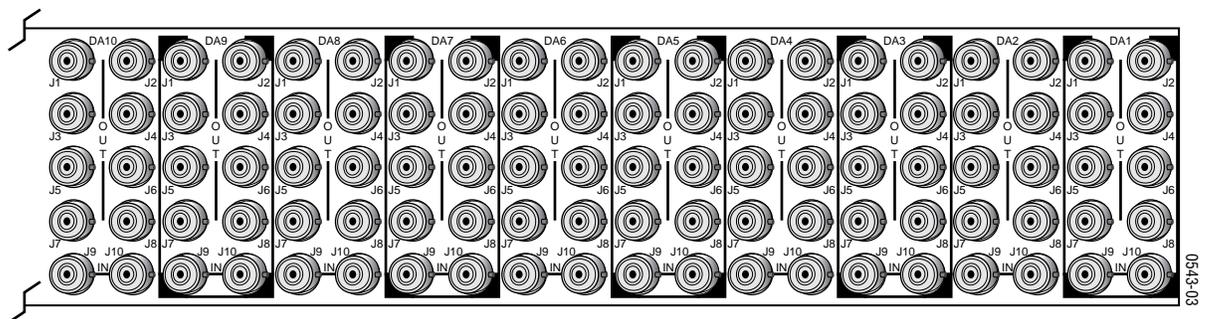
The third cell from the right is allocated for the Frame Monitor or 8900NET Network Interface module. These modules provide health monitoring and control options.

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 8964FS 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.

## Outputs

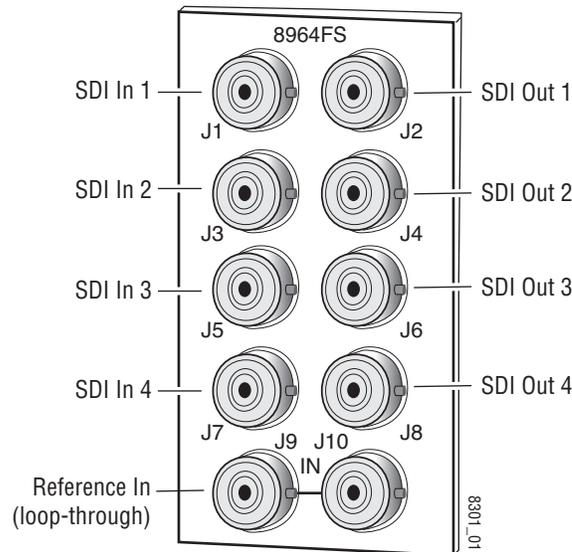
Four corresponding SDI video outputs are provided at BNCs J2, J4, J6, and J8.

## Reference Loop-through Input

Connect an NTSC/PAL analog color black reference source (with Signal to Noise specification of > 40 dB recommended) to one of the loop-through reference connectors, J9 or J10. Terminate the unused connector into 75  $\Omega$  if the signal is not looped to other equipment.

**Note** The line rate for the module (all four channels) will be auto-detected from the Reference In signal. The line rate must match the reference input.

Figure 3. 8964FS 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 video channel is indicated by the CH1–CH4 green LEDs on.

Figure 4. LEDs and Configuration Switches

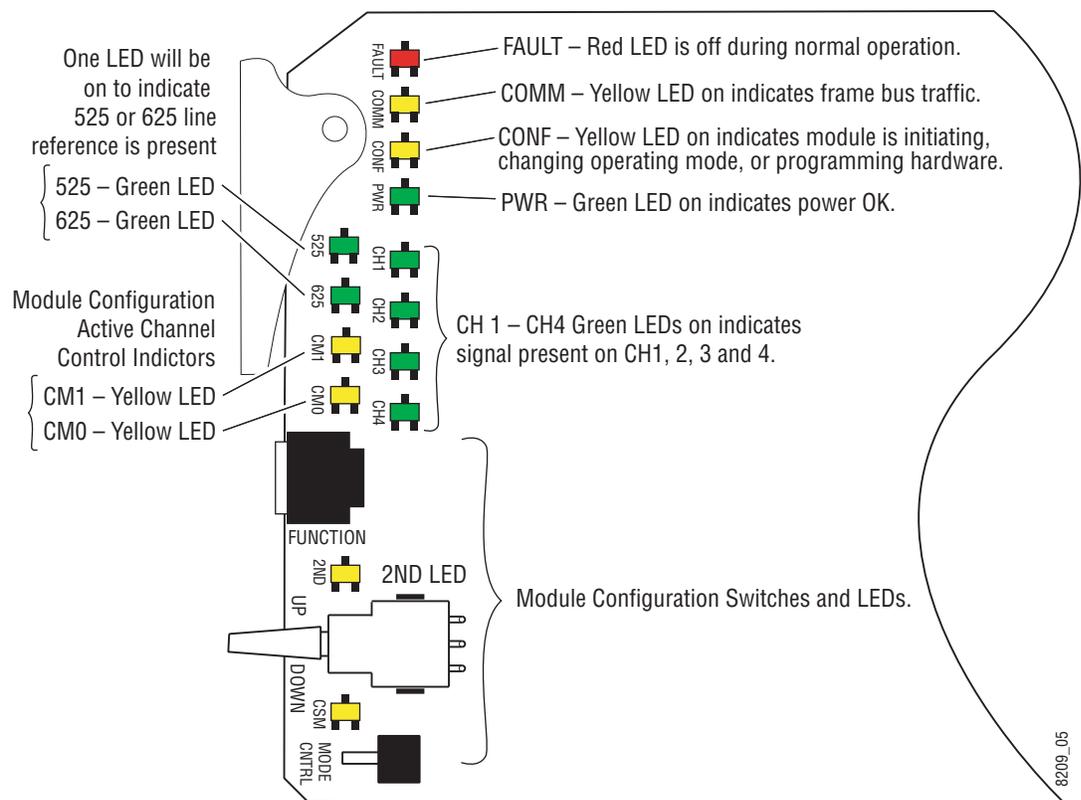


Table 2. Board Edge LED Names and Meaning

LED	Indication	Condition
<b>FAULT</b> <b>(red)</b>	Off	Normal operation.
	On continuously	Module has detected an internal fault. (Refer to <a href="#">Service on page 47.</a> )
	Flashing	Configuration problems. Check inputs and settings. Missing video.
<b>COMM</b> <b>(yellow)</b>	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.
<b>CONF</b> <b>(yellow)</b>	Off	Module is in normal operating mode.
	On continuously	Module is initializing, changing operating modes or programming hardware.
	Flashing	Indicates rate of change of paddle controlled setting.
<b>PWR</b> <b>(green)</b>	Off	No power to module or module's DC/DC converter failed.
	On continuously	Normal operation, module is powered.
<b>625</b> <b>(green)</b>	Off	No reference or standard is other than 625.
	On continuously	Valid 625 video reference is present.
<b>525</b> <b>(green)</b>	Off	No reference or standard is other than 525.
	On continuously	Valid 525 video reference is present.
<b>CM1</b> <b>(yellow)</b>	Off	On/Off combination Indicates what channel is enabled for configuration when Channel Select Mode (CSM) LED is on (described in <a href="#">Table 6 on page 18.</a> )
	On	
<b>CM0</b> <b>(yellow)</b>	Off	
	On	
<b>CH1</b> <b>(green)</b>	Off	No signal present on Channel 1.
	On continuously	Valid signal is present on Channel 1.
	Flashing	Input signal line rate does not match reference.
<b>CH2</b> <b>(green)</b>	Off	No signal present on Channel 2.
	On continuously	Valid signal is present on Channel 2.
	Flashing	Input signal line rate does not match reference.
<b>CH3</b> <b>(green)</b>	Off	No signal present on Channel 3.
	On continuously	Valid signal is present on Channel 3.
	Flashing	Input signal line rate does not match reference.
<b>CH4</b> <b>(green)</b>	Off	No signal present on Channel 4.
	On continuously	Valid signal is present on Channel 4.
	Flashing	Input signal line rate does not match reference.
<b>2ND</b> <b>(yellow)</b>	Off	Rotary switch is addressing Bank 1 configuration functions.
	On continuously	Rotary switch is addressing Bank 2 configuration functions.
<b>CSM</b> <b>(yellow)</b>	Off	Paddle switch controls current Bank parameter mode.
	On continuously	Paddle switch controls channel selection.

# Configuration

The 8964FS 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 17](#))
- Remote Control and Monitoring ([page 22](#))
- Newton Control Panel Configuration ([page 22](#))

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 8964FS module. Use this section in conjunction with the specific configuration method instructions for each configuration type. [Table 5 on page 16](#) 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.

## Video Timing and Freeze Controls

On a 8964FS module, the following timing adjustments are available:

- Horizontal Timing – adjusts the horizontal delay of the channel output in half pixels
- Vertical Timing – adjusts vertical delay in line increments

Also available with the 8964FS are the following freeze controls (one must be selected from the five choices):

- AutoBlue – when AutoBlue is enabled on a channel, the output will automatically freeze to a blue screen when the input signal is lost on that channel.
- AutoFreeze – when AutoFreeze is enabled on a channel, the output will automatically freeze on the last valid field when the input signal is lost on that channel.
- Field 1 – manually freeze the output signal on field 1 of the last frame.
- Field 2 – manually freeze the output signal on field 2 of the last frame.
- Frame – manually freeze the output signal on the last frame.

A field freeze provides less resolution and no motion artifacts in the output. In frame mode, the resolution is higher since both fields are present, but the presentation of the two fields can cause motion artifacts.

## Vertical Blanking Interval Controls

The 8964FS provides line-by-line vertical blanking interval (VBI) processing.

### Line Categories

The line categories used in the configuration of the video signal for the 8964FS are defined as follows:

- F\_Active Lines – the portion of the active video that is fixed and always treated by the module as carrying active video (not programmable).
- P\_Active Lines – lines in the active video that can be configured by the user to carry either active video or be reserved for carrying user data.
- CVBI – the lines in the vertical interval that can be configured by the user.
- FVBI – the line in the vertical blanking interval that are fixed and are not configurable.

The line numbers for each category above are defined in [Table 3](#) for both 525 and 625 line rates.

Table 3. Line Numbers for 8964FS Line Categories

Line Categories				
Label	525		625	
	Start	End	Start	End
F_Active	25 (F1) 288 (F2)	263 (F1) 525 (F2)	29 (F1) 342 (F2)	310 (F1) 623 (F2)
P_Active	21 (F1) 284 (F2)	24 (F1) 287 (F2)	24 (F1) 337 (F2)	28 (F1) 341 (F2)
CVBI	10 (F1) 273 (F2)	20 (F1) 283 (F2)	6 (F1) 319 (F2)	23 (F1) 336 (F2)
FVBI	1 (F1) 264 (F2)	9 (F1) 272 (F2)	624 (F1) 311 (F2)	5 (F1) 318 (F2)

Line pairs in the P\_Active line category can be reserved for carrying data by configuring Data Line Pairs with local or remote controls. Refer to [Table 4](#) for a listing of the Data Line Pairs lines that are available with each setting.

Table 4. Lines Reserved for Carrying Data

525 Line Selection	Data Line Pairs Reserved	625 Line Selection	Data Line Pairs Reserved
None	None	None	None
21/284	21/284	24/337	24/337
22/285	21/284 – 22/285	25/338	24/337 – 25/338
23/286	21/284 – 23/286	26/339	24/337 – 26/339
24/287	21/284 – 24/287	27/340	24/337 – 27/340
		28/341	24/337 – 28/341

### Programmable VBI and Active Picture Lines

The programmable lines in the vertical blanking interval include the configurable VBI lines (CVBI). Configurable active picture lines (P\_Active) can be reserved for carrying data (refer to [Table 4 on page 15](#)).

These line pairs can be configured for the following:

- Blank – in local mode, select On to blank all lines of CVBI or Off to not blank. In remote mode, lines can be blanked or passed on a line-by-line basis with the web page (toothed blanking).

### Video Processing Adjustments

The controls for video processing on each channel are the following:

- Test signal generator – when enable, sends the internal test signal generator 75% Color Bars test signal to the channel output.

**Note** When the internally generated color bars test signal output is enabled, the relative sync and burst may be offset in relation to the input SDI stream timing.

- EDH Insertion – insertion of new EDH can be enabled or disabled (input EDH is always removed).
- HANC – horizontal ancillary data (including embedded audio) may be passed or blanked.

### Reference Input Sync

The module is locked to the reference input sync. The following reference input sync considerations should be noted:

- Jitter performance of the module is influenced by the time base jitter of the reference input sync.

- Reference input sync timing determines the output timing. If a sync changeover is used for the sync reference, the timing of both sync sources must match. This ensures that the timing from the 8964FS remains consistent if the reference input sync switches.

## Configuration Summary Table

Table 5 provides a complete summary of the 8964FS functions and a comparison of the functionality available with each control type along with the ranges and default values for each parameter.

Table 5. Summary of 8964FS Configuration Functions

Function Type	Default	Range/Choices Resolution	Web Page/ Function Name	Function Switch Bank/Setting	Newton Control Panel	Notes/ Conditions
OSD (On Screen Display)	Off	On/Off	OSD Control/ On Screen Display	1:1	N/A	Jumper JP3 must be enabled on module.
Horizontal Timing	0	0 - 857.5 pixels (525) 0 - 863.5 pixels (625) (0.5 pixel steps)	Timing/ Horizontal Timing (pixels)	2:B	HTim 1-4	
Vertical Timing	0	0 - 524 lines (525) 0 - 624 lines (625) (1line steps)	Timing/ Vertical Timing (lines)	2:C	VTim1-4	
Freeze Type	Auto-Blue	AutoFreeze, AutoBlue Field 1, Field 2, or Frame	Timing/Freeze Mode Select AutoFrz, AutoBlue, Field 1, Field 2, or Frame radio button	2:D 2:E 2:F	Frez1-4	
Test Signal Generator	Disable	Disable/Color Bars	Video Proc/ Select Disable or Color Bars radio button	1:C	Tst1-4	Video processing controls
Horizontal ancillary data (HANC)	Pass	Pass or Blank	Video Proc/ Select HANC Pass or Blank radio button	1:4	Hanc1-4	
EDH Insertion	On	On/Off	Video Proc/ Select EDH Inserter On or Off radio button	1:3	EDH 1-4	
Reserve VBI lines for data	None	See <a href="#">Table 4 on page 15</a>	VBI/ Select data line pair buttons	2:1/2:2/2:3 See <a href="#">Table 7 on page 21</a>	N/A	See tables for line rate choices
Blank VBI Lines	On	On/Off	VBI/ Blank VBI/Data Line Pair or use Blank All or Pass All button	2:4	N/A	Line selectable in Remote. Global in Local.
Learn/Recall E-MEM	N/A	E-MEM 1-5	E-MEM/ Standard View: Recall 1-5 Advanced View: Recall/Learn /Save to/Load from	1:E	N/A	E-MEM functions
Recall factory defaults	N/A	See Defaults column	E-MEM/ Recall factory settings button	1:F	N/A	

## Local Onboard Module Configuration

The 8964FS 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 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 18](#) for the following descriptions. Use the onboard configuration components as follows:

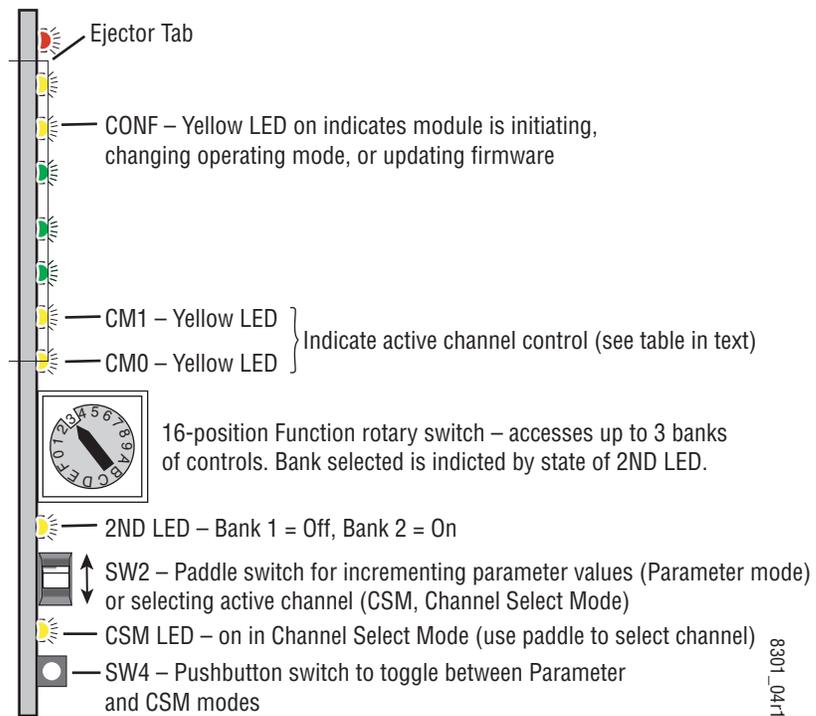
- Function (rotary) switch — This switch accesses a desired function for configuration (see [Table 7 on page 21](#)). The switch addresses up to three banks of functions; each bank has 16 possible positions (0 through 9 and A through F). Not all positions are used.

The next bank of functions is accessed each time the Function switch makes a complete revolution past zero (or back through F): While in Bank 1, a complete revolution past zero accesses Bank 2. The yellow 2ND LED indicates which bank is currently being accessed.

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

- 2ND (second Function) yellow LED – when off, indicates that the rotary switch is addressing the first bank of functions. When on, indicates that the rotary switch is addressing the second bank of functions.
- SW2 (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 SW4.
- 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 6 on page 18](#).
- SW4 (pushbutton) switch – press to toggle assignment of paddle switch SW2 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 6](#) for reading the CM1 and CM0 active channel LED indicators.

Table 6. 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

## Onboard Jumpers

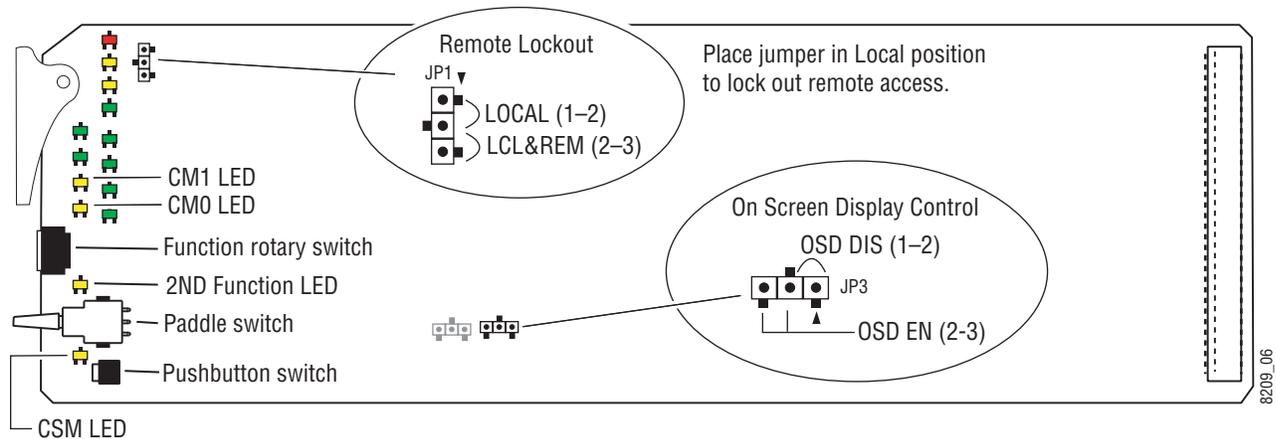
Two onboard jumpers must be set for the following:

- Jumper JP1 allows (LCL&REM position) or locks out (LOCAL position) remote control.
- Jumper JP3, OSD enables (OSD EN pins 2-3) or disables (OSD DIS pins 1-2) control of the OSD (On Screen Display).

The On Screen Display (OSD) graphic can be enabled on the output of each channel to allow viewing of the currently selected Rotary switch function and the currently assigned parameters. The OSD is provided for an aid in configuring the module in local mode and should be turned off on each channel with either the local or remote controls before broadcasting the signal. You may also set this jumper to disable the OSD completely after the module is configured to prevent the OSD information from being put on-air.

When control is enabled with jumper JP3, the OSD for each channel can be turned on or off with either local or remote controls.

Figure 6. Module Configuration Switches and LEDs



## 8964FS Module Onboard Configuration Settings

Onboard configuration is done on a channel-by-channel basis, there is no gang mode (apply settings to all channels). You may use an on-screen display on the output of each channel to view the parameters being adjusted.

Control of the OSD function must first be enabled locally by setting jumper JP3 (Figure 6) to either disabled, OSDIS (pins 1-2), or enabled, OSDEN (pins 2-3). Once OSD control has been enabled with JP3, it can be turned on or off with individual local channel controls (Bank 1/Position 1) or through the web browser (refer to *OSD Control Web Page* on page 41).

To make a configuration setting:

1. Select the channel to be adjusted by pressing pushbutton SW4 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 6 on page 18](#) for reading LED states.
2. When the desired channel is active, use pushbutton SW4 to toggle back to Parameter mode (CSM LED off).
3. Rotate the Function switch to Bank 1 (2ND LED off) or Bank 2 (2ND LED on), then to the desired function within that bank.
4. Move the paddle switch to the up or down position and hold momentarily to set the desired function (refer to [Table 7 on page 21](#)).

**Note** Holding the paddle switch in the up or down position for more than a half second will automatically accelerate through the value range for parameters with 256 or more values. The full range can be accessed in about 10 seconds.

Table 7. Local Rotary and Paddle Switch Functions

	Function Switch Setting	Paddle Switch Up	Paddle Switch Down	Function Description	OSD Text Summary
<b>Bank 1 (2ND LED off)</b>					
<b>Bank 1 (2ND LED off)</b>	0	–	–	Default position for normal operation (parked)	Ch#, Channel Name 1:0 (bank/#) Model # HW ver x.x FW ver x.x SN: xxxxxxxxx
	1	On	Off	Turn OSD (on screen display) on or off	Ch#, Channel Name 1:1 Video: rate or NO Ref: rate or NO On screen disp: (current state) Choices or scroll bar
	2	–	–	Not used	
	3	On	Off	Enable new EDH insertion	1:3 EDH Inserter
	4	Blank	Pass	Blank or pass HANC data	1:4 HANC Data
	5-B	–	–	Not used	
	C	On	Off	Turn output test signal generator on or off	1:C test Signal
	D	–	–	Not used	
	E	>2s Learn	Recall	Hold paddle for more than 2 seconds to learn current channel settings into E-MEM register. Select down to Recall.	1:E >2s Learn
F	–	Recall	Recall factory defaults	1:F Factory default	
<b>Bank 2 (2ND LED on)</b>					
<b>Bank 2 (2ND LED on)</b>	0	–	–	Default position for normal operation (parked).	2:0 (parked position information)
	1	None	21/284 or 24/337	Select P_Active lines to reserve for data (525 or 625). See <a href="#">Table 4 on page 15</a> .	2:1 Rsv for data
	2	22/285 or 25/338	23/286 or 26/339		2:2 Rsv for data
	3	24/287 or 27/340	28/341 (625 only)		2:3 Rsv for data
	4	On	Off	Turn VBI blanking on or off (all VBI lines).	2:4 VBI Blank
	5 – A	–	–	Not used	
	B	Increase	Decrease	Adjust horizontal timing	2:B Horizontal Timing
	C	Increase	Decrease	Adjust vertical timing	2:C Vertical Timing
	D	AutoBlue	Field 1	Select Freeze mode	2:D Frz Mode
	E	Field 2	Frame	Select Freeze mode	2:E Frz Mode
	F	AutoFrz	AutoBlue	Select Freeze mode: AutoFreeze	2:F Frz Mode: AutoFrz

## Remote Configuration and Monitoring

8964FS 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 19](#)).

### 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.

**Note** The 8900NET module in the frame must be running software version 3.2.2 or higher for proper remote and control panel operation. Upgrade software and instructions for the 8900NET can be downloaded from the Grass Valley web site.

### 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 8964FS module are listed in [Table 5 on page 16](#).

An example of the Newton Configurator is shown in [Figure 7 on page 23](#).

Figure 7. Newton Configurator Example

Module (drag and drop from Device View)

Module Name: 8964FS      Frame IP Address: 10 . 16 . 18 . 66      Slot: 1           

PID	IID	Label	Type	Description
51	5	State	switch	Overall Module Status
203	0	InStt1	switch	Ch1 Input Signal State
203	1	InStt2	switch	Ch2 Input Signal State
203	2	InStt3	switch	Ch3 Input Signal State
203	3	InStt4	switch	Ch4 Input Signal State
207	0	RefStt	switch	Reference State
700	0	HTim1	control	Ch1 Horizontal Timing
700	1	HTim2	control	Ch2 Horizontal Timing
700	2	HTim3	control	Ch3 Horizontal Timing
700	3	HTim4	control	Ch4 Horizontal Timing
701	0	VTim1	control	Ch1 Vertical Timing

## 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:

- 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 24](#). 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 required for this module.

For information on status and fault monitoring and reporting shown on the Status page, refer to *Status Monitoring on page 48*.

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 refresh of page

**Bay 1 QA 8900 Video**

- [Status](#)
- [Configuration](#)
- [1 8964FS](#)
- [2 Media Slot 2](#)
- [3 Media Slot 3](#)
- [4 Media Slot 4](#)
- [5 Media Slot 5](#)
- [6 Media Slot 6](#)
- [7 Media Slot 7](#)
- [8 Media Slot 8](#)
- [9 Media Slot 9](#)
- [10 8920MUX](#)
- [11 8900NET](#)
- [12 Power Supply 1](#)
- [13 Power Supply 2](#)

**Status**

Model: [8900TFN-V](#) Description: [Module Frame](#)  
 Frame Location: [8900: QA Bay 1](#)  
 Frame Health Alarm [Pass](#) Temperature Status [Pass](#)

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

Front Cover [No Cover](#)

**Properties**

Vendor	<a href="#">Thomson, Grass Valley</a>	Software Version	<a href="#">3.2.2</a>
Media Slots	<a href="#">10</a>	Network Config	<a href="#">Network configuration stored on frame</a>

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

- Status – reports input and reference signal status and module information (page 26),
- I/O Config – shows a graphic representation of inputs and outputs to the module and allows naming of each input (page 28),
- Functional View – shows a block diagram of the module with links to each configuration page (page 29),
- Module Configuration pages for setting up the module (page 30),
- E-MEM – provides Learn and Recall functions for up to 5 E-MEM registers along with **Save to** and **Load from** file operations (page 37),
- OSD Control – provides controls to enable or disable the OSD for each channel (page 41),
- Slot Config – provides a Locate Module function and Slot Memory (page 42), and
- Software Update – allows updating of software from a CD-ROM or the web site (page 44).

Figure 9. 8964FS Web Page Links

[1 8964FS](#)  
[Status](#)  
[I/O Config](#)  
[Functional View](#)  
- [SDI In](#)  
- [Timing](#)  
- [VBI](#)  
- [Video Proc](#)  
[E-MEM@](#)  
[OSD Control](#)  
[Slot Config](#)  
[Software Update](#)

## Status Web Page

Use  
this  
link

- [1 8964FS](#)
- [Status](#)
- [I/O Config](#)
- [Functional View](#)
- [SDI In](#)
- [Timing](#)
- [VBI](#)
- [Video Proc](#)
- [E-MEM@](#)
- [OSD Control](#)
- [Slot Config](#)
- [Software Update](#)

The Status web page ([Figure 10 on page 27](#)) shows the input signal status of each of the channels and the reference input. Color coding of the display and the Status LED indicates the signal status. Refer to [Status Monitoring on page 48](#) for a complete explanation of the color coding.

When the module detects an error, warning messages, such as signal or reference not present, will appear between the lines below the status graphic as illustrated in [Figure 10 on page 27](#). Refer to the [I/O Config Web Page on page 28](#) for information on disabling the status reporting.

Status of the OSD displays on each output is also shown. A link to the OSD Control web page is provided so the OSD can be enabled or disabled from the browser. For more information on enabling or disabling an OSD display through the web browser, refer to [OSD Control Web Page on page 41](#).

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.

The Asset Tag field is active in frames running 8900NET software version 3.2.2 and later.

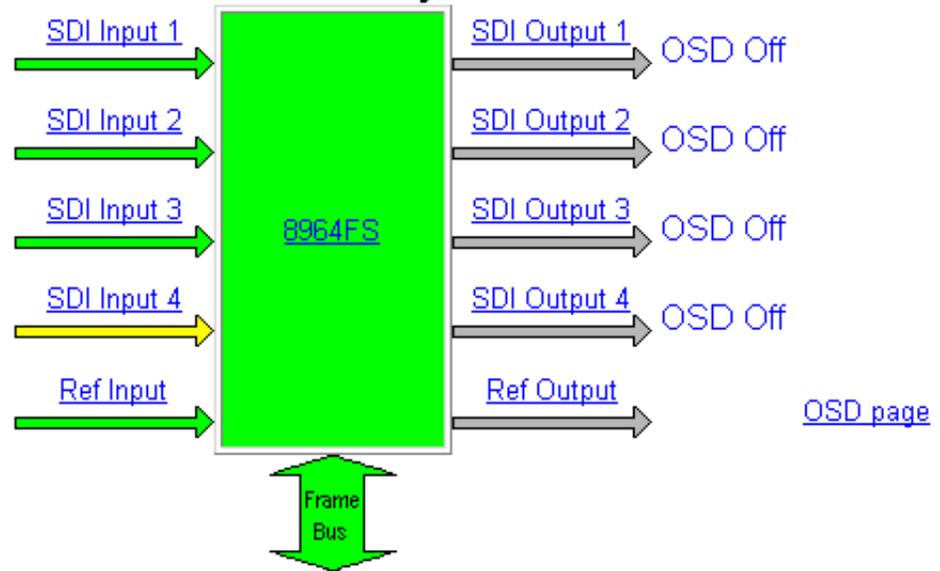
Clicking on the model number in the center box will take you to the Functional View page illustrating a block diagram overview of the module with links to each of the configuration pages.

Figure 10. 8964FS Status Web Page



Model: [8964FS](#) Description: [4 Channel Frame Sync](#)  
 Frame Location: [8900: QA Bay 1 , Slot: 1](#)  
 Last Recalled E-MEM: [Factory Defaults](#)

**Multi-Channel Module Physical Structure**



**WARNING** - SDI In 4 is not present

Part Number: <a href="#">671-6477-50</a>
Serial Number:
Hardware Revision:
Firmware Version: <a href="#">1.0.0</a>
Software Version: <a href="#">1.0.0</a>
Asset Tag: <a href="#">12789</a>

## I/O Config Web Page

- Use this link
- [1 8964FS](#)
  - [Status](#)
  - [I/O Config](#)
  - [Functional View](#)
  - [SDI In](#)
  - [Timing](#)
  - [VBI](#)
  - [Video Proc](#)
  - [E-MEM@](#)
  - [OSD Control](#)
  - [Slot Config](#)
  - [Software Update](#)

The I/O Config web page (Figure 11) 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.

Status 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 to avoid error messages. This will cause the channel section to be grayed out as shown in the example for Input 3 in Figure 11. The **Reporting** column is also used when an SNMP monitoring application such as NetCentral is installed.

Refer to *Status Monitoring on page 48* for an explanation of the color coding and using an SNMP monitoring application.

Figure 11. 8964FS I/O Config Web Page



Model: [8964FS](#) Description: [4 Channel Frame Sync](#)  
 Frame Location: [8900: QA Bay 1](#) , Slot: [1](#)  
 Last Recalled E-MEM: [Factory Defaults](#)

### Rear Connections

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

## Functional View Web Page

- Use this link
- [1 8964FS](#)
  - [Status](#)
  - [I/O Config](#)
  - [Functional View](#)
  - [SDI In](#)
  - [Timing](#)
  - [VBI](#)
  - [Video Proc](#)
  - [E-MEM@](#)
  - [OSD Control](#)
  - [Slot Config](#)
  - [Software Update](#)

The Functional View web page (Figure 12) illustrates a block diagram of the 8964FS 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 page for that function.

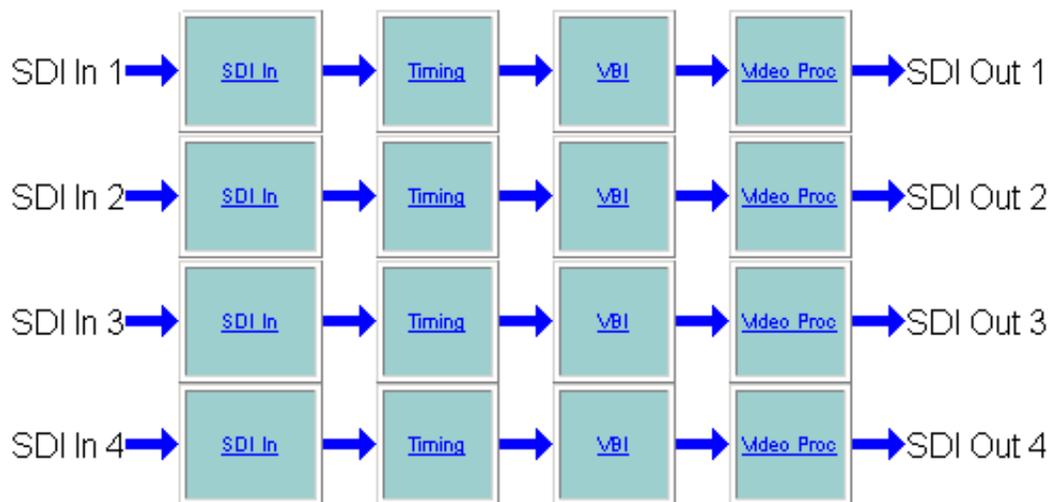
Color coding indicates active functions and signal flow. Grayed components are inactive due to hardware and/or software constraints. Underlined module functions are links to the web page for that function.

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

Figure 12. 8964FS Functional View Web Page



Model: [8964FS](#) Description: [4 Channel Frame Sync](#)  
 Frame Location: [8900: QA Bay 1](#) , Slot: [1](#)  
 Last Recalled E-MEM: [Factory Defaults](#)



## Module Configuration Pages

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

- SDI In ([page 31](#))
- Timing ([page 33](#))
- VBI ([page 34](#))
- Video Proc ([page 36](#))

Read-only information about the module is given on the top of each page including model name and description, current line rate, frame and slot location and last E-MEM register recalled.

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

After making a parameter value change, click on **Apply** to activate settings in each selection. Each of the four 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.

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.

Use  
this  
link

- [1 8964FS](#)
- [Status](#)
- [I/O Config](#)
- [Functional View](#)
- [SDI In](#)
- [Timing](#)
- [VBI](#)
- [Video Proc](#)
- [E-MEM®](#)
- [OSD Control](#)
- [Slot Config](#)
- [Software Update](#)

### SDI In Web Page

The SDI In web page ([Figure 13 on page 32](#)) provides the following status information on each of the SDI video inputs:

- Input Signal State (**Present** or **Not Present**)
- Input Signal Line Rate
- Detected EDH Errors

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.

Figure 13. 8964FS SDI In Web Page



Model: [8964FS](#) Description: [4 Channel Frame Sync](#)

Frame Location: [8900: QA Bay 1](#) , Slot: [1](#)

Last Recalled E-MEM: [Factory Defaults](#)

Current Line Rate:

<b>Channel 1:</b>	<a href="#">Input 1</a>
Input Signal State	<a href="#">Present</a>
Input Signal Line Rate	<a href="#">525</a>
Detected EDH Errors	<a href="#">0</a>
<input type="button" value="Clear Errors"/>	<a href="#">Channel 1 Next</a>
<b>Channel 2:</b>	<a href="#">Input 2</a>
Input Signal State	<a href="#">Not Present</a>
Input Signal Line Rate	<a href="#">-</a>
Detected EDH Errors	<a href="#">No Error Info</a>
<input type="button" value="Clear Errors"/>	<a href="#">Channel 2 Next</a>
<b>Channel 3:</b>	<a href="#">Input 3</a>
Input Signal State	<a href="#">Not Present</a>
Input Signal Line Rate	<a href="#">-</a>
Detected EDH Errors	<a href="#">No Error Info</a>
<input type="button" value="Clear Errors"/>	<a href="#">Channel 3 Next</a>
<b>Channel 4:</b>	<a href="#">Input 4</a>
Input Signal State	<a href="#">Not Present</a>
Input Signal Line Rate	<a href="#">-</a>
Detected EDH Errors	<a href="#">No Error Info</a>
<input type="button" value="Clear Errors"/>	<a href="#">Channel 4 Next</a>
<input type="button" value="Clear All Errors"/>	

[Back](#)

[Functional View](#)

[Next](#)

### Timing Web Page

The Timing web page includes horizontal and vertical timing as well as freeze controls. Table 5 on page 16 gives a summary of controls, defaults, and parameter ranges.

- Use this link
- [1 8964FS](#)
  - [Status](#)
  - [I/O Config](#)
  - [Functional View](#)
  - [SDI In](#)
  - [Timing](#)
  - [VBI](#)
  - [Video Proc](#)
  - [E-MEM@](#)
  - [OSD Control](#)
  - [Slot Config](#)
  - [Software Update](#)

Select the channel to be adjusted from the **Channel 1 – 4** buttons and adjust the following timing controls:

- Horizontal Timing (in pixels)
- Vertical Timing (in lines)

Select one of the following buttons from Freeze Mode:

- **AutoFreeze** – auto freeze to last valid field will occur upon loss of signal.
- **AutoBlue** – auto freeze to blue screen will occur upon loss of signal.
- **Field 1, Field 2, or Frame** – selecting one of these buttons performs an immediate manual freeze on the selected channel output.

Figure 14. 8964FS-FS Timing With Frame Sync and Freeze Controls



Model: [8964FS](#) Description: [4 Channel Frame Sync](#)  
 Frame Location: [8900: QA Bay 1](#) , Slot: [1](#)  
 Last Recalled E-MEM: [Factory Defaults](#)

Current Line Rate:

<b>Channel 1</b>	Channel 2	Channel 3	Channel 4
<b>Input 1</b>	Input 2	Input 3	Input 4
Horizontal Timing (pixels) <input type="button" value="&lt;&lt;"/> <input type="text" value="0.0"/> <input type="button" value="&gt;&gt;"/> <input type="button" value="&lt;"/> <input type="button" value="Apply"/> <input type="button" value="&gt;"/>		Vertical Timing (lines) <input type="button" value="&lt;&lt;"/> <input type="text" value="0"/> <input type="button" value="&gt;&gt;"/> <input type="button" value="&lt;"/> <input type="button" value="Apply"/> <input type="button" value="&gt;"/>	
Freeze Mode <input checked="" type="radio"/> AutoBlue <input type="radio"/> AutoFrz <input type="radio"/> Field 1 <input type="radio"/> Field 2 <input type="radio"/> Frame			
Apply Settings To: <input type="button" value="Channel 2"/> <input type="button" value="Channel 3"/> <input type="button" value="Channel 4"/> <input type="button" value="All"/>			
Reset Defaults For: <input type="button" value="Current Channel"/> <input type="button" value="All Channels"/>			

[Back](#)

[Functional View](#)

[Next](#)

- Use  
this  
link
- [1 8964FS](#)
  - [Status](#)
  - [I/O Config](#)
  - [Functional View](#)
  - [SDI In](#)
  - [Timing](#)
  - [VBI](#)
  - [Video Proc](#)
  - [E-MEM®](#)
  - [OSD Control](#)
  - [Slot Config](#)
  - [Software Update](#)

## VBI Web Page

Use the VBI web page (Figure 15 on page 35 for 525 line rate or Figure 16 on page 35 for 625 line rate) to configure the programmable line pairs in the vertical blanking interval of each channel. Refer to *Vertical Blanking Interval Controls* on page 14 for information on VBI lines. Table 5 on page 16 gives a summary of controls, defaults, and parameter ranges.

Select the channel to be adjusted from the **Channel 1 – 4** buttons. The current line rate for all channels (525 or 625) will appear in the Current Line Rate display.

The display will show each of the programmable VBI line pairs available for that line rate and any Data Line Pairs that have been reserved for carrying data.

Configure the VBI Line Pairs in each channel for the following:

- Blank – select to blank the Field 1/Field 2 line pair. Select the **Blank All** button to blank data on all line pairs or the **Pass All** button to pass data on all line pairs.
- Data Line Pairs – check one of the Reserved for Data selections to reserve the line pair for carrying data. Line pairs reserved for data will be graphically displayed.

Figure 15. 8964FS VBI Web Page in 525 Line Rate



Model: 8964FS Description: 4 Channel Frame Sync

Frame Location: 8900: QA Bay 1 , Slot: 1

Last Recalled E-MEM: Factory Defaults

Current Line Rate:

<b>Channel 1</b>	<b>Channel 2</b>	<b>Channel 3</b>	<b>Channel 4</b>																	
<b>Input 1</b>	<b>Input 2</b>	<b>Input 3</b>	<b>Input 4</b>																	
	VBI Line																Data Line			
Field 1	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
Field 2	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287					
Blank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Reserved for Data	<input checked="" type="radio"/> none <input type="radio"/> 21/284 <input type="radio"/> 22/285 <input type="radio"/> 23/286 <input type="radio"/> 24/287																			
<b>Blank All</b>								<b>Pass All</b>												
Apply Settings To:				<b>Channel 2</b>	<b>Channel 3</b>	<b>Channel 4</b>	<b>All</b>													
Reset Defaults For:				<b>Current Channel</b>	<b>All Channels</b>															

[Back](#)

[Functional View](#)

[Next](#)

Refer to Figure 16 for the web page display in 625 line rate.

Figure 16. 8964FS VBI Web Page for 625 Line Rate



Model: 8964FS Description: 4 Channel Frame Sync

Frame Location: not assigned , Slot: 7

Last Recalled E-MEM: Factory Defaults

Current Line Rate:

<b>Channel 1</b>	<b>Channel 2</b>	<b>Channel 3</b>	<b>Channel 4</b>																									
<b>Input 1</b>	<b>Input 2</b>	<b>Input 3</b>	<b>Input 4</b>																									
	VBI Line																								Data Line			
Field 1	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28					
Field 2	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341					
Blank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
Reserved for Data	<input checked="" type="radio"/> none <input type="radio"/> 24/337 <input type="radio"/> 25/338 <input type="radio"/> 26/339 <input type="radio"/> 27/340 <input type="radio"/> 28/341																											
<b>Blank All</b>												<b>Pass All</b>																
Apply Settings To:				<b>Channel 2</b>	<b>Channel 3</b>	<b>Channel 4</b>	<b>All</b>																					
Reset Defaults For:				<b>Current Channel</b>	<b>All Channels</b>																							

[Back](#)

[Functional View](#)

[Next](#)

### Video Proc Web Page

Use the Video Proc web page (Figure 17) to select the video processing parameters for each channel. Select the channel to be adjusted from the **Channel 1 – 4** buttons.

Make the following video processing selections on this page:

- Enable a color bars test signal to the channel output by selecting the **Color Bars** radio button in the Test Signal Generator control.  
Select the **Disable** button for normal operation.
- **Pass** or **Blank** horizontal ancillary data (HANC).
- Turn EDH Insertion **On** or **Off**.

- [1 8964FS](#)
- [Status](#)
- [I/O Config](#)
- [Functional View](#)
- [SDI In](#)
- [Timing](#)
- [VBI](#)
- [Video Proc](#)
- [E-MEM®](#)
- [OSD Control](#)
- [Slot Config](#)
- [Software Update](#)

Use  
this  
link

Figure 17. 8964FS Video Proc Web Page

**Video Proc**

Model: [8964FS](#) Description: [4 Channel Frame Sync](#)  
 Frame Location: [8900: QA Bay 1](#) , Slot: [1](#)  
 Last Recalled E-MEM: [Factory Defaults](#)

Current Line Rate:

<b>Channel 1</b>	Channel 2	Channel 3	Channel 4
<b>Input 1</b>	Input 2	Input 3	Input 4

Test Signal Generator:  Disable  Color Bars

HANC Data:  Pass  Blank

EDH Insertor:  On  Off

Apply Settings To:

Reset Defaults For:

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

## E-MEM Page

- [1 8964FS](#)
- [Status](#)
- [I/O Config](#)
- [Functional View](#)
- [SDI In](#)
- [Timing](#)
- [VBI](#)
- [Video Proc](#)
- [E-MEM@](#)
- [OSD Control](#)
- [Slot Config](#)
- [Software Update](#)

Use this link

The E-MEM web page provides local operations for learning and recalling configurations into E-MEM registers. File operations are also available for saving or loading the learned E-MEM files to and from a hard disk or other accessible media.

Factory default settings for all channels can be recalled by selecting the **Recall factory settings** button. To return the module to the factory signal names (such as the signal inputs), select the **Recall factory names** button.

There are two E-MEM view selections: **Standard** and **Advanced**.

In Standard view (Figure 18), any one of five learned E-MEMs can be recalled by selecting the corresponding **Recall** button in the Local Operations window. This will place the configuration for all four channels learned into that E-MEM into the 8964FS. This change will occur immediately upon recall. The name of the last recalled E-MEM will appear in the top header of each web page for the module.

To learn configurations to E-MEM registers and perform E-MEM file operations, select the **Advanced** button in the View Selection section. This will open the Advanced view (Figure 19 on page 38).

Figure 18. 8964FS E-MEM Web Page (Standard View)



Model: [8964FS](#) Description: [4 Channel Frame Sync](#)  
 Frame Location: [8900: QA Bay 1](#) , Slot: 1  
 Last Recalled E-MEM: [Factory Defaults](#)

Current Line Rate: <input style="width: 50px;" type="text" value="525"/>	
View Selection: <input checked="" type="radio"/> Standard <input type="radio"/> Advanced	
<b>Local Operations</b>	
E-MEM 1:	<input type="button" value="Recall"/>
E-MEM 2:	<input type="button" value="Recall"/>
E-MEM 3:	<input type="button" value="Recall"/>
E-MEM 4:	<input type="button" value="Recall"/>
E-MEM 5:	<input type="button" value="Recall"/>
<input type="button" value="Recall"/>	Recall factory settings
<input type="button" value="Recall"/>	Recall factory names

The Advanced View (Figure 19) includes a File Operations section to Learn a configuration into E-MEM (**Learn**), save a file to a disk location (**Save to...**) or load a file from a disk location (**Load from...**).

To learn an E-MEM:

1. Open the Advanced view.
2. When the configuration is complete for all channels on the module, type a descriptive name for the configuration into an unused E-MEM register (or overwrite an existing one).
3. Learn the E-MEM to memory by selecting the corresponding **Learn** button. All channel configurations are learned at once and stored in the same register. This register is now learned and ready for recall.

Figure 19. E-MEM Web Page (Advanced View)



Model: 8964FS Description: 4 Channel Frame Sync  
 Frame Location: 8900: QA Bay 1 , Slot: 1  
 Last Recalled E-MEM: Factory Defaults

Current Line Rate: 525

View Selection:  Standard  Advanced

	Local Operations		File Operations		
E-MEM 1:	<input type="text" value="625 Timing"/>	<input type="button" value="Recall"/>	<input type="button" value="Learn"/>	<input type="button" value="Save to..."/>	<input type="button" value="Load from..."/>
E-MEM 2:	<input type="text"/>	<input type="button" value="Recall"/>	<input type="button" value="Learn"/>	<input type="button" value="Save to..."/>	<input type="button" value="Load from..."/>
E-MEM 3:	<input type="text"/>	<input type="button" value="Recall"/>	<input type="button" value="Learn"/>	<input type="button" value="Save to..."/>	<input type="button" value="Load from..."/>
E-MEM 4:	<input type="text"/>	<input type="button" value="Recall"/>	<input type="button" value="Learn"/>	<input type="button" value="Save to..."/>	<input type="button" value="Load from..."/>
E-MEM 5:	<input type="text"/>	<input type="button" value="Recall"/>	<input type="button" value="Learn"/>	<input type="button" value="Save to..."/>	<input type="button" value="Load from..."/>

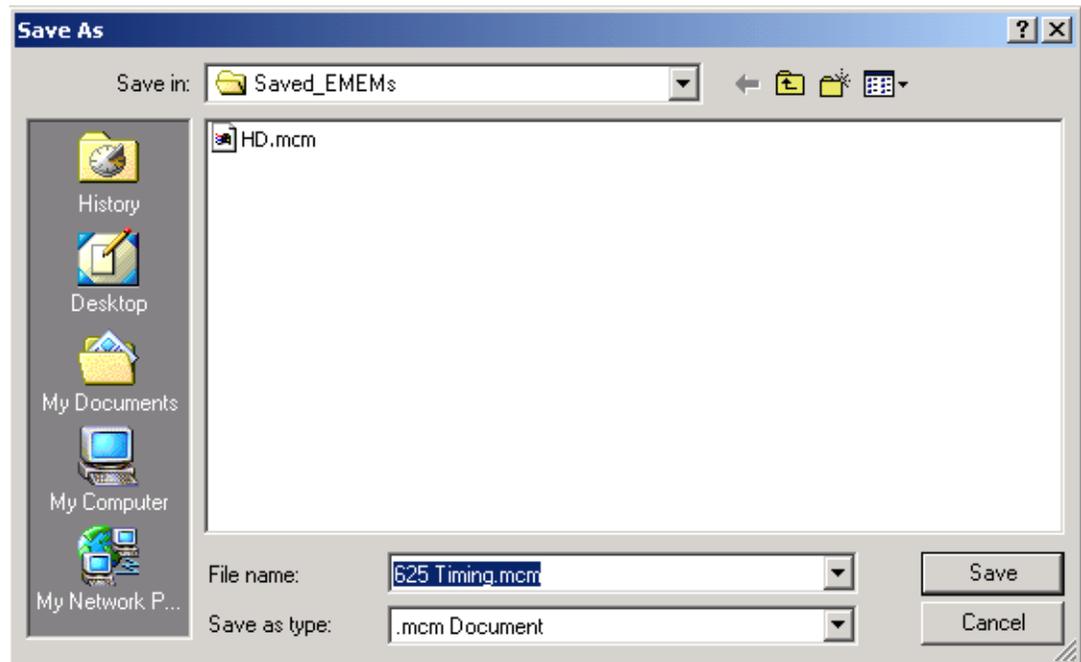
Recall factory settings       Recall factory names

To save an E-MEM configuration to a file on a hard drive or other accessible media:

1. Select the corresponding **Save to...** button.
2. This will bring up a File Download screen (not shown).
3. Select the **Save this file to disk** button and **OK**.
4. In the resulting Save As dialog box (Figure 20), the file name will default to the E-MEM name. Browse to the folder where you want to save the configuration and select **Save**. The file saves as a .mcm file type.

**Note** You may rename the file during the Save process but the E-MEM name entered into the Local Operations window will not change on the web page to match the Save As name. Best practice is to leave the Save As file name the same as the E-MEM name.

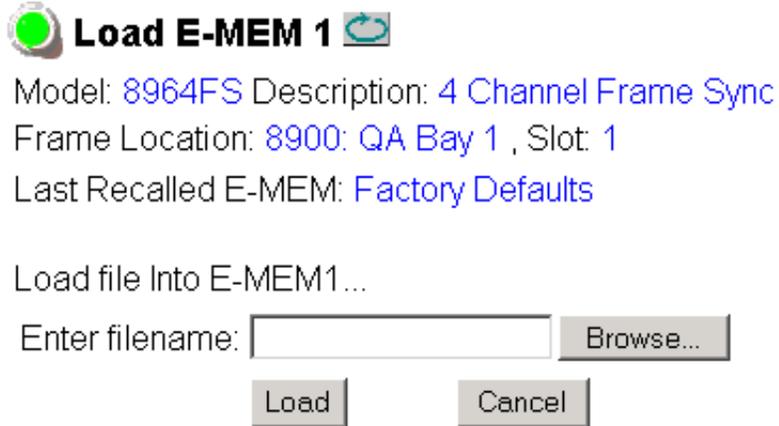
Figure 20. E-MEM Save to Operation



To load a saved E-MEM from a location

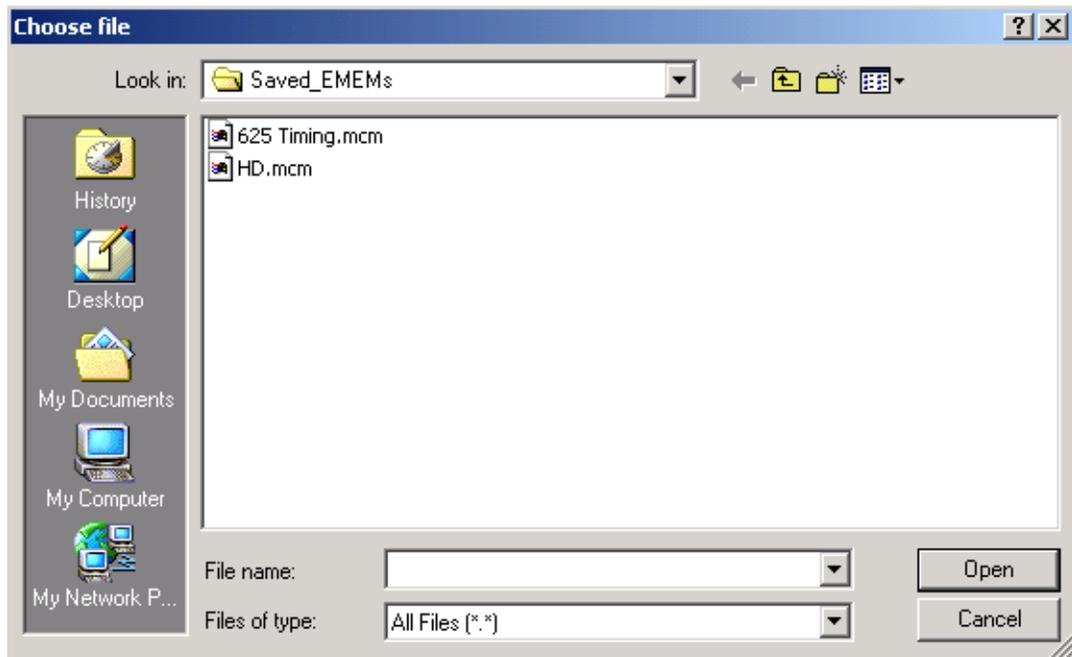
1. Select the **Load from ...** button.
2. This will bring up the Load E-MEM page (Figure 21).

Figure 21. Load E-MEM Web Page



3. Select the **Browse** button to bring up the Choose File window (Figure 22) and browse to the location of the file you wish to load.

Figure 22. Choose File Window



4. Select the file, then the **Open** button to load the file or enter the filename and path in the Enter filename box.
5. Once the correct path and filename is loaded, select the **Load** button on the Load E-MEM page.
6. This should place the recalled E-MEM file into the corresponding E-MEM window.
7. Select the corresponding **Recall** button to invoke this configuration.

## OSD Control Web Page

- [1 8964FS](#)
- [Status](#)
- [I/O Config](#)
- [Functional View](#)
- [SDI In](#)
- [Timing](#)
- [VBI](#)
- [Video Proc](#)
- [E-MEM@](#)
- [OSD Control](#)
- [Slot Config](#)
- [Software Update](#)

Use this link

The OSD Control web page (Figure 23) allows enabling and disabling of the OSD image on any of the four channel outputs. It also displays the status of the onboard OSD jumper, JP3 (see *8964FS Module Onboard Configuration Settings on page 20*). Jumper JP3 on the module enables control of the OSD by either the local onboard controls or this OSD Control web page. Once the OSD control is enabled, it can be turned on and off for each channel with the controls in this display or with the local onboard controls.

It is recommended to set the jumper to disable the OSD and prevent it from being put on-air inadvertently after module configuration.

Figure 23. 8964FS OSD Control Web Page



Model: [8964FS](#) Description: [4 Channel Frame Sync](#)  
 Frame Location: [8900: QA Bay 1](#) , Slot: [1](#)  
 Last Recalled E-MEM: [Factory Defaults](#)

### On Screen Display

OSD Jumper Status:	<a href="#">Enabled</a>
Channel 1 OSD:	<input checked="" type="radio"/> Off <input type="radio"/> On
Channel 2 OSD:	<input checked="" type="radio"/> Off <input type="radio"/> On
Channel 3 OSD:	<input checked="" type="radio"/> Off <input type="radio"/> On
Channel 4 OSD:	<input checked="" type="radio"/> Off <input type="radio"/> On

## Slot Config Page

- [1 8964FS](#)
- [Status](#)
- [I/O Config](#)
- [Functional View](#)
- [SDI In](#)
- [Timing](#)
- [VBI](#)
- [Video Proc](#)
- [E-MEM@](#)
- [OSD Control](#)
- [Slot Config](#)
- [Software Update](#)

Use  
this  
link

Use the Slot Config web page (Figure 24 on page 43) to perform the following functions on the 8964FS 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 (up to 31 characters) 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 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.

- **Frame Health Reporting** – this function is not used on the current version of 8900NET software which controls this page.
- **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.
- **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.

Status reporting can be also be disabled for individual signal inputs on the I/O Config web page.

Figure 24. 8964FS Slot Config Web Page

 **Slot Config** 

Model: [8964FS](#) Description: [4 Channel Frame Sync](#)  
 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 type="checkbox"/>	<input checked="" type="checkbox"/>
Trap Severity	<a href="#">Alarm</a>	<a href="#">Warning</a>	<a href="#">Warning</a>	<a href="#">Warning</a>

## Software Update Web Page

- [1 8964FS](#)
- [Status](#)
- [I/O Config](#)
- [Functional View](#)
- [SDI In](#)
- [Timing](#)
- [VBI](#)
- [Video Proc](#)
- [E-MEM@](#)
- [OSD Control](#)
- [Slot Config](#)
- [Software Update](#)

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this  
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The Software update web page (Figure 25) allows updating of 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 8964FS 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 25. 8964FS Software Update Web Page



Model: [8964FS](#) Description: [4 Channel Frame Sync](#)

Frame Location: [8900: QA Bay 1](#) , Slot: [1](#)

Software Version: [1.0.0](#) Firmware Version: [0](#)

[Enter Username, Password and File to Initiate Update](#)

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

# Specifications

Table 8. 8964FS Specifications

Parameter	Value
<b>SDI Inputs</b>	
Number of inputs	4, one for each channel
Signal type	Serial digital conforming to SMPTE 259M, 10-bit 270 Mb/s serial component
Connector type	75 $\Omega$ terminating BNC on rear of frame
Signal level	800 mV $\pm$ 10%
Return loss	> 15 dB, 5 to 270 MHz
Error checking	EDH monitored
<b>SDI Outputs</b>	
Number of outputs	4, one for each channel
Signal type	Serial digital conforming to SMPTE 259M, 10-bit 270 Mb/s serial component
Connector type	75 $\Omega$ terminating BNC on rear of frame
Signal level	800 mV $\pm$ 10%
Return loss	> 15 dB, up to 270 MHz
DC offset	< 0.5 V when terminated in 75 $\Omega$
Jitter	< 400 ps above 1 kHz (conforms to SMPTE 17.12/002)
Rise/fall times	700 to 900 ps (20 to 80% amplitude)
Error checking	EDH inserted or blanked
<b>Reference Input</b>	
Number of inputs	One
Signal type	Color black, SMPTE170M, 140 mV to 560 mV, 525 or 625
Connector type	75 $\Omega$ BNC loop-through
Signal level	Video – 0.5 V p-p to 2 V p-p, 1 V p-p nominal with sync, Pulse – 140 mV to 600 mV
Return Loss	> 40 dB to 5.0 MHz
Signal to noise requirement	> 40 dB
<b>Timing</b>	
Range – Frame Sync	1 frame
Delay from reference, all timing controls set to 0	
625	4 lines + 55.90 $\mu$ s
525	5 lines + 55.22 $\mu$ s
<b>Performance</b>	
Quantization	10-bit
Accuracy	9.2-bit EDH detection
Output phasing	Full frame
Cable length	250 M of 1694A cable

Table 8. 8964FS Specifications

Parameter	Value
<b>Environmental</b>	
Frame temperature range	0 to 45 degrees C
Operating humidity range	0 to 90% non-condensing
<b>Mechanical</b>	
Frame type	Gecko 8900 Video
<b>Power Requirements</b>	
Supply voltage	+12V
Power consumption	< 8.5 W (2 A fast blow fuse)

# Service

The 8964FS 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:

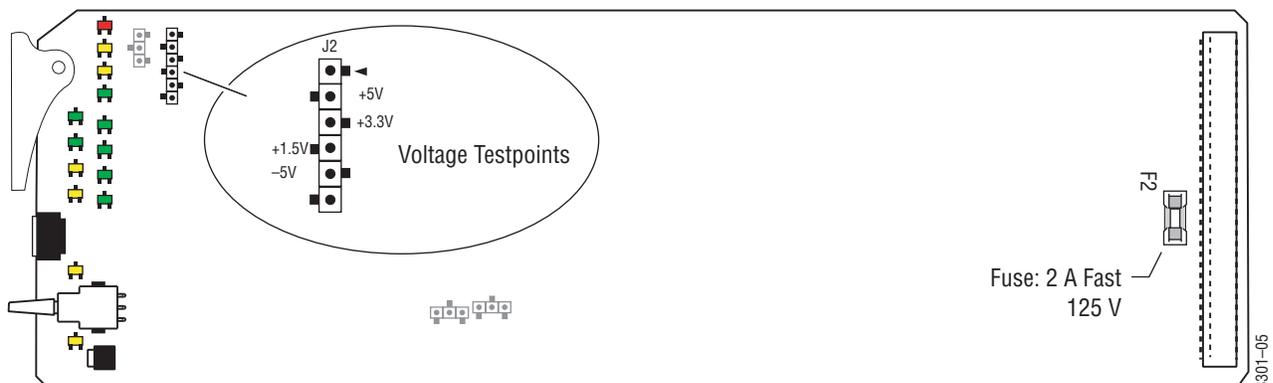
- Check frame and module power and signal present LEDs.
- Verify power at the voltage testpoints (see [Figure 26](#)) and check fuse if no voltage is detected.
- Check for presence and quality of input signals.
- Verify that source equipment is operating correctly.
- Check cable connections.
- Check output connections for correct I/O mapping (correct input connector is used for the corresponding channel output).

Refer to [Figure 4 on page 11](#) 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 26. 8964FS 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
- 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.

## 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)
- 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 page – reports overall frame and module status in graphical and text formats.
- Module Status page – shows specific input and reference signal status to the module along with 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 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 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, 17](#)
- 525 LED [12](#)
- 625 LED [12](#)
- 8900 frame
  - frame alarm [49](#)
  - module capacity [8](#)
  - status reporting [48](#)
- 8900NET module
  - installation [8](#)
  - required software version [8, 22](#)
- 8964FS
  - features [7](#)
  - specifications [45](#)

## A

- Asset Tag
  - assignment [42](#)
- AutoBlue
  - local controls [21](#)
  - overview [13](#)
  - remote control [33](#)
  - summary table [16](#)
- AutoFreeze
  - local controls [21](#)
  - overview [13](#)
  - remote control [33](#)
  - summary table [16](#)

## B

- backplane [9](#)

## C

- cabling
  - inputs [10](#)
  - outputs [10](#)
  - reference input [10](#)
- CH1-4 LEDs [12](#)

- CH2 LED [12](#)
- CH3 LED [12](#)
- CH4 LED [12](#)
- Clear Errors button [31](#)
- CM0 LED [12, 17](#)
  - channel indication table [18](#)
- CM1 LED [12, 17](#)
  - channel indication table [18](#)
- COMM LED [12](#)
- CONF LED [12, 17](#)
- configuration
  - Local, onboard [17](#)
  - overview [13](#)
  - Remote, GUI [22](#)
  - summary table [16](#)
- connectors [9](#)
- control panel [22](#)
- controller module [8](#)
- CSM LED [12, 17](#)

## D

- data line pairs
  - description [15](#)
  - local configuration [21](#)
  - remote configuration [34](#)
  - summary [16](#)
- documentation online [2](#)

## E

- EDH insertion
  - local control [21](#)
  - overview [15](#)
  - remote control [36](#)
  - summary table [16](#)
- E-MEM
  - Advanced view [38](#)
  - description [37](#)
  - load from file [40](#)
  - local controls [21](#)

- save to file 39
- standard view 37
- summary table 16
- web page 37

enable SNMP 50

environmental 46

## F

factory defaults 11

- recall factory defaults
  - local control 21
  - remote control 37
- summary table 16

Factory names

- recall 37

FAQ database 2

FAULT LED

- states 12
- troubleshooting 48

Frame Controller module 8

Frame Status page 49

freeze modes 13

frequently asked questions 2

Function rotary switch

- accessing banks 17
- settings table 21

Functional View web page 29

fuse 47

## G

Gecko frame 8, 46

graphical user interface (GUI) 25

Grass Valley web site 2

## H

HANC (horizontal ancillary data)

- local control 21
- overview 15
- remote control 36
- summary table 16

horizontal timing

- local controls 21
- overview 13
- remote control 33

summary 16

## I

I/O Config web page 28

inputs

- cabling 10
- specification 45

installation 8

## J

jitter

- reference input 15

Jumpers

- onboard 19

## L

LEDs

- front edge 11
- Names and Meanings table 12

line categories

- defined 14

Local and Remote jumper 19

Locate Module function 42

loop-through 10

## M

manual freeze

- local control 21
- overview 13
- remote control 33
- summary table 16

module

- controller 8
- installation 8
- power supply 8
- slots 9

module health status 48

Module Status page 49

## N

NetConfig

- software updating 44

Newton Control Panel [22](#)

Newton control panel  
summary table [16](#)

## O

online documentation [2](#)

OSD (On Screen Display)  
enable with onboard jumper [19](#)  
local control [21](#)  
remote control [41](#)  
summary table [16](#)

outputs  
cabling [10](#)  
specification [45](#)  
specifications [45](#)

overlay [10](#)

## P

power [46](#)  
power supply [8](#)  
PWR LED [12](#)

## R

rear connectors [9](#)  
reference input  
cabling [10](#)  
jitter [15](#)  
overview [15](#)  
specifications [45](#)  
repair depot [47](#)  
report enable switches [50](#)

## S

SDI IN In web page [31](#)  
Slot Config web page [42](#)  
slot identification [42](#)  
slot memory [42](#)  
SNMP reporting  
enabling [42](#)  
overview [50](#)  
software download from web [2](#)  
Software Update web page [44](#)

software updating  
NetConfig [44](#)  
specifications [45](#)  
status monitoring [48](#)  
Status web page [26](#)  
switches  
onboard control [17](#)

## T

termination [10](#)  
test signal generator  
local control [21](#)  
overview [15](#)  
remote control [36](#)  
summary [16](#)  
testpoints [47](#)  
Timing web page [33](#)  
troubleshooting [47](#)

## V

VBI setup  
overview [15](#)  
VBI web page [34](#)  
vertical blanking interval (VBI)  
blanking [15](#)  
line categories [14](#)  
programmable lines [15](#)  
vertical timing  
local controls [21](#)  
overview [13](#)  
remote control [33](#)  
summary [16](#)  
Video Proc web page [36](#)  
video processing  
overview [15](#)  
remote controls [36](#)  
summary [16](#)  
voltage [46](#)  
voltage tespoints [47](#)

## W

web site  
documentation [2](#)  
FAQ database [2](#)

*Index*

Grass Valley [2](#)  
software download [2](#)