grass valley

8985FSP

SD/HD FRAME SYNC/PROC AMP

Instruction Manual

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Preface

About This Manual

This manual describes the features of the 8985FSP module series and the corresponding rear modules in the Gecko Flex frame. As part of this family of modular products, it is subject to the Safety and Regulatory Compliance infomation described in the *Gecko Flex Frames Instruction Manual*.

8985FSP/FS/PRC SD/HD Frame Sync/Proc Amp Modules

Introduction

This manual covers installation, configuration, and operation for the 8985FSP SD/HD Frame Sync Proc Amp, 8985FS SD/HD Frame Sync, and 8985PRC SD/HD Proc Amp modules.

Module Features

The three versions of the 8985 module provide various degrees of frame synchronization and video processing for environments utilizing SD and HD signals in both broadcast and ProAV applications. These environments require video signals to be synchronized with other video sources and processed for video quality.

The following features are available with this module series.

- Two module set including a hot-swappable front and rear module.
- Up to ten audio or video modules in the same 2 RU Gecko Flex frame, including all 8900 Gecko Series modules.
- An optional Genlock submodule mounted on the 8985FSP circuit board accepts an external reference (NTSC/PAL color black or Tri-Level Sync) and manages Local reference timing to the module.
- A fiber optic submodule option provides optical input/output interfaces for all models. One of three different types of single-mode fiber optic submodules can be used:
    - 1310NM-DTL – provides two optical outputs (TX 1 and TX 2)
    - 1310NM-DRL – provides two optical inputs (RX 1 and RX 2).
    - 1310NM-TRL – provides one optical input (RX 2) and one optical output (TX 1).

Note Only one type of input, Coax, RX 1, or RX 2 can be used at a time. Any number of optical outputs can be enabled in addition to the four coax outputs.

- Supports both HD or SD formats and passes embedded audio present in the incoming video stream.
- Split screen mode allows the input to be compared to the processed output.
- Configuration of modules can be done using local front edge controls or with an 8900NET module in the frame, using a web browser or the Newton Control Panel.
- SNMP and product health monitoring is supported through the 8900NET module with applications such as NetCentral.
- Software updating using the NetConfig Networking application.

8985FSP Module

The 8985FSP provides the full spectrum of frame synchronization and video processing with the following list of features:

- Frame Sync (Genlock submodule required).
- Full-featured video processing amplifier allows component level (Y, Cr, Cb) adjustments of video gain and offset, plus phase control (hue), and color saturation adjustment.
- Color correction controls adjust RGB gain and offset and gamma correction.
- Two auto-tracking outputs to allow synchronization of audio modules to the Genlock reference.

8985FS Module

The 8985FS provides the same frame synchronization features as the full spectrum model without the processing amplifier or color correction.

8985PRC Module

The 8985PRC offers the full-spectrum of video processing controls described above to correct colors and avoid illegal signal levels for applications not requiring a timed signal.

Installation

The 8985FSP consists of a front and rear module set that installs into a Gecko Flex frame.

Note These modules can only be installed in a Gecko Flex frame. However, older 8900 legacy modules can be installed in this frame.

Installation of the 8985FSP module set is a process of:

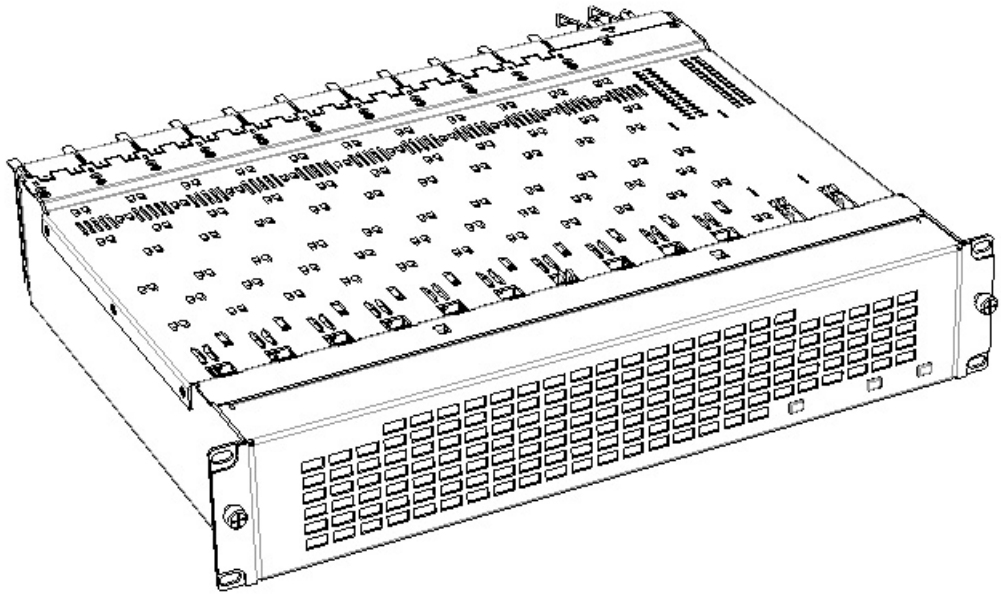
1. Placing the 8900GFR-R rear module in a rear frame slot,
2. Installing the Genlock submodule option on the front module,
3. Placing the front module in the corresponding front slot,
4. Installing the optional SFP Fiber Optic submodule in the rear module, and
5. Cabling the signal ports.

All Gecko Flex front and rear modules can be inserted and removed from an Gecko Flex frame with power on.

Module Placement in the Gecko Flex Frame

There are ten front and rear cell locations in the 3 RU Gecko Flex frame (Figure 1) to accommodate either audio or analog and digital video module sets. The 8985FSP module set uses the 8900GFR-R rear module that can be installed in any one of the ten rear locations.

Figure 1. Gecko Flex Frame



Rear Module Installation

Each 8900GFR-R rear module or blank rear adapter cover is held in place by two retainer strips as shown in Figure 2. To install a rear module into the frame, follow these steps:

1. Loosen (but do not remove completely) the two screws holding each retainer strip to the frame with a 2 mm (5/64″) hex screwdriver. Pull up on the retainer to remove it, leaving the screws in place.

CAUTION Be careful to leave the screws in place as they can be easily lost or fall into equipment below the frame creating a shorting hazard.

2. Remove the blank rear adapter cover by inserting needlenose pliers into the slots in the top and bottom of the blank and pulling it off.

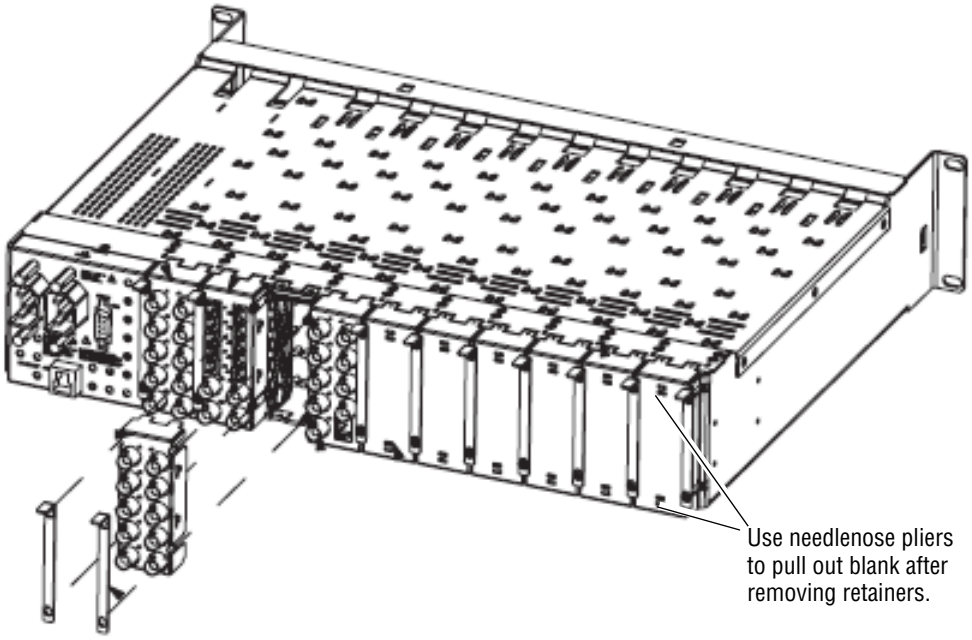
Note To remove a rear module already installed, follow the same steps. It is helpful to first remove the front module so the rear can be pulled out more easily.

3. Insert the rear module into the empty slot.

4. Replace each retainer strip over the two screws on both sides of the module and push down to seat the retainer.

5. Tighten the screws for each retainer just until they are snug. Do not force or torque the screws too tightly.

Figure 2. Installing Rear Module



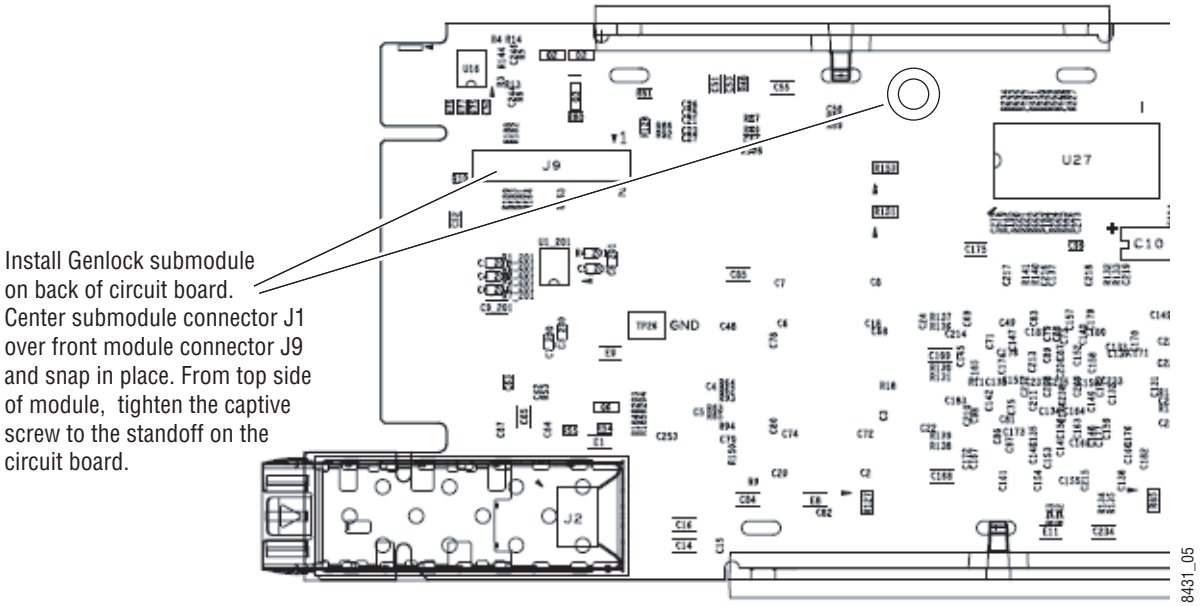
Genlock Submodule Installation

The Genlock submodule will ship in a separate package, not installed on the front module.

To install a Genlock submodule, follow these steps:

1. Locate the Genlock connector J9, on the back side of the 8985FSP circuit board (Figure 3).
2. Line up the connector on the submodule, J1, with J9 on the front module and snap the submodule into place making sure the holes in each circuit board line up.
3. To hold the submodule in place, attach the captive screw provided from the top of the front module to the standoff on the front module circuit board.

Figure 3. Installing Genlock Submodule



Front Module Installation

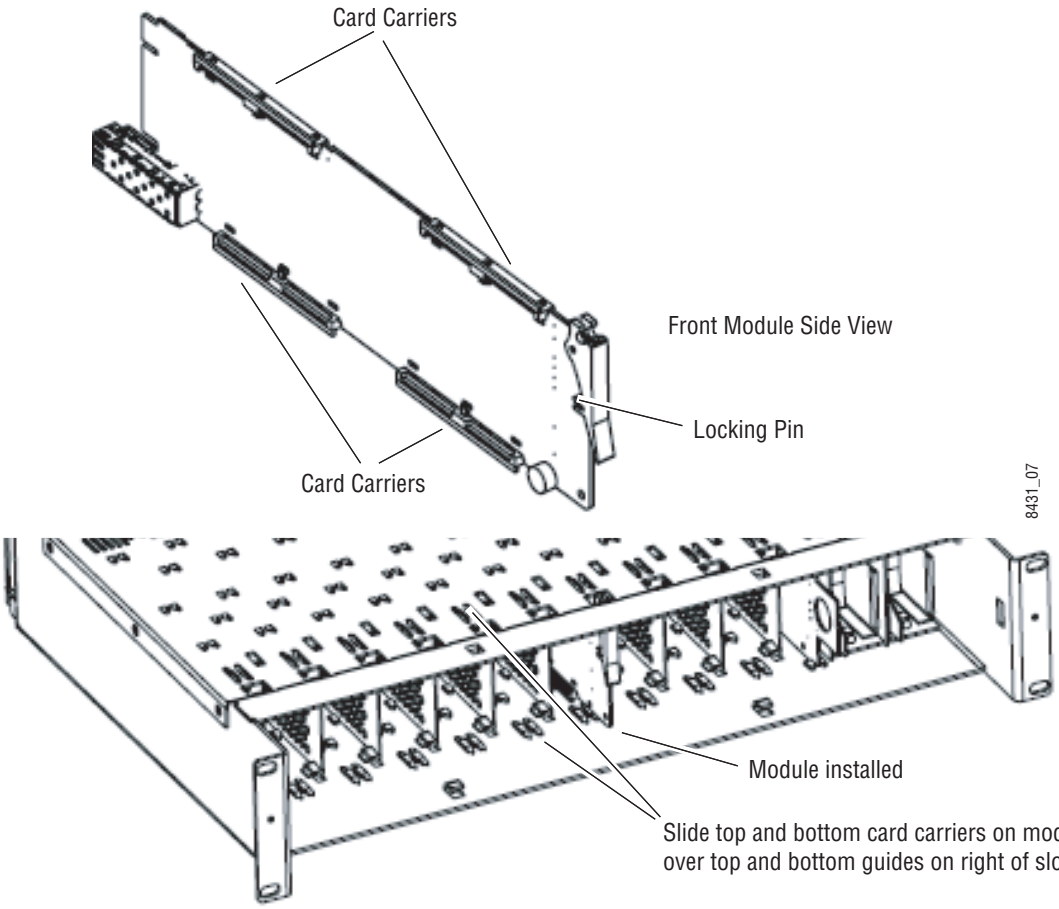
After installing the rear module (and Genlock submodule on the front module if required), install the front module as follows:

Note If using a fiber optic submodule, install it through the rear module according to *Fiber Optics Submodule Installation* on page 13.

1. Remove the front cover of the frame if required.
2. Locate the corresponding front slot.
3. Insert the front module so that the plastic card guides on the module top and bottom edges go over the upper and lower raised rail guides on the right of the top and bottom of the slot(Figure 4).
4. Carefully slide the module into the rear connector.
5. Lock the front module ejector tab into the locking pin.

Note Before removing the front module, first remove the Fiber Optic submodule if present, from the rear module.

Figure 4. Front Module Installation



Fiber Optics Submodule Installation

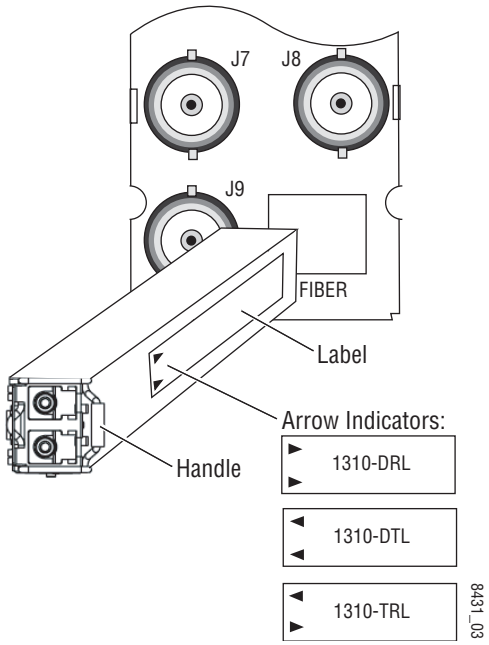
CAUTION The Fiber Optic submodule is static sensitive. Use static handling precautions when installing or removing the submodule.

After the front and rear modules have been installed, if required, install the SFP Fiber Optic submodule option into the rear module metal cage labeled FIBER (Figure 5). The SFP submodule is hot-pluggable and may be installed or removed with power applied to the module.

Note The submodule type is identified by name on the label or can be identified by the direction of the two arrow indicators on the label.

1. Slide the fiber optic device into the metal fiber cage with the label and handle to the right.
2. Push the device in as far as it will go without forcing it. It will not go completely into the cage.
3. Cable the fiber optic connectors according to the instructions given in *Video Inputs* on page 14 and *Video Outputs* on page 15.

Figure 5. Installing Fiber Optics Submodule



Removing an SFP Submodule

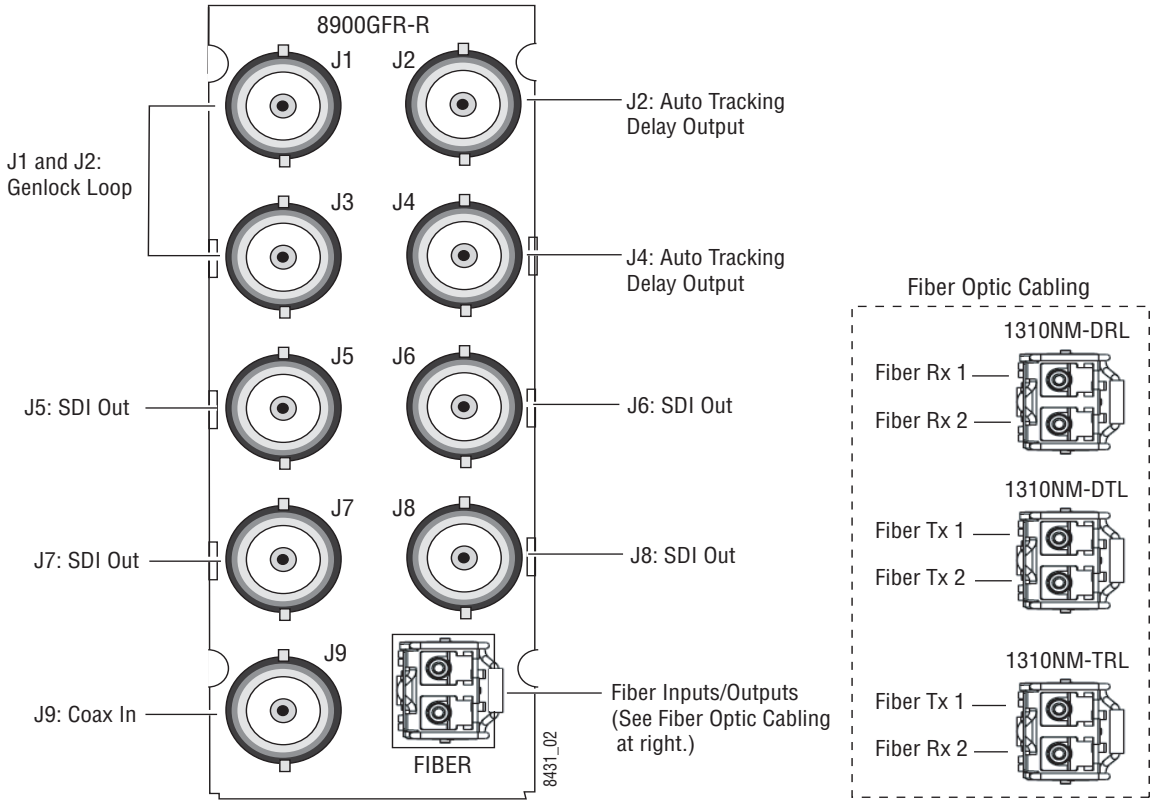
If you need to remove an SFP submodule, snap the handle out and pull the submodule slowly out of the metal cage.

Cabling

Cabling is done on the rear BNCs of the 8900GFR-R module illustrated in Figure 6. Inputs and outputs are also illustrated on the I/0 Config web page (*I/O Config Web Page* on page 43).

Note It is recommended to clean the fiber optic cable connectors with a lint-free, anti-static cloth before making a connection to the fiber optic submodule.

Figure 6. 8900GFR-R Rear Module



Video Inputs

Connect an HD or SD digital video signal to the Coax input at BNC J9, and/or to one or both of the fiber inputs at fiber connector J10 (depending on the type of fiber submodule installed).

For fiber optic inputs, the 1310-DRL or 1310-TRL SFP optical submodule must be installed. Fiber inputs must be enabled with local or remote controls. Only one video input can be used at a time and must also be selected with local or remote controls.

Video Outputs

There are four electrical coax video outputs at BNCs J5, J6, J7, and J8.

If a 1310-TRL SFP optical submodule is installed, one fiber optic output is also available. If a 1310-DTL SFP optical submodule is installed, two fiber optic outputs are also available. Each fiber optic output must be enabled using local or remote controls. All coax and fiber optic outputs can be active at the same time.

Genlock Loop

BNCs J1 and J3 are looping inputs to support the optional Genlock sub-module on the 8985FSP module with an external genlock reference (NTSC/PAL color black or Tri-level sync).

Connect an external reference to J1 or J2 and loop the other input to another device or terminate the unused input.

Auto Tracking Delay Outputs

BNCs J1 and J3 output an auto tracking delay signal that can be fed to audio modules to synchronize the audio to the Genlock reference from the 8985FSP module.

Power Up

The front LED indicators and configuration switches are illustrated in Figure 7. 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.

Note When a media module is first plugged into a Gecko Flex frame, the 8900NET module (if present) may report a momentary fault. This will clear once the media module has booted up.

Operation Indicator LEDs

With factory default configuration and a valid input signal connected, the green PWR and (Figure 7) on the top side of the module front edge should illuminate (refer to Table 1 on page 17 to see the possible operating indicator combinations). Another set of LEDs is present on the back side of the module used for local configuration as described in *Local Configuration Switches and LEDs* on page 24.

Figure 7. Front Panel LED Indicators

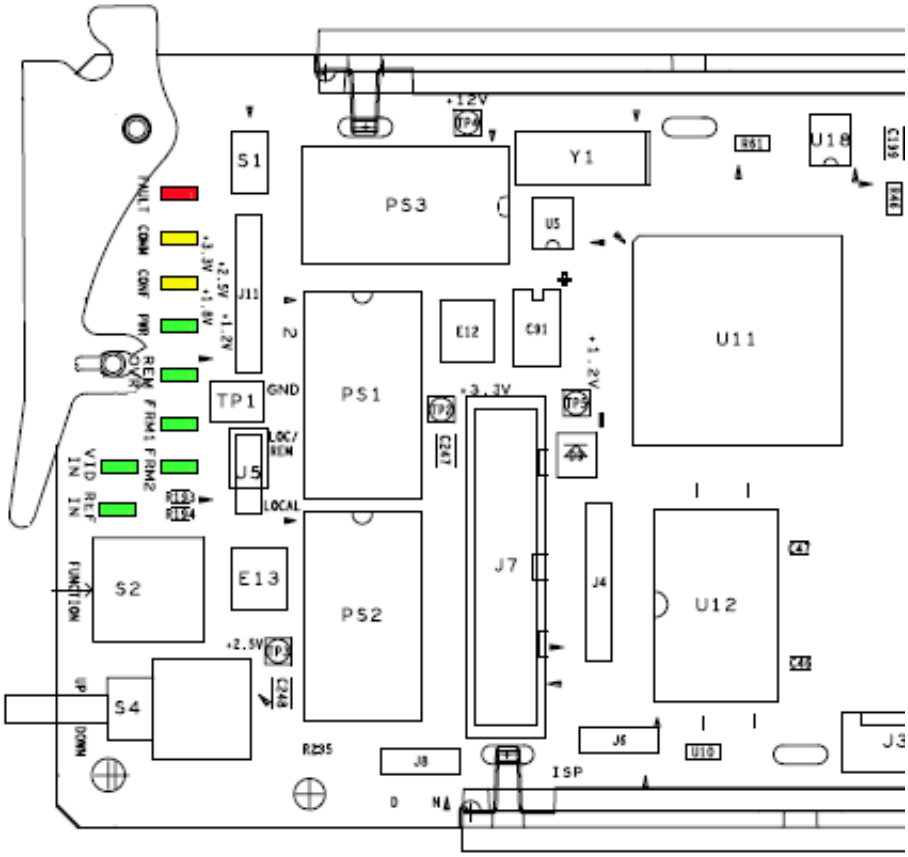


Table 1. Board Edge LED Names and Meaning

LED	Indication	Condition
FAULT (red)	Off	Normal operation.
	On continuously	Module has detected an internal fault.
	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.
	Flashing	Indicates rate of change of paddle controlled setting.
PWR (green)	Off	No power to module or module's DC/DC converter failed.
	On continuously	Normal operation, module is powered.
REM OVR (green)	Off	Module configuration matches onboard front edge and jumper configuration.
	On	Onboard module configuration has been overridden by remote controls.
FRM1 (green)	Off	Not used at this time.
	On	
FRM2 (green)	Off	Not used at this time.
	On	
VID IN (green)	Off	Indicates no valid input signal is being detected.
	On	Indicates a valid input signal is being detected.
REF IN (green)	On	Indicates no valid reference signal is being detected or signal is not locked.
	Off	Indicates a valid reference signal is present and locked.
BANK 0, 1, 2 (yellow)	Indicates what bank is currently being addressed by Function switch.	Refer to Table 3 on page 26 for how to read the active function.
CONFIG 0, 1, 2 (yellow)	Indicates what setting has been made with paddle switch.	Refer to Table 4 on page 26 for how to read the currently selected settings of the paddle switch.

Configuration

The 8985FSP can be configured locally using onboard switches or remotely using the 8900NET network interface GUI or a networked Newton control panel.

Refer to the following sections for configuration instructions:

- Configuration Summary (page 18)
- Local Onboard Module Configuration (page 24)
- Remote Control and Monitoring (page 31)
- Newton Control Panel Configuration (page 32)

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

Configuration Summary

This section provides a brief summary of all parameters that can be configured on the 8985FSP module. Use this section in conjunction with the specific configuration method instructions for each configuration type. Table 2 on page 21 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 Input Selection

Set the type of input connection from a coaxial electrical input or, if an optional SFP Fiber Optic submodule is installed, one of the fiber optic inputs.

System Configuration

System configuration is required for the input type and line rate and selection of the output timing source when the Frame Sync option is enabled.

Split Screen Control

(8985FSP only) A Split Screen function can be enabled for comparing the unprocessed input to the processed output. This function is very useful when using the color correction or video processor controls. The Split Screen orientation can be set vertically or horizontally and can be adjusted for the amount of video to be displayed (10-90%).

Video Timing and Loss of Signal Controls

On a 8985FSP/FS module with Frame Sync, the following timing adjustments are available:

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

Also available on the 8985FSP with Frame Sync are the following controls for setting the output condition when there is a loss of input signal:

- Auto Blue – when Auto Blue is enabled on a channel, the output will automatically freeze to a blue screen when the input signal is lost on the input.
- Auto Freeze – when Auto Freeze is enabled on a channel, the output will automatically freeze on the last valid field when the input signal is lost on the input.
- A Manual freeze can be performed at any time with the following two choices:
  - Frame
  - Field

Note 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.

Color Correction

Color correction controls are provided for making RGB gain, offset and gamma correction adjustments. Each color channel can be adjusted separately or a total gain or total gamma can be applied to all channels.

Gamma controls brighten and darken the gray intensity of the signal. Raising the gamma above 1.0, brightens the gray intensity. Lowering the gamma below 1.0, darkens the gray intensity.

Video Processing Adjustments

Component level (Y, Cr, Cb) adjustments are provided in the Video processor for video gain and offset, chroma gain, phase control (hue), and color saturation. Each color component can be adjusted separately or the total gain can be adjusted.

User Settings

Module default parameters and default signal names can be recalled at any time for the entire module or subsets of parameters such as the color corrector or video processor.

On the web pages, a **Defaults** button at the bottom of each applicable web page is available to return the parameters on that page to the factory defaults.

Save and load module configuration to/from a file are also provided on the web pages.

Video Outputs

When there is a 1310NM-DTL (2 outputs) or 1310NM-TRL (1 output) fiber optic submodule installed, one or both fiber outputs must be enabled for operation.

Configuration Summary Table

Table 2 provides a complete summary of the 8985FSP functions and a comparison of the functionality available with each control type along with the ranges and default values for each parameter.

Table 2. Summary of 8985FSP Configuration Functions

Function Type	Default	Range/Choices Resolution	Web Page/ Function Name	Function Switch Bank/Setting	Newton Control Panel
Reference Signal Loss Reporting	On	On or Off	I/O Config/ Genlock Ref In Loop Reporting Enabled checkbox	N/A	N/A
Coax Input Signal Loss Reporting	On	On or Off	I/O Config/ COAX In Reporting Enabled checkbox	N/A	N/A
Fiber Input 1 and 2 Signal Loss Reporting	On	On or Off	I/O Config/ Fiber 1 and Fiber 2 Reporting Enabled checkbox	N/A	N/A
Video Input Selection	COAX	COAX, Fiber RX 1, or Fiber RX 2	Video In/ Video Input Select Video Input Selection radio button	0:1 0:2 (Enable RX1) 0:3 Enable RX 2)	N/A
Input video type	HD 59.94	HD 59.94, SD, HD 50, or HD 24	System Config/ Input Video Input Rate radio button	0:4 Apply Standard 0:5	N/A
Input video rate	1080i	HD 59.94: 1080i/59.94 or 720p/59.94 SD: 480i/59.94 or 576i/50 HD 50: 1080i/50 or 720p/50 HD 24: 1080sf/24 or 1080p/24	System Config/ Input Video Input Type pulldown	0:6	N/A
Select output timing source		Frame Input or Local	System Config/ Output Timing Source Selection radio button	0:D	N/A
Enable or disable split screen	Disabled	Enabled or Disabled	System Config/, or Color Correction/, or Video Proc/, or Split Screen Split: Enabled checkbox	1:A	SplitEn
Split screen orientation	Vertical	Horizontal or Vertical	System Config/, or Color Correction/, or Video Proc/, or Split Screen: Orientation: radio button	1:B	SSOrt
Split Screen position (% of unprocessed video)	50%	10 to 90% (1% steps)	System Config/, or Color Correction/, or Video Proc/, or Split Screen: Position (%)	1:C	SSPos
Test Output Color Bars signal	Disabled	Enable or Disable	System Config/ Test Output Colorbars Enabled checkbox	0:7	ClrBars

Table 2. Summary of 8985FSP Configuration Functions

Function Type	Default	Range/Choices Resolution	Web Page/ Function Name	Function Switch Bank/Setting	Newton Control Panel
Horizontal Timing	0	0 - 857.5 pixels (525) 0 - 863.5 pixels (625) (0.5 pixel steps)	Frame Sync/ Horizontal Timing (pixels)	0:8	HTiming
Vertical Timing	0	0 – 524 lines (525) 0 – 624 lines (625) (1 line steps)	Frame Sync/ Vertical Timing (lines)	0:9	VTiming
Loss of signal operation	AutoBlue	Pass Auto Freeze, or Auto Blue	Frame Sync/ Loss of Signal Operation radio button	0:A	LOS Oper
Manual freeze mode	None	None, Frame, or Field	Frame Sync/ Manual Freeze Mode radio button	0:B	ManFrzMode
VCC (Video Color Correction) enable control	Enable	Enable or Disable	Color Correction/ VCC Enable Enable checkbox	2:E	CC-Enable
Adjust R gain	100%	0 to 200% (1% steps)	Color Correction/ R Gain (%)	2:1	RGn
Adjust G gain	100%	0 to 200% (1% steps)	Color Correction/ G Gain (%)	2:2	GGn
Adjust B gain	100%	0 to 200% (1% steps)	Color Correction/ B Gain (%)	2:3	BGn
Adjust total gain	100%	0 to 200% (1% steps)	Color Correction/ Total Gain (%)	2:A	RGB Gn
Adjust R offset	0	± 100% (1% steps)	Color Correction/ R Offset (%)	2:4	ROff
Adjust G offset	0	± 100% (1% steps)	Color Correction/ G Offset (%)	2:5	GOff
Adjust B offset	0	± 100% (1% steps)	Color Correction/ B Offset (%)	2:6	BOff
Adjust total offset	0	0 to 200% (1% steps)	Color Correction/ Total Gain (%)	2:C	RGB Off
Adjust R gamma	1.0	0.25 to 4.00 (0.01 unit steps)	Color Correction/ R Gamma Correction	2:7	RGmC
Adjust G gamma	1.0	0.25 to 4.00 (0.01 unit steps)	Color Correction/ G Gamma Correction	2:8	GGmC
Adjust B gamma	1.0	0.25 to 4.00 (0.01 unit steps)	Color Correction/ B Gamma Correction	2:9	BGmC
Adjust total gamma	100	0.25 to 4.00 (0.01 unit steps)	Color Correction/ Total Gamma Correction	2:B	RGBGmC
Set Color Correction to unity	N/A	See Defaults column	Color Correction/ Defaults button	2:D	Unity-VCC
VPA (Video Proc Amp) enable control	On	On or Off	Video Proc/ VPA Enable Enable checkbox	1:9	VPrc-Enable
Adjust Y gain (contrast)	100%	0 to 200% (1% steps)	Video Proc/ Video Processing Controls Y Gain (%)	1:1	Y Gn

Table 2. Summary of 8985FSP Configuration Functions

Function Type	Default	Range/Choices Resolution	Web Page/ Function Name	Function Switch Bank/Setting	Newton Control Panel
Adjust color saturation (chroma gain)	100%	0 to 200% (1% steps)	Video Proc/ Video Processing Controls Color Saturation (%)	1:7	Chro Gn
Adjust Cb gain	100%	0 to 200% (1% steps)	Video Proc/ Video Processing controls Cb Gain (%)	1:2	Cb Gn
Adjust Cr gain	100%	0 to 200% (1% steps)	Video Proc/ Video Processing Controls Cr Gain (%)	1:3	Cr Gn
Adjust Y Offset (brightness)	0	± 100% (1% steps)	Video Proc/ Video Processing Controls Y Offset (%)	1:4	Y Off
Adjust Cb offset	0	± 100% (1% steps)	Video Proc/ Video Processing Controls Cb Offset (%)	1:5	Cb Off
Adjust Cr offset	0	± 100% (1% steps)	Video Proc/ Video Processing Controls Cr Offset (%)	1:6	Cr Off
Adjust hue	0	-180 to +179 degrees (1 degree steps)	Video Proc/ Video Processing Controls Hue (Deg)	1:8	Hue
Adjust total gain	0	0 to 200% (1% steps)	Video Proc/ Video Processing Controls Total Gain	1:E	VPA Gain
Reset VPA to unity	N/A	See Defaults column	Video Proc/ Default button	1:D	Unity-VPA
Recall factory default parameters	N/A	See Defaults column	User Settings/ Recall Factory Defaults Set Factory Defaults button	1:F	N/A
Recall factory default signal names	N/A	See *I/O Config Web Page* on page 43.	User Settings/ Recall Factory Names Set Factory Names button	N/A	N/A
Enable Fiber TX1 output (1310NM-TRL or 1310NM-DTL fiber optic submodule installed.	Not Enabled	Enabled or Not Enabled	Video Output/ Fiber TX1 Enabled Checkbox	N/A	N/A
Enable Fiber TX2 output (1310NM-TRL or 1310NM-DTL fiber optic submodule installed.	Not Enabled	Enabled or Not Enabled	Video Output/ Fiber TX2 Enabled Checkbox	N/A	N/A
Video Delay (8985PRC only)	0	HD Video: 0 to 4094 pixels (1 pixel steps web page 0.5 pixel steps local) SD Video: 0 to 4094.5 (0.5 pixel steps)	Video Output/ Video Delay (Pixels)	Fine Delay: 3:B Coarse Delay: 3:C	Vid Delay

Local Onboard Module Configuration

The 8985FSP module can be configured locally using the rotary and paddle switches. Several LEDs interact with the switches to indicate status of the configuration process.

Local Configuration Switches and LEDs

Use the onboard configuration components shown in Figure 8 as follows:

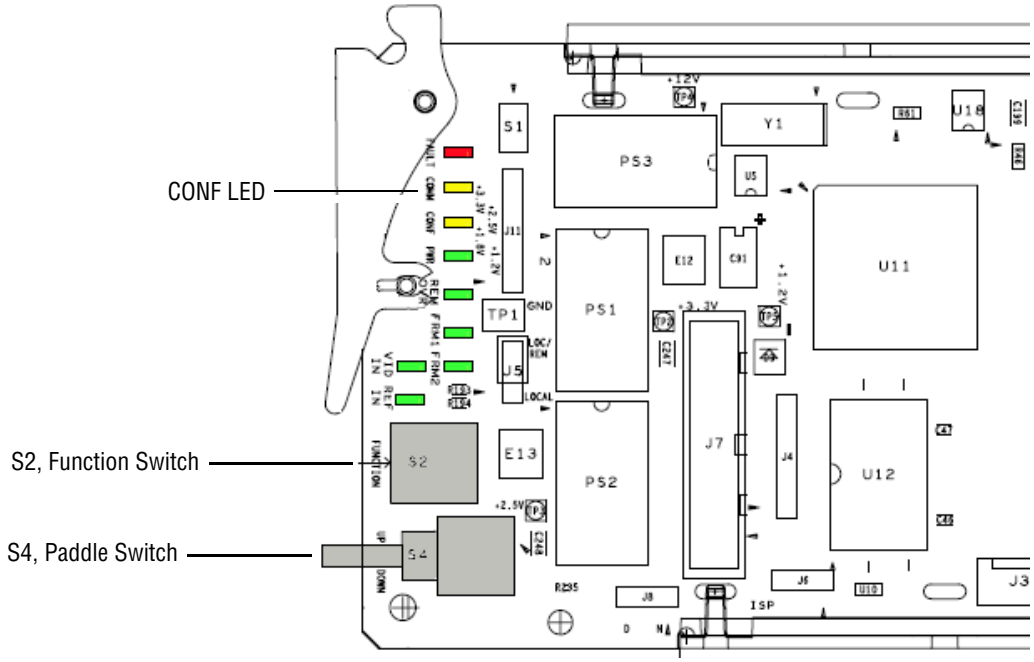
- S2, Function (rotary) switch – This switch accesses a desired function for configuration (see Table 5 on page 28). It addresses up to four banks of functions; each bank has 16 possible positions (0 through 9 and A through F). Not all positions are used.

  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 0, a complete revolution past zero accesses Bank 1, another revolution accesses Bank 2, then Bank 3. The yellow BANK LEDs on the opposite front edge indicate which bank is currently being accessed (see Figure 9 on page 25).

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

- S4, 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. It can also be used to change the Bank when the Function switch is in the 0 or parked position.

Figure 8. Local Onboard Configuration Controls

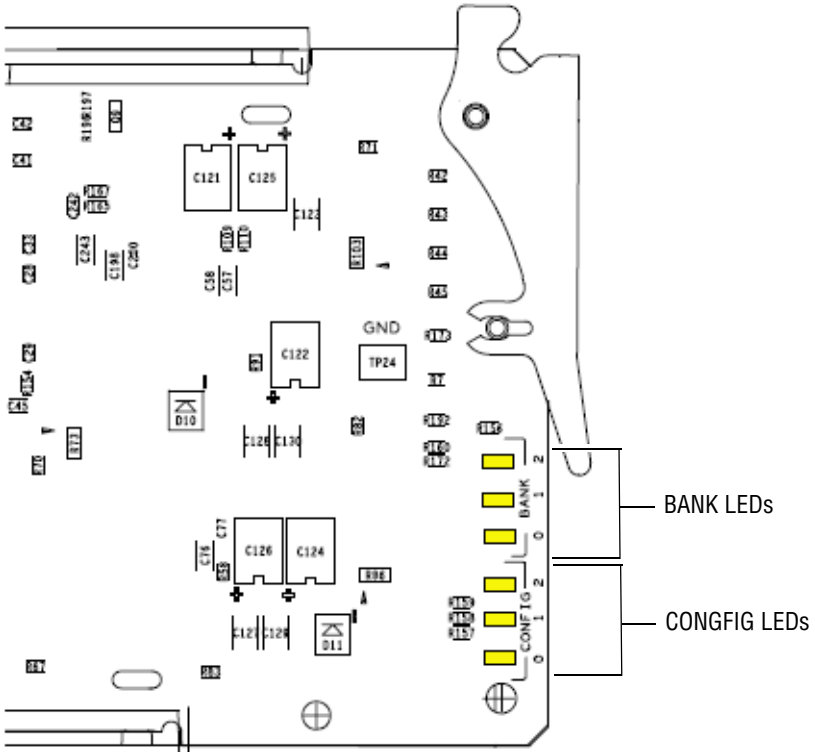


Configuration LEDs

The LEDs associated with local onboard configuration are the following:

- CONF (configuring) yellow LED – when on, indicates the module is programming hardware (Figure 8 on page 24).
- BANK 0, 1, 2 yellow LEDs – the status of these LEDs (Figure 9) located on the back side of the circuit board indicate what bank of functions are being accessed by Function rotary switch, S2. Refer to Table 3 on page 26 for how to read the Bank status with the LEDs.
- CONFIG 0, 1, 2 yellow LEDs – the status of these LEDs (Figure 9) located on the back side of the circuit board indicate what parameter settings are currently selected with the Paddle switch. Refer to Table 4 on page 26 for how to read the Settings status with the LEDs

Figure 9. Configuration LEDs on Rear Front Edge



BANK LEDs

The state of the three yellow Bank LEDs (0, 1, and 2) on the back of the front edge of the module indicate what bank of functions is being accessed by the Function switch, S2, on the front edge of the module (Figure 9 on page 25). Refer to Table 3 for how to determine the Bank that is currently being accessed.

Table 3. Bank LEDs Table

BANK 0 LED	BANK 1 LED	BANK 2 LED	BANK Active
Off	Off	Off	Bank 0
On	Off	Off	Bank 1
Off	On	Off	Bank 2
On	On	Off	Bank 3
On	On	On	Bank 4

CONFIG LEDs

The state of the three yellow Config LEDs (0, 1, and 2) on the back of the front edge of the module (Figure 9 on page 25) indicate what parameter setting is currently selected for the active function.

There are eight states of the Config LEDs shown in Table 4.

Table 4. Config LEDs Table

CONFIG 0 LED	CONFIG 1 LED	CONFIG 2 LED	SETTINGS
Off	Off	Off	0
On	Off	Off	1
Off	On	Off	2
On	On	Off	3
Off	Off	On	4
On	Off	On	5
Off	On	On	6
On	On	On	7

If the parameter currently selected with the Function switch has choices such as Enable/Disable or a list of items to choose from, the LED state will follow the order of the choices given in Table 5 on page 28.

For example, if the Function switch is set to adjust the Video Input Type, it will be on Bank 0, Function switch setting 1 (0:1). The three parameter choices for this setting are listed in Table 5 on page 28 as COAX (0), RX1 (1), or RX2 (2).

When COAX, the choice corresponding to Setting 0 is selected, the LEDs will all be off indicating that Setting 0 is active. Incrementing the Paddle switch to the next choice RX1 (1) will light the Config 0 LED indicating that

Setting 1 has been selected corresponding to the RX1(1) choice. When the third choice, RX2 (2) corresponding to Setting 2 is selected, the Config 2 LED will light indicating Setting 2 is active.

If the parameter is a numerical value, such as gain or timing, the total range of the setting will be divided into eight segments which will correspond to the eight LED states. For example, if the gain range is from 0 to 200%, this total range of 200% will be divided into eight segments of approximately 25% each. As the gain value is increased (or decreased) with the Paddle switch and it reaches the next increment of 25%, the LED state will change to reflect the current state as shown in the list below:

- All Config LEDs off – gain is between 0 and 24%
- Config LED 0 on – gain is between 25 and 49%
- Config LED 1 on – gain is between 50 and 74%
- Config LED 0 and 1 on – gain is between 75 and 99%
- Config LED 2 on – gain is between 100 and 124%
- Config LED 0 and 2 on – gain is between 125 and 149%
- Config LED 1 and 2 on – gain is between 159 and 174%
- All Config LEDs on – gain is between 175 and 200%

Refer to Table 5 on page 28 for the range of each parameter and determine the increments by dividing the range by 8.

8985FSP Module Onboard Configuration Settings

Onboard configuration is performed using the following controls:

1. Set the Function rotary switch to the 0 or parked position and increment the Paddle switch to reach the desired bank of parameters to adjust. The currently selected Bank is indicated by the state of the BANK LEDs (Table 3 on page 26).
2. Turn the Function rotary switch, S2, to the desired parameter setting.
3. Move the paddle switch to the up or down position and hold momentarily to set the desired value (refer to Table 5 on page 28).

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.

The currently selected value will be reflected in the Config LEDs as explained in *CONFIG LEDs* on page 26. The Config LED Setting value is given in parenthesis next to each parameter in Table 5 on page 28.

Table 5. Local Rotary and Paddle Switch Functions

	Function Switch Setting	Paddle Switch Up	Paddle Switch Down	Function Description
Bank 0 (All BANK LEDs off)				
Bank 0 (All BANK LEDs off)	0	Default position for normal operation (parked). Use Paddle switch to change banks.		
	1	Coax (0), RX1 (1), RX2 (2)		Select input type to module.
	2	Enable (1), Disable (0)		Enable Fiber 1 input if selected above.
	3	Enable (1), Disable (0)		Enable Fiber 2 input if selected above.
	4	HD59.94 (0), SD (1), HD50 (2), HD24 (3)		HD or SD Video Input Selection.
	5	Apply (1), Reset (0)		Apply selected Video Input Selection (will reboot module).
	6	HD59.94: 1080i59.94 (0), 720p59.94 (1) SD: 480i59.94 (0), 576i50 (1) HD50: 1080i50 (0), 720p50 (1) HD24: 1080sf24 (0), 1080p24 (1)		Set line rate for selection made in Setting 0:1.
	7	Enable (1), Disable (0)		Color bar test signal control.
	8	1080i/59.94 (0 to 2199) 720p/59.94 (0 to 1649) 1080i/50 (0 to 2639) 480i/59.94 (0 to 57) 576i/50 (0 to 863) 720p/50 (0 to 1979) 1080sf/24 (0 to 2749) 1080p/24 (0 to 2749)		Adjust horizontal timing in pixels. Divide total range by 8 to determine Setting LED state as described in *CONFIG LEDs* on page 26.
	9	1080i/59.94(0 to 1124) 720p/59.94 (0 to 749) 1080i/50 (0 to 1124) 720p/5 0(0 to 749) 480i/59.94 (0 to 524) 576i/50 (0 to 24) 1080sf/24 (0 to 1124) 1080p/24 (0 to 1124)		Adjust vertical timing in lines. Divide total range by 8 to determine Setting LED state as described in *CONFIG LEDs* on page 26.
	A	Pass (0), AutoFreeze (1), AutoBlue (2)		Set type of auto freeze when video is lost.
	B	None (0), Frame (1), Field (2)		Manual freeze mode.
	C	–	–	Not used at this time.
	D	Frame input (0), Ref 1 (1), Ref 2 (2), Local (3), Ref 1-Ref 2 Redundant (4)		Select source to Genlock submodule.
	E	–	–	Not used at this time.
	F	Recall (1), Not Recalled (0)		Recall factory defaults.

Table 5. Local Rotary and Paddle Switch Functions

	Function Switch Setting	Paddle Switch Up	Paddle Switch Down	Function Description
Bank 1 (BANK 0 LED on)				
Bank 1 (BANK 0 LED on)	0	Default position for normal operation (parked). Use Paddle switch to change banks.		
	1	Increase	Decrease	Set Y Gain in Video Proc Amp (VPA). (All Gain ranges = 0 to 200%)
	2	Increase	Decrease	Set Cb Gain in Video Proc Amp (VPA).
	3	Increase	Decrease	Set Cr Gain in Video Proc Amp (VPA).
	4	Increase	Decrease	Set Y Offset in Video Proc Amp (VPA). (All offset ranges = ± 100%)
	5	Increase	Decrease	Set Cb Offset in Video Proc Amp (VPA).
	6	Increase	Decrease	Set Cr Offset in Video Proc Amp (VPA).
	7	Increase	Decrease	Set Color Saturation in Video Proc Amp (VPA).
	8	Increase	Decrease	Set Hue in Video Proc Amp (VPA).
	9	Enable (1), Disable (0)		Enable Video Proc Amp (VPA).
	A	Enable (1), Disable (0)		Enable Split Screen
	B	Horizontal (0), Vertical (1)		Set Split Screen orientation.
	C	Increase	Decrease	Set Split Screen position (10 – 90%)
	D	On (1), Off (0)		Set VPA to Unity.
	E	Increase	Decrease	Set VPA total gain. (0 to 200%)
	F	–	–	Not used at this time.
Bank 2 (BANK 1 LED on)				
Bank 2 (BANK 1 LED f on)	0	Default position for normal operation (parked). Use Paddle switch to change banks.		
	1	Increase	Decrease	Set R Gain in Video Color Corrector (VCC). (All Gain ranges = 0 to 200%)
	2	Increase	Decrease	Set G Gain in Video Color Corrector (VCC).
	3	Increase	Decrease	Set B Gain in Video Color Corrector (VCC).
	4	Increase	Decrease	Set R Offset in Video Color Corrector (VCC). (All offset ranges = ± 100%)
	5	Increase	Decrease	Set G Offset in Video Color Corrector (VCC).
	6	Increase	Decrease	Set B Offset in Video Color Corrector (VCC).
	7	Increase	Decrease	Set R Gamma in Video Color Corrector (VCC). (All gamma ranges = 0.25 to 4.00)
	8	Increase	Decrease	Set G Gamma in Video Color Corrector (VCC).
	9	Increase	Decrease	Set B Gamma in Video Color Corrector (VCC).
	A	Increase	Decrease	Set Total RGB Gain in Video Color Corrector (VCC).
	B	Increase	Decrease	Set Total Gamma in Video Color Corrector (VCC).
	C	Increase	Decrease	Set Total RGB offset in Video Color Corrector VCC.
	D	Reset Defaults (1), No Reset (0)		Set Video Color Corrector (VCC) defaults.
	E	Enable (1), Disable (0)		Enable Video Color corrector (VCC).
	F	–	–	Not used at this time.

Table 5. Local Rotary and Paddle Switch Functions

	Function Switch Setting	Paddle Switch Up	Paddle Switch Down	Function Description
Bank 3 (BANK 0 and 1 LED on)				
Bank 3 (BANK 0 and 1 LED f on)	0	Default position for normal operation (parked). Use Paddle switch to change banks.		
	1-9	Not used at this time.		
	A	Not used at this time.		
	B	Increase	Decrease	Set Fine Video Delay in 1/2 pixel steps.
	C	Increase	Decrease	Set Coarse Video Delay in 128 pixel steps.
	D-F	Not used at this time.		

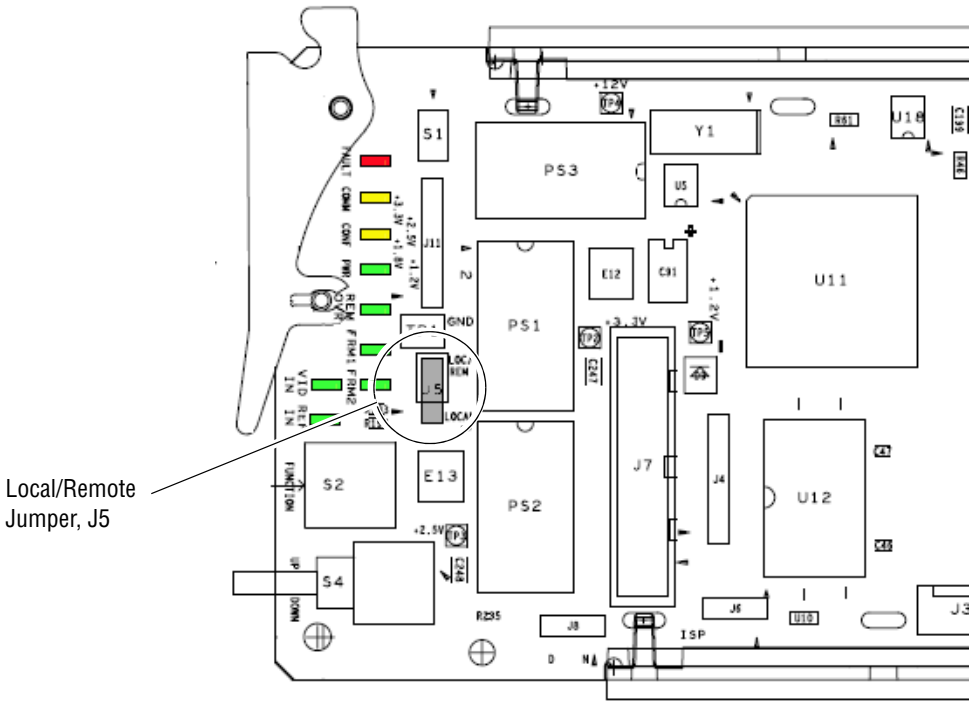
Remote Configuration and Monitoring

8985FSP 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 Gecko Flex frame. Each of these interfaces is described below.

Local/Remote Jumper

The on-board jumper Local/Remote jumper, J5, must be set for local and remote operation (LOC/REM position, pins 2-3) or to lock out remote control (LOCAL position, pins 1-2).

Figure 10. Module Configuration Switches and LEDs



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 Flex frame network.

Note The 8900NET module in the Gecko Flex frame must be running software version 4.0.1 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 Flex frame over the local network. Refer to the documentation that accompanies the Newton Modular Control System for installation, configuration, and operation information.

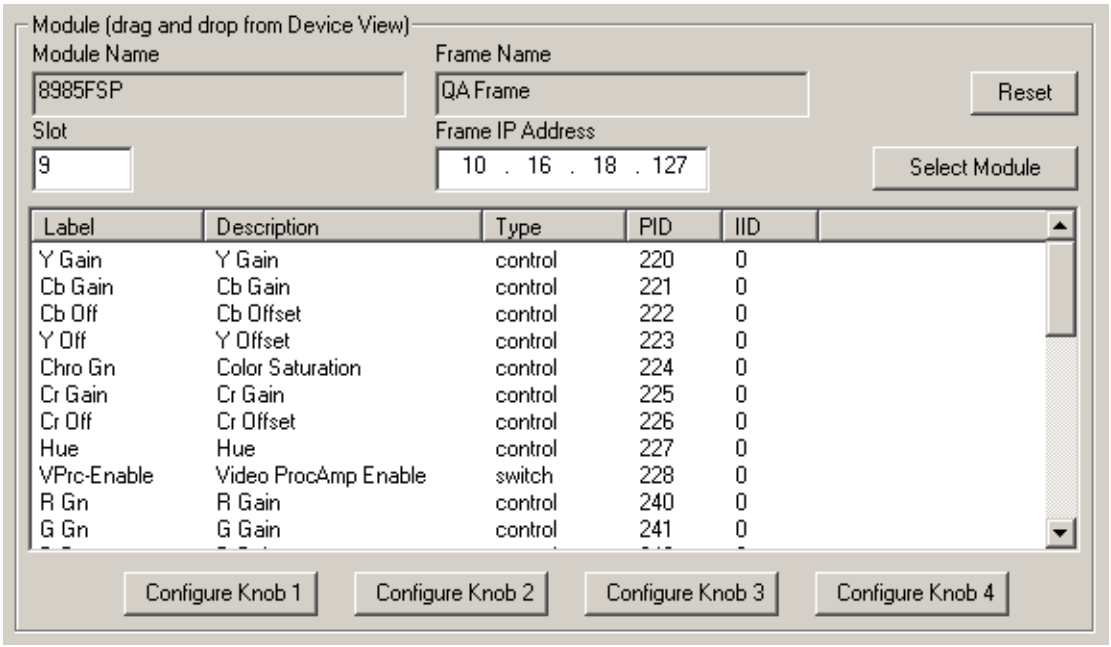
Control panel access offers the following considerations for module configuration and monitoring:

- 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 8985FSP module are listed in Table 2 on page 21.

An example of the Newton Configurator is shown in Figure 11.

Figure 11. Newton Configurator Example



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:

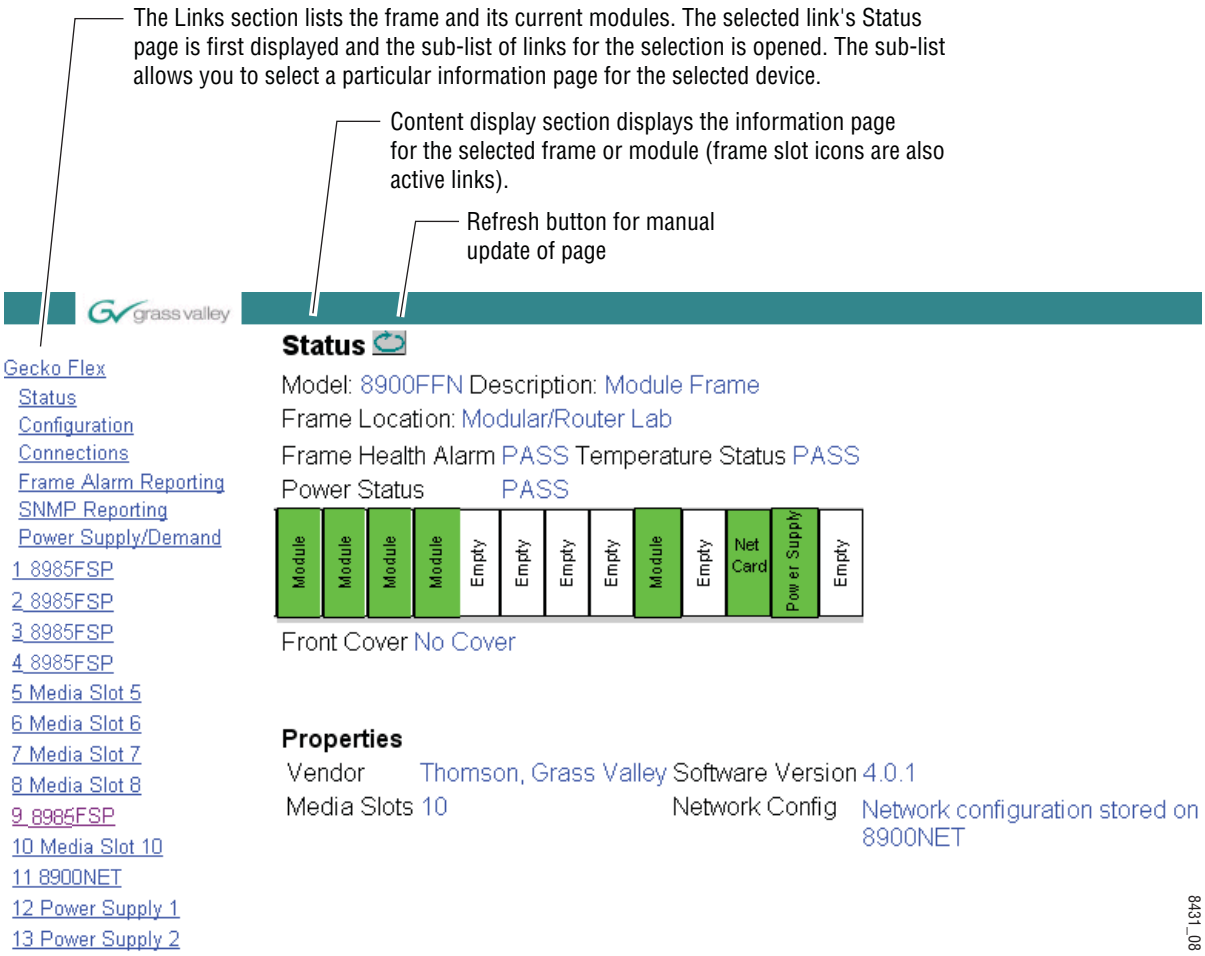
- Provides complete access to all module status and configuration functions, including naming of inputs and outputs, factory parameter and name default recalls, E-MEM functions, slot configuration, and SNMP monitoring controls.
- Web access will require some normal network time delays for processing 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 12 on page 34. The 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 4.0.1 required for this frame and module.

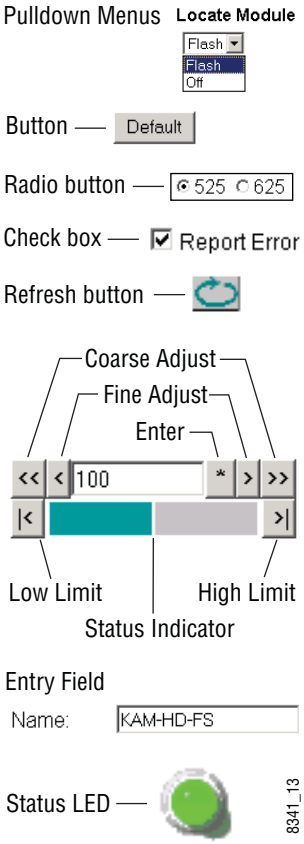
For information on status and fault monitoring and reporting shown on the Status page, refer to *Status Monitoring* on page 62.

Figure 12. Gecko Flex Frame Status Page



Web Page Operations and Functional Elements

The following conventions and functional elements (shown at left) are used in Gecko Flex web page operations. (The examples shown throughout this manual represent 8900NET software version 4.0.0 or later):



- Pulldown menus allow you to choose selections from a list.
- Clicking on a button performs an immediate action such as recall of defaults, clearing of states, learning configurations, and selecting all or none of a selection.
- Radio buttons are used to make a choice of one parameter in a group.
- Check boxes are used when a selection can be enabled or included in a group. Multiple check box selections or enables can be made for some parameters.
- A **Refresh** button (circular arrow) is provided at the top of each web page for manual refresh to view recently changed parameters.
- Each numerical adjustment control has a **Coarse** adjust button (left and right top double arrows) which increases or decreases the step value by a factor of 10. The **Fine** adjust button (left and right inside single arrows) increases or decreases the step value by 1.

  To change a value, use the arrow button controls or enter a value into the number field and select the **Enter** button (*) or use the **Enter** key on your keyboard. The Status Indicator bar will follow the value selected.

  Use the **Low** and **High Limit** buttons to go directly to the lowest and highest limits for the parameter.
- An entry field allows naming of various module functions such as input or output signals, asset tag, and slot identification.
- The **Status** LED icon reports communication status for the frame slot and is a link to the module Status web page where Warnings and Faults are displayed.

  LED colors indicate:

  - Green = Pass – no problems detected
  - Yellow = Configuration error warning
  - Red = Fault condition detected

Web Page Headers

Each configuration web page has a Status and Identification Header as shown in Figure 13 for the 8985FSP, Figure 14 for the 8985FS, and Figure 15 for the 8985RPRC module.

Figure 13. 8985FSP Status/ID Header

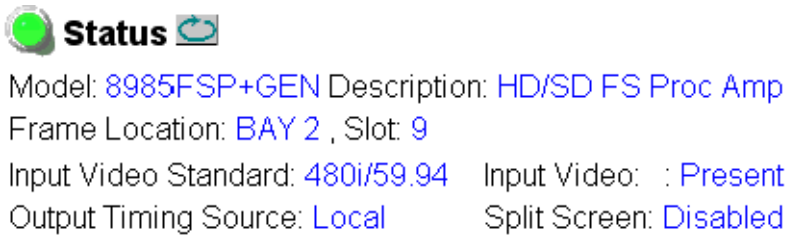


Figure 14. 8985FS Status /ID Header

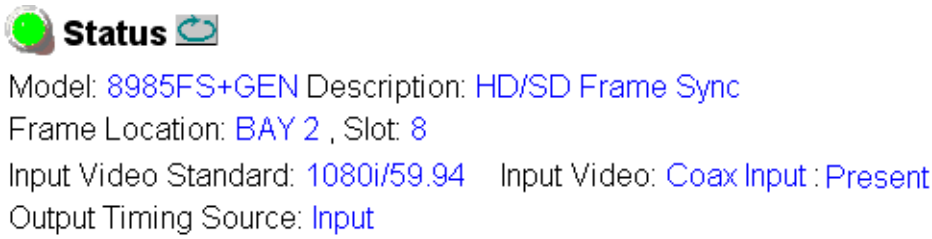
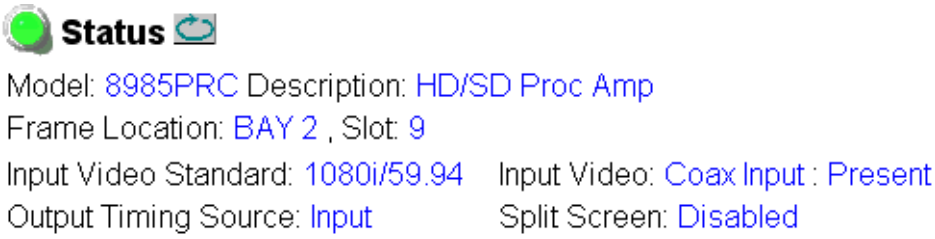


Figure 15. 8985PRC Status /ID Header



The header information on each web page includes the following:

- **Model** and **Description** are read-only generated by the module.
- **Frame Location** is defined on the 8900 Series Gecko Flex Frame Configuration web page.
- **Slot** number reports the module's location in the frame.
- **Input Video Standard** reports the input video type and rate selected on the System Config web page.
- **Input Video** reports the status of the video input to the module.
- **Output Timing Source** reports the output timing source (Frame Reference or Input) chosen on the System Config web page.
- **Split Screen** status is reported (**Enabled** or **Disabled**) as set on the System Config, Color Correction, or Video Proc Amp web pages on the 8985FSP and 8985PRC modules. Not present on the 8985FS module.

Web pages with configuration parameters each have a **Default** button at the bottom of the page to allow resetting of default parameters for only that page.

Web Page Links

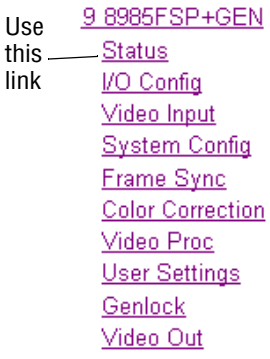
The web interface GUI provides the following links and web pages for the 8985FSP/FS/PRC modules (Figure 16 on page 38):

- Status – reports input video and reference signal status, presence of Fiber Optic and Genlock option submodules, and module information (page 39),
- I/O Config – shows a graphic representation of inputs and outputs to the module and allows naming of each input and enabling and disabling of signal reporting (page 43),
- Video Input – allows selection of the video input source and provides the status of all sources, including fiber optic submodule option inputs (page 44),
- System Config – set input video rate and line standard, set output timing source and control Split Screen function (page 45),
- Frame Sync – provides horizontal and vertical timing and loss of signal controls for the 8985FSP module (page 47),
- Color Correction – provides RGB gain, offset and gamma correction adjustments and a control for the Split Screen function (page 50),
- Video Proc – provides overall video processing for the HD or SD signal (page 52),

- User Settings – allows recalling of factory defaults for all module parameters or factory signal names, and provides a save/load configuration file function (page 54),
- Genlock – report status for the optional Genlock submodule (page 57),
- Video Out – enable and disable the fiber optic outputs when a fiber module is installed and set video delay for the output signal (8985PRC module only) (page 58), and
- Slot Config – provides Locate Module and Slot Memory functions along with links to the SNMP and Frame Alarm configuration web pages (page 59).

Figure 16. 8985FSP/FS/PRC Web Page Links

Status Web Page



The Status web page (Figure 17 on page 40 for the 8985FSP, Figure 18 on page 41 for the 8985FS. and Figure 19 on page 42 for the 8985PRC modules) shows the input signal status of each of the video and the reference inputs and outputs. It also provides status reporting for the optional Genlock and Fiber Optic submodules. Color coding of the display and the Status LED indicates the signal status. Refer to *Status Monitoring* on page 62 for a complete explanation of the color coding.

Module Physical Structure

Status is reported for each of the following video or reference signals:

- Video In – indicates the status of the video input to the module from the coax BNC, or one of two possible fiber optic inputs (depending on the type of fiber optic connector installed).
- Video Out – not monitored in this application.
- Genlock Ref In (8985FSP/FS) – indicates the status of the external genlock reference signal at BNCs J1 and J3 (Genlock Loop).
- Local Ref (8985FSP/FS) – indicates the status of the internally generated genlock reference signal from the 8900GEN submodule to the front module.
- Frame Bus – indicates the status of the communication bus to the 8900NET module.
- Ref 1 and Ref 2 (From Frame) (898FSP/FS) – not used at this time.

When the module detects an error, a warning messages, such as signal or reference not present, will appear between the lines below the status graphic as illustrated in Figure 17 on page 40. Refer to the *I/O Config Web Page* on page 43 for information on disabling the status reporting.

The installation status of the Genlock Module or Fiber Optic submodule will also be reported here as well as being shown in the graphic.

Information about the module, such as part number, serial number, hardware revision and software and firmware versions, and asset tag number (assigned on the Slot config web page) are given in a read-only section at the bottom of the display.

Figure 17. 8985FSP Status Web Page

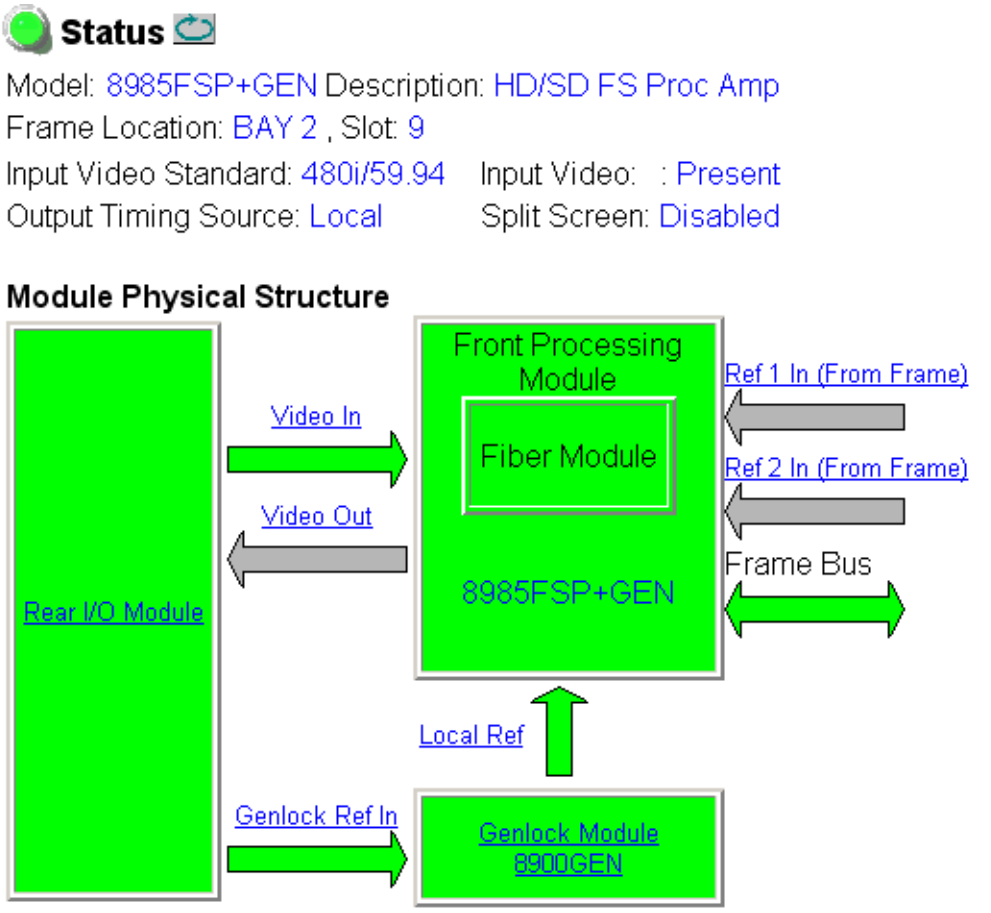


Figure 18. 8985FS Status Web Page

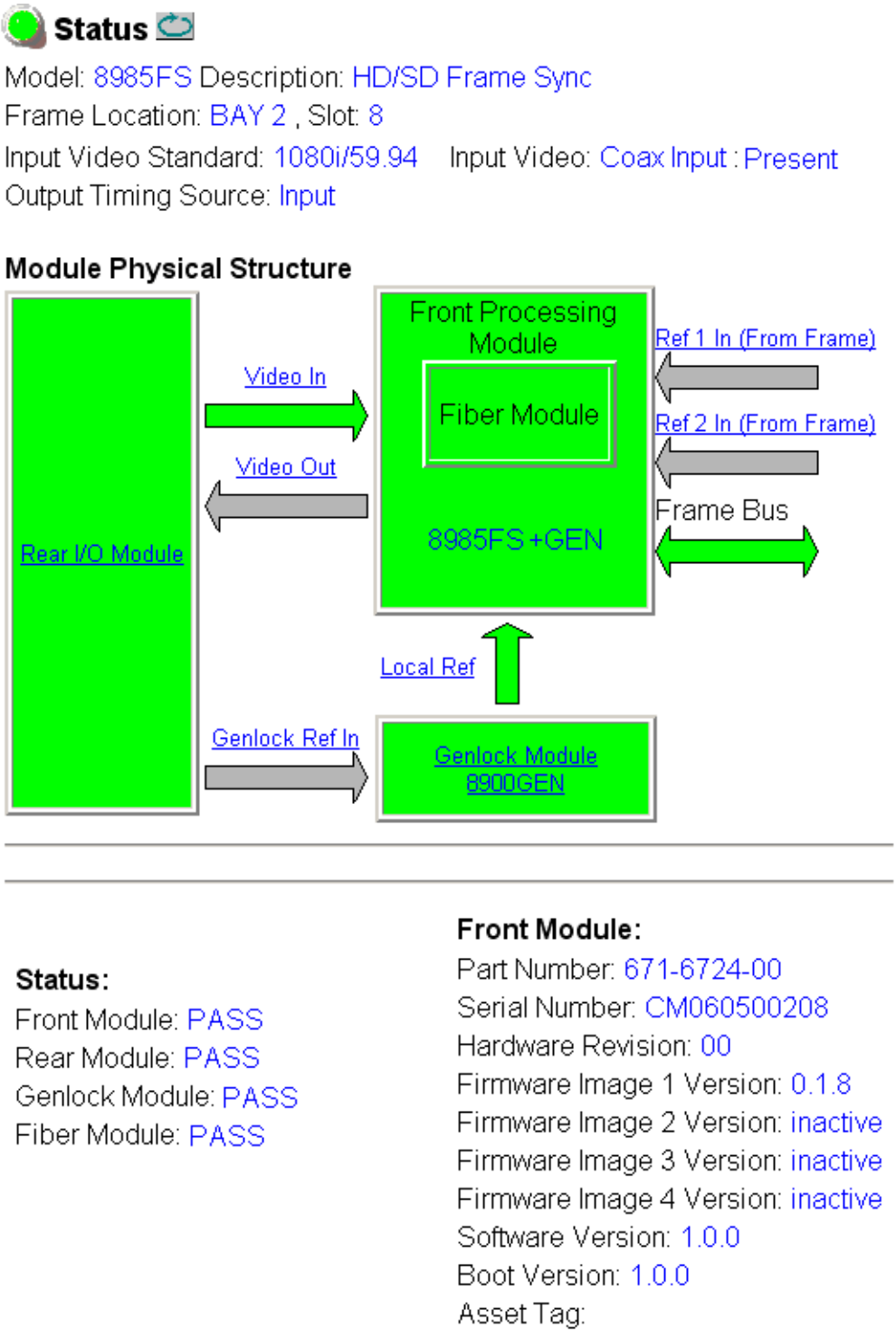
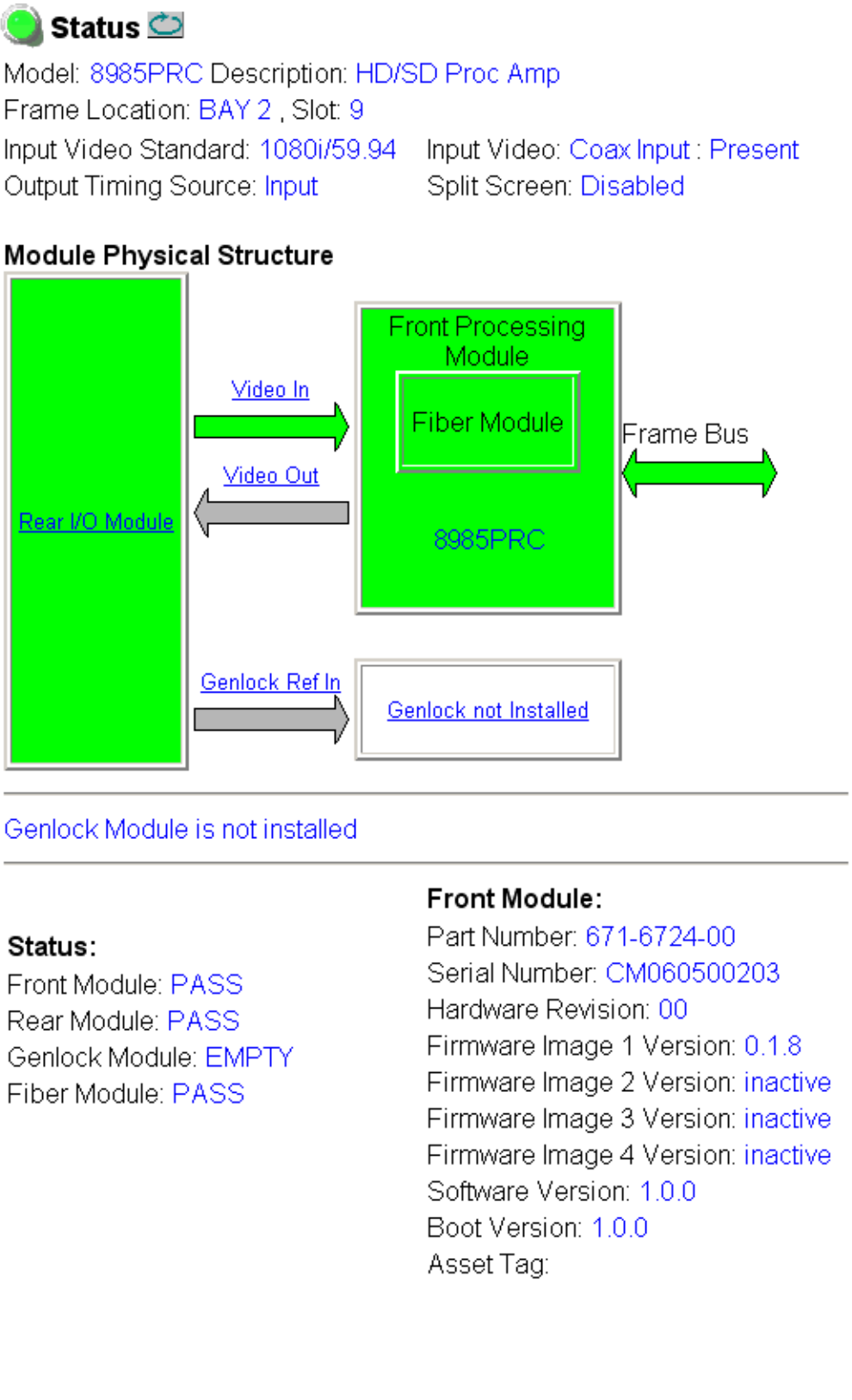
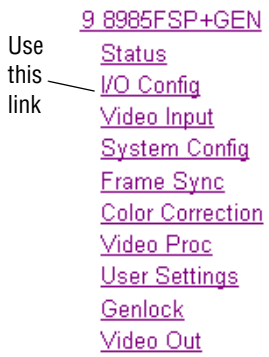


Figure 19. 8985PRC Status Web Page



I/O Config Web Page



Use the I/O Config web page (Figure 20) for the following:

Rear Connectors

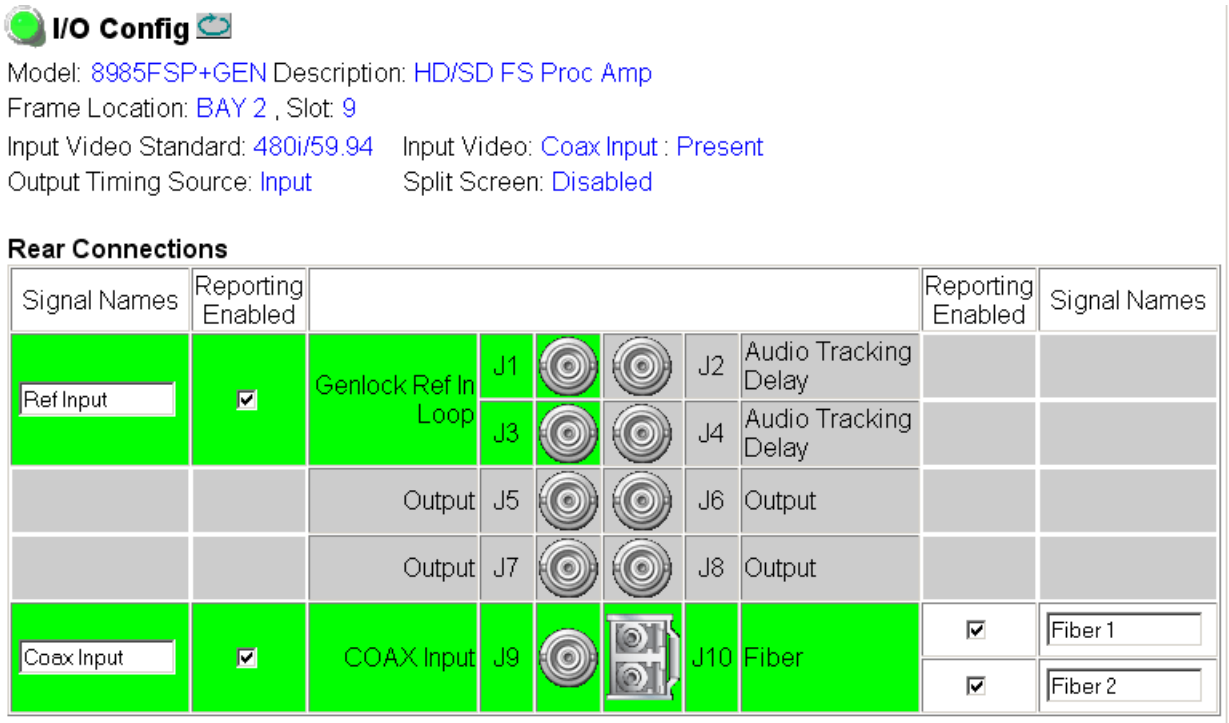
All of the input and output connectors on the corresponding 8985FSP rear module are illustrated on the I/O Config web page. The inputs can be configured with the following controls:

- **Signal Naming** – type the desired input name (up to 11 characters) into the corresponding boxes for each input. The status of each input is indicated by the color of the display.
- **Reporting Enabling** – status reporting of each input type can be enabled or disabled by selecting or deselecting the corresponding checkbox in the **Reporting Enabled** column for each input type. You may disable reporting for inputs not being used if desired to avoid error messages. The **Reporting Enabled** column is also used when an SNMP monitoring application such as NetCentral is installed.

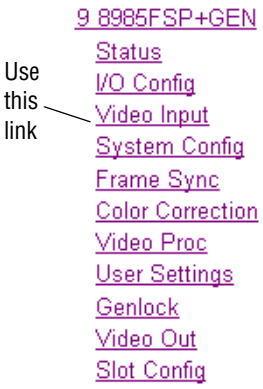
  Refer to *Status Monitoring* on page 62 for an explanation of the color coding and using an SNMP monitoring application.

Note Outputs are not monitored in this application.

Figure 20. 8985FSP I/O Config Web Page



Video Input Web Page



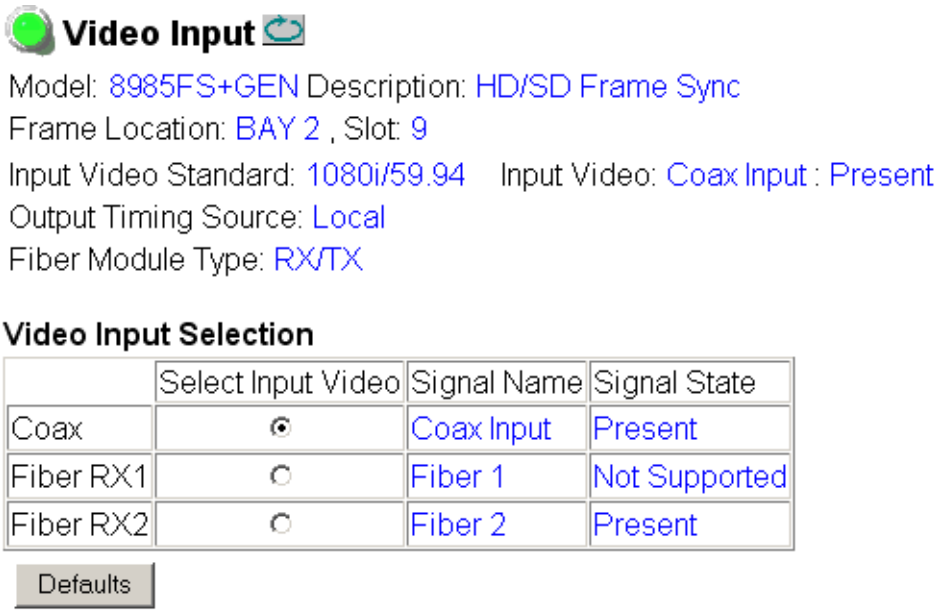
Use the Video Input web page (Figure 21) to select and monitor the video input source to the module with the following:

Video Input Selection

This section provides the following for the video input signal:

- **Select Input Video** – select the input source from the rear module as either **Coax**, **Fiber RX 1**, or **Fiber RX 2**.
- **Signal Name** – the signal name defined on the I/O Config web page will appear in each field.
- **Signal State** – this field reports the status of the input video signal as **Present**, **Not Present**, or **Not Supported** (no fiber submodule installed).
- **Defaults** button – select the **Defaults** button to return the Video Input to the default state. See Table 2 on page 21 for a list of default values.

Figure 21. Video In Web Page



System Config Web Page

Use the System Config web page (Figure 22 on page 46) to set the following system configuration parameters for the module:

Input Video

Use the following controls to select the desired video input type and rate. Refer to Table 2 on page 21 for a complete list of available input types and rates.

- **Input Type** – select the radio button corresponding to the desired input type.
- **Input Rate** – select the desired input rate from the pulldown.

Output Timing

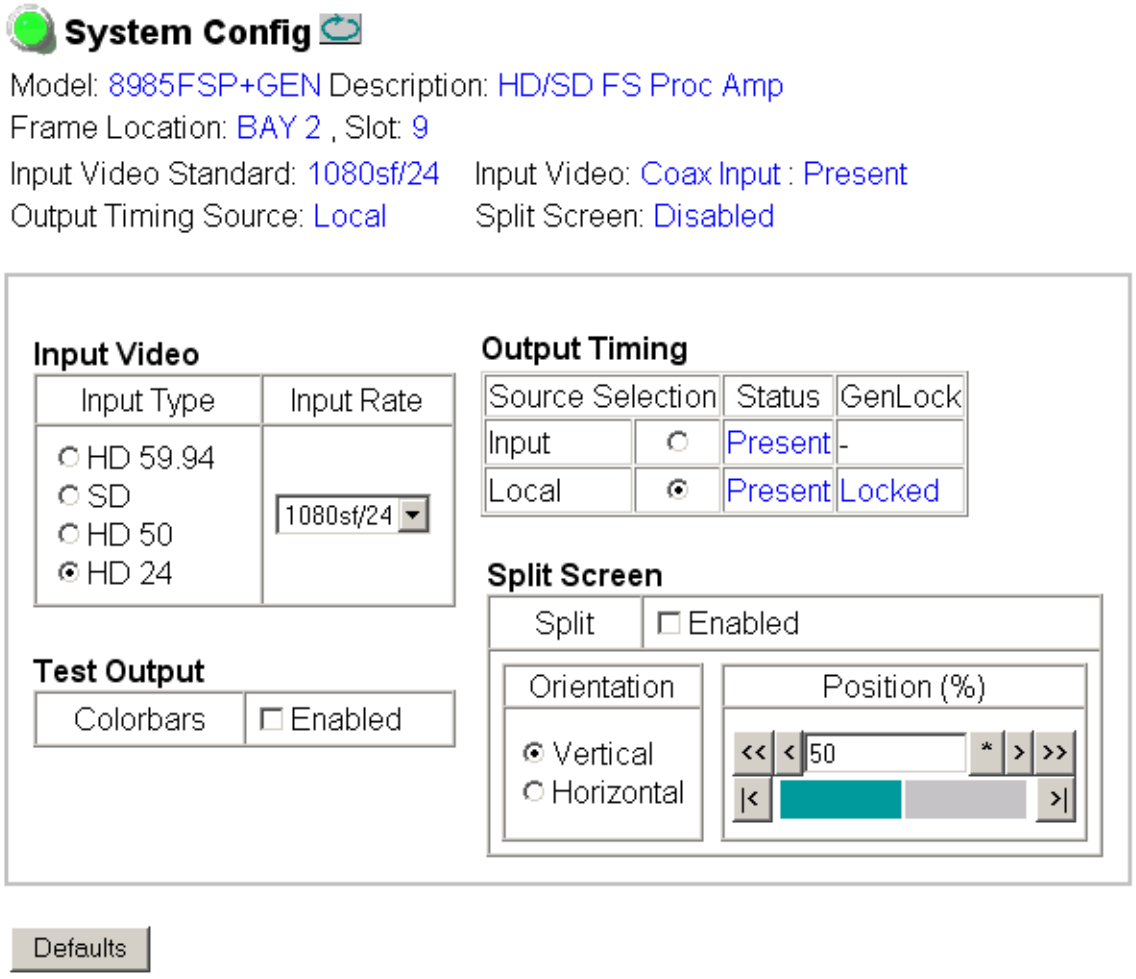
Select the output timing source for the module as either **Input** (referenced to the video input signal) or **Local** (external reference from the Genlock sub-module). The signal and genlock status of the reference source will be reported for each available source.

Split Screen

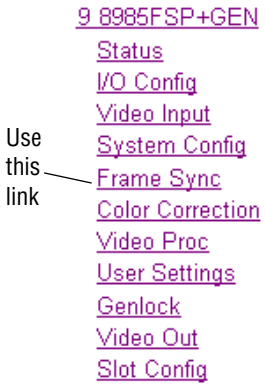
Use a horizontal or vertical split screen to compare the unprocessed input video (top or right) to the processed output video (bottom or left). This control is duplicated and tied together with the Split Screen controls on the Color Correction and Video Proc web pages. Changes made on any one of the Split Screen controls will control all three screens.

- **Split Enable** – enable the split screen by checking the Split **Enabled** checkbox.
- **Orientation** – select the orientation of the split screen with the **Vertical** or **Horizontal** radio button.
- **Position** – use this control to set the amount of horizontal or vertical split (10 to 90%) of unprocessed video to appear on the screen.

Figure 22. System Config Web Page



Frame Sync Web Page



The Frame Sync web page (Figure 23 on page 48 for Input reference and Figure 24 on page 49 for Local reference) provides horizontal and vertical timing and loss of signal controls for the 8985FSP module.

Note The controls available on the Frame Sync page depend on the Output Timing Source selected on the System Config web page.

Timing Adjustment

When the Frame Sync option is present, horizontal and vertical timing adjustments can be made on the output video as required with the following controls

- **H Timing (Pixels)** – the horizontal timing can be adjusted in pixels relative to the external reference.
- **V Timing (Lines)** – the vertical timing can be adjusted in lines relative to the external reference.

Loss of Signal Operation

Set the operation to be performed by the module upon loss of input signal when a Local external reference is present (**Auto Blue**, **Auto Freeze**, or **Pass**).

When there is no external reference (output timing set to Input), the module will default to pass the signal to the output.

Manual Freeze Mode

Select one of the radio buttons (**Frame** or **Field**) to perform a manual freeze on the output.

Figure 23. Frame Sync Web Page – Input Reference

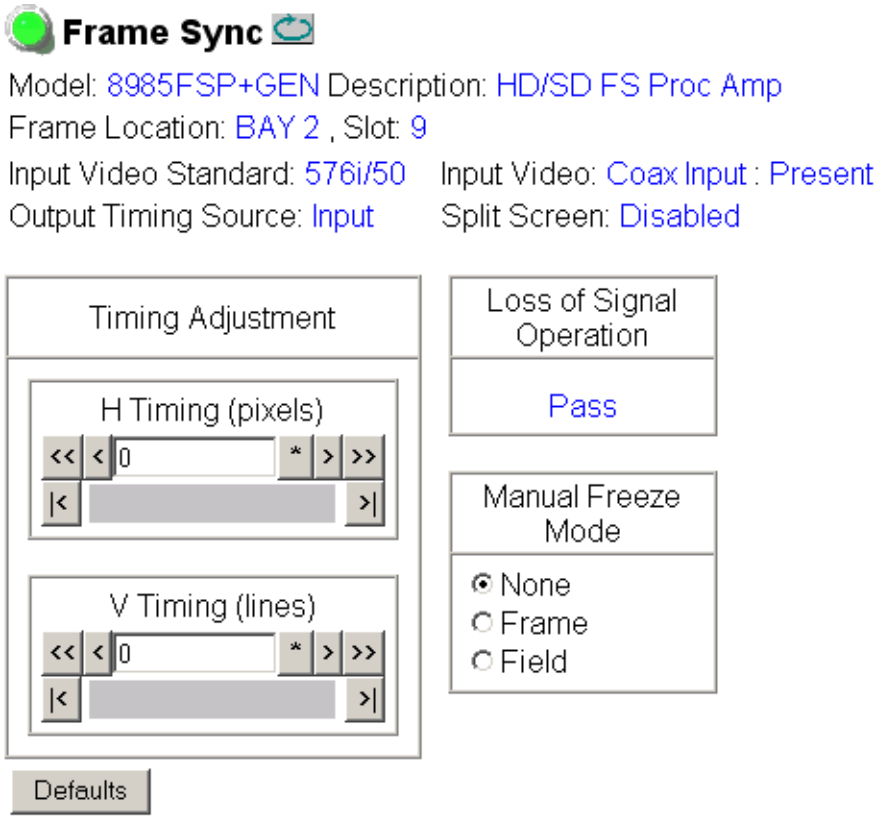
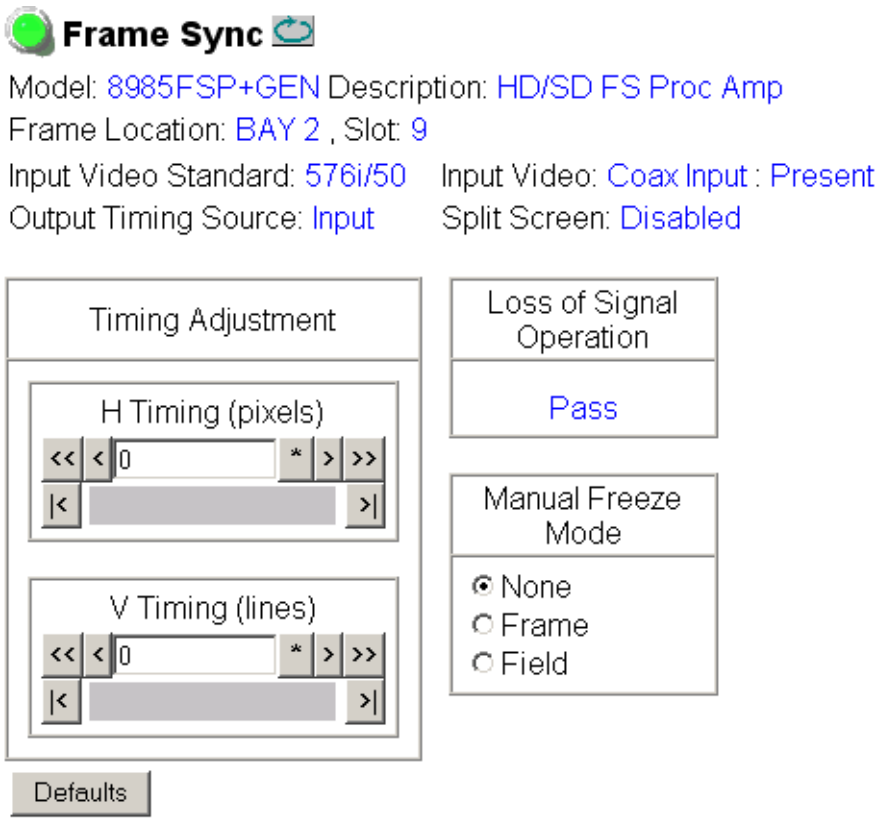
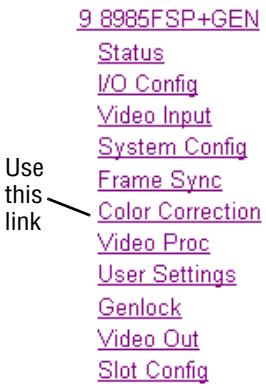


Figure 24. Frame Sync Web Page – Local Reference



Color Correction Web Page



Use the Color Correction web page (Figure 25 on page 51) to make RGB gain, offset and gamma correction adjustments and control the Split Screen function.

The Color Correction processing must be enabled before adjustments can be made. Select the **VCC Enable** checkbox to enable these controls.

Color Correction

The Color Correction section provides the following RGB controls:

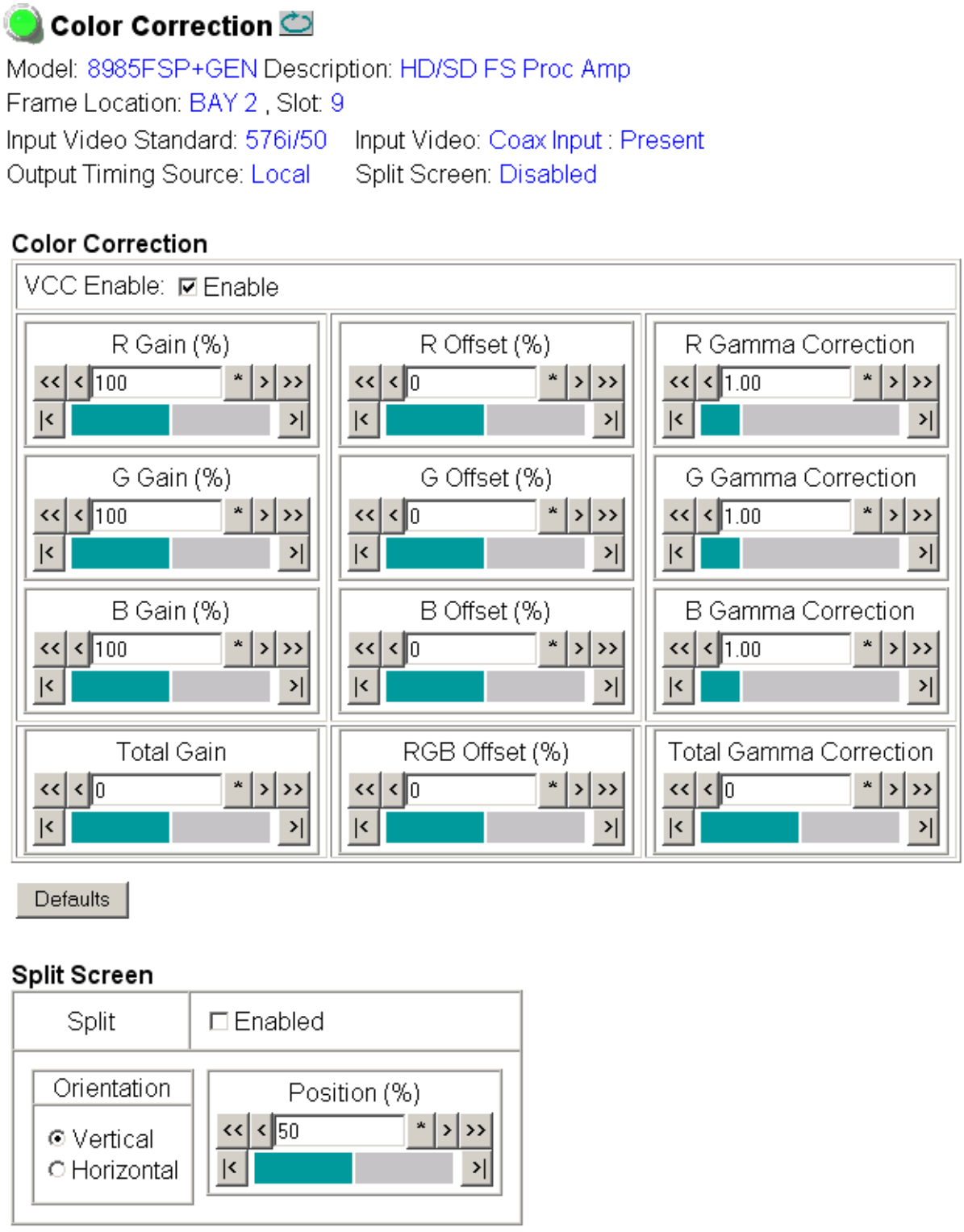
- **Gain Adjustments** – set the gain from 0 to 200% for the R, G, and/or B channel with the corresponding control or adjust all of the gains together by adjusting the **Total Gain** control.
- **Offset Adjustments** – set the offset from ± 100% for the R, G, or B channel with the corresponding control.
- **Gamma Correction** – set gamma correction with the **R Gamma Correction**, **G Gamma Correction**, and/or **B Gamma Correction** or adjust all channels together using the **Total Gamma Correction** control. Raising the gamma above 1.0, brightens the gray intensity. Lowering the gamma below 1.0, darkens the gray intensity.

Split Screen

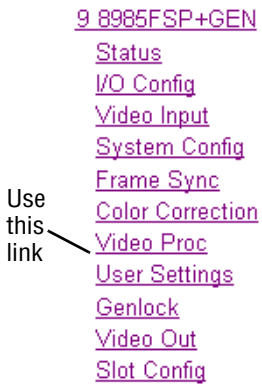
Use a horizontal or vertical split screen to compare the unprocessed input video (top or right) to the processed output video (bottom or left). This control is duplicated and tied together with the Split Screen controls on the System Config and Video Proc web pages. Changes made on any one of the Split Screen controls will control all three screens.

- **Split Enable** – enable the split screen by checking the Split **Enabled** checkbox.
- **Orientation** – select the orientation of the split screen with the **Vertical** or **Horizontal** radio button.
- **Position** – use this control to set the amount of horizontal or vertical split (10 to 90%) of unprocessed video to appear on the screen.

Figure 25. Color Correction Web Page



Video Proc Web Page



The Video Proc web page (Figure 26 on page 53) provides overall video processing for the HD or SD signal.

Video Processing Controls

The Video Proc controls must be enabled by checking the **VPA Enable** checkbox.

The following controls are provided for video processing:

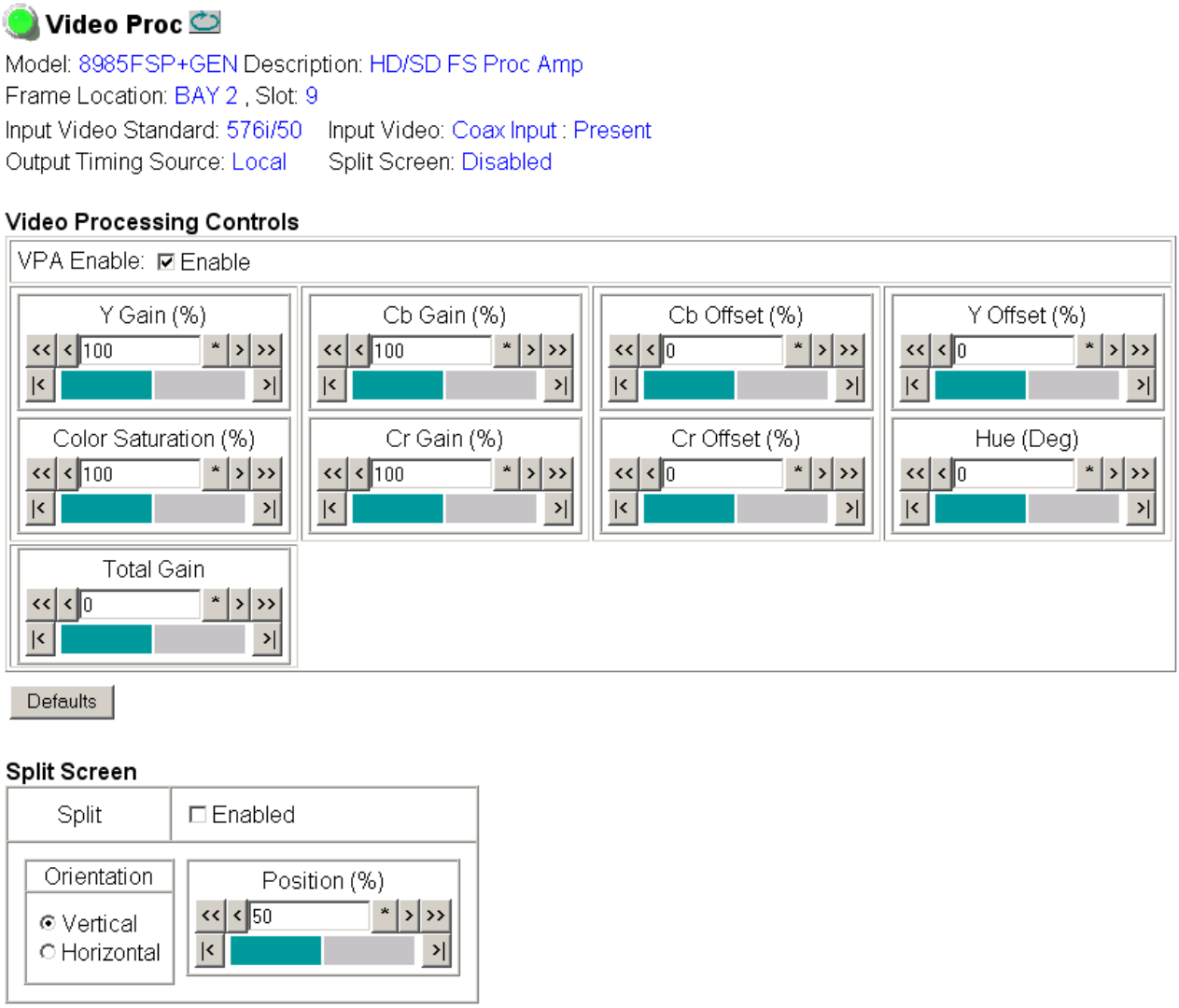
- **Y/Cb/Cr Gain** – set the gain for the Y, Cb, or Cr channel from 0 to 200% with the corresponding control or adjust all gains together by using the **Total Gain** control.
- **Y/Cb/Cr Offset** – set the offset ± 100% for the Y, Cb, and Cr channels with the corresponding control.
- **Color Saturation** – adjust the percentage of color saturation relative to 100%.

Split Screen

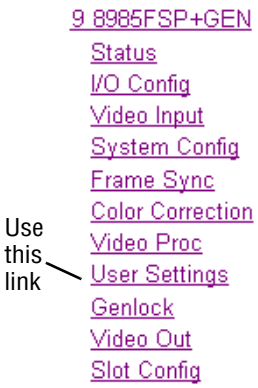
Use a horizontal or vertical split screen to compare the unprocessed input video (top or right) to the processed output video (bottom or left). This control is duplicated and tied together with the Split Screen controls on the System Config and Color Correction web pages. Changes made on any one of the Split Screen controls will control all three screens.

- **Split Enable** – enable the split screen by checking the Split **Enabled** checkbox.
- **Orientation** – select the orientation of the split screen with the **Vertical** or **Horizontal** radio button.
- **Position** – use this control to set the amount of horizontal or vertical split (10 to 90%) of unprocessed video to appear on the screen.

Figure 26. Video Proc Web Pager



User Settings Web Page



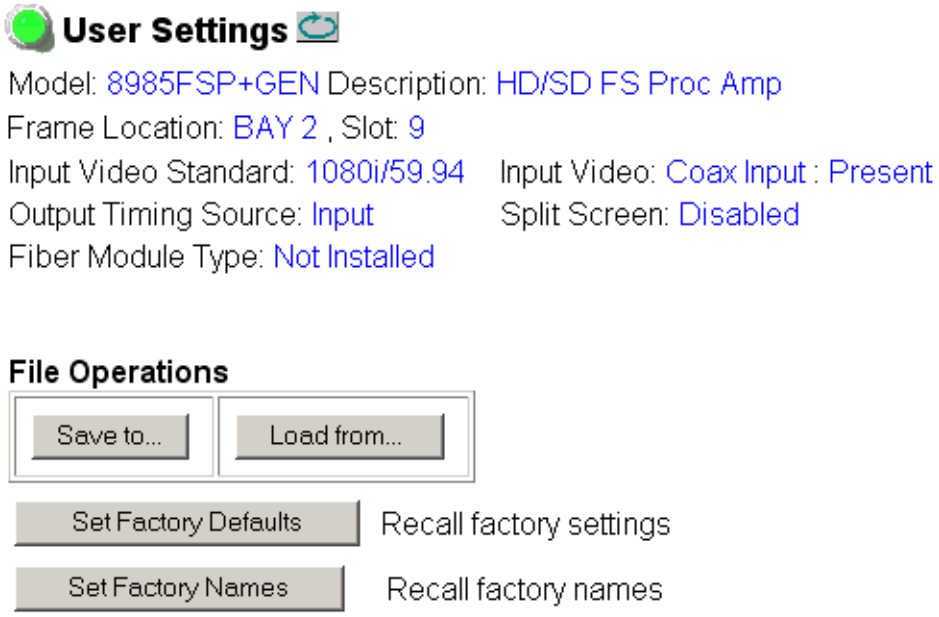
The User Settings web page (Figure 27) provides a save/load function for configuration files and a way to recall factory defaults parameters and signal names for the entire module.

Recall Factory Defaults and Names

Use the two button at the bottom of the web page to do the following:

- **Set Factory Defaults** – select the **Set Factory Defaults** button to recall factory settings to the module. Defaults for all module parameters are listed in Table 2 on page 21.
- **Set Factory Names** – select the **Set Factory Names** button to recall factory signal names to the module. Defaults for all signal names are displayed on the I/O Config web page shown in Figure 20 on page 43.

Figure 27. Set Factory Defaults Web Page



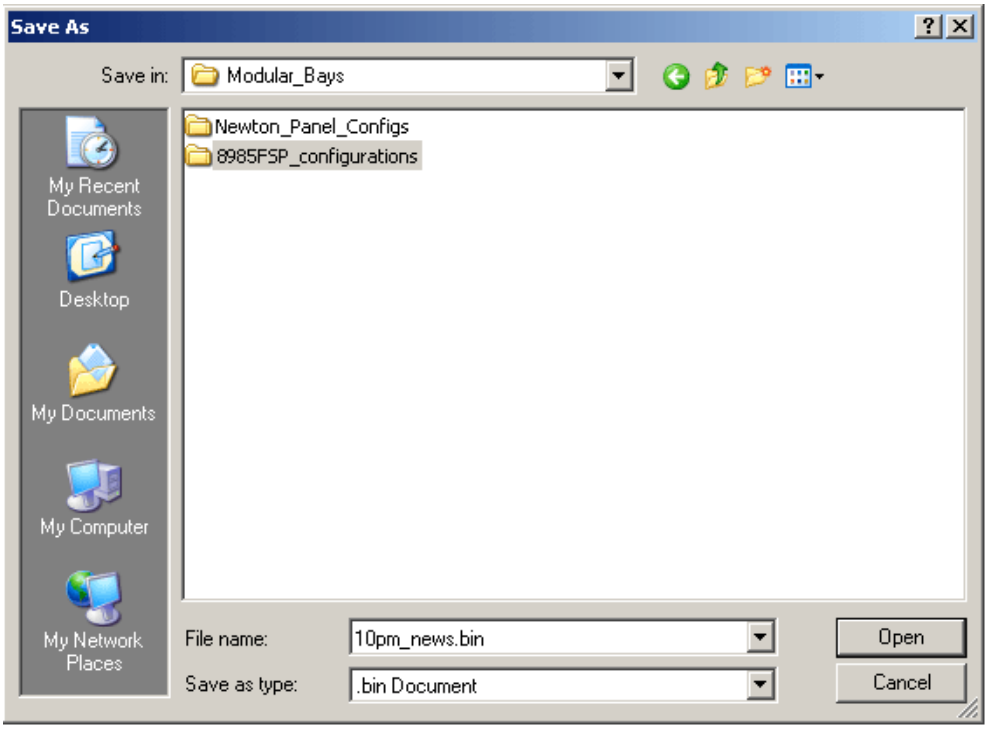
File Operations

Configuration files from the 8985FSP module may be saved to a file and stored offline for later recall.

To save a file, do the following:

1. Save the current configuration on the module to a file by selecting the **Save to...** button which will bring up the File Download screen (not shown).
2. In the File Download screen select **Save**.
3. This will bring up the Save As screen shown in Figure 28.
4. Enter a name in the File name field. This file is saved as a .bin type.

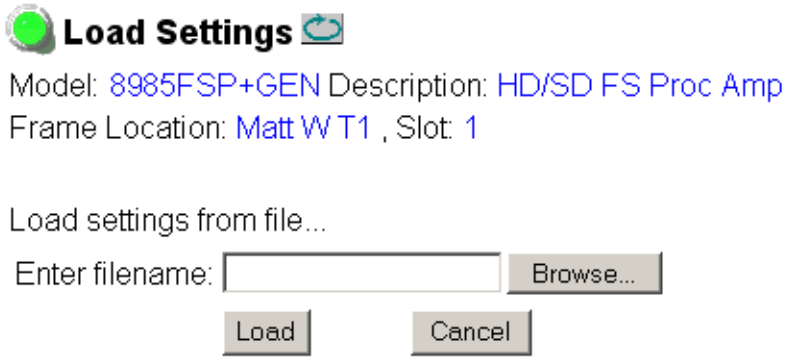
Figure 28. Save Module Configuration.



To load and recall a file, do the following:

1. Selecting the **Load From...** button on the User Settings web page (Figure 27 on page 54) which will bring up the Load Settings web page shown in Figure 29 on page 56.
2. Enter a path and file name or select **Browse...** to locate the directory where the files have been saved.

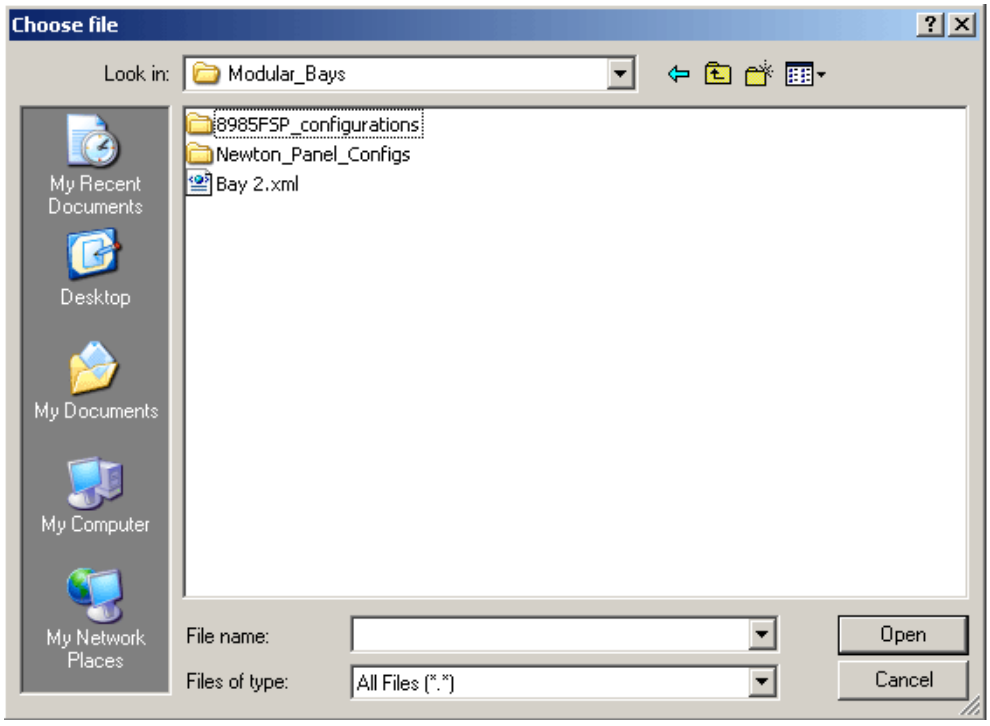
Figure 29. Load Module Configuration.



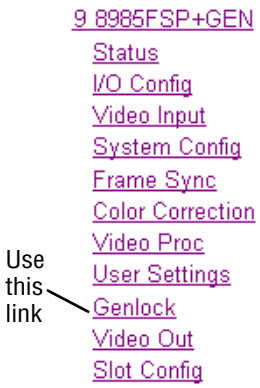
3. This will bring up the Choose File screen shown in Figure 30.
4. Select a file to load and then press **Open** to bring the file into the filename field.
5. Press the **Load** button in the Load From... web page to load the file to the module.

Note The parameters stored in this file will immediately be loaded to the module. This could change the status of the output so be sure to be aware of the changes or be off air before uploading a configuration file.

Figure 30. Choose File Screen



Genlock Web Page

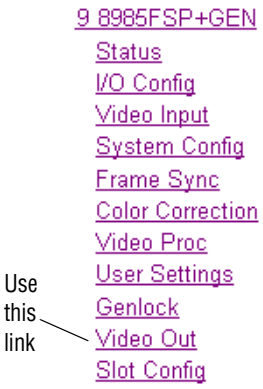


The Genlock web page (Figure 31) is present on the 8985FSP and FS modules and provides reporting status for the input reference signal to the Genlock submodule and the following other genlock status items:

- Genlock – reports always **Enabled**.
- Ref Input – reports **Present** or **Not Present**.
- Status – reports whether the reference input is **Locked** or **Not Locked**.
- Color Frame– reports color framing as **Locked** or **Not Locked.**
- Output Bus – reports the output timing reference selected on the *System Config Web Page* on page 45.
- Input Standard – reports the input standard selected on the *System Config Web Page* on page 45.
- Output Standard – reports the detected output standard.
- Audio Frame– reports audio framing as **Locked** or **Not Locked.**
- Video Frame– reports video framing as **Locked** or **Not Locked.**

Figure 31. Genlock Web Page

Video Out Web Page



Use the Video Out web page to enable or disable the SFP Fiber Optic submodule outputs when present.

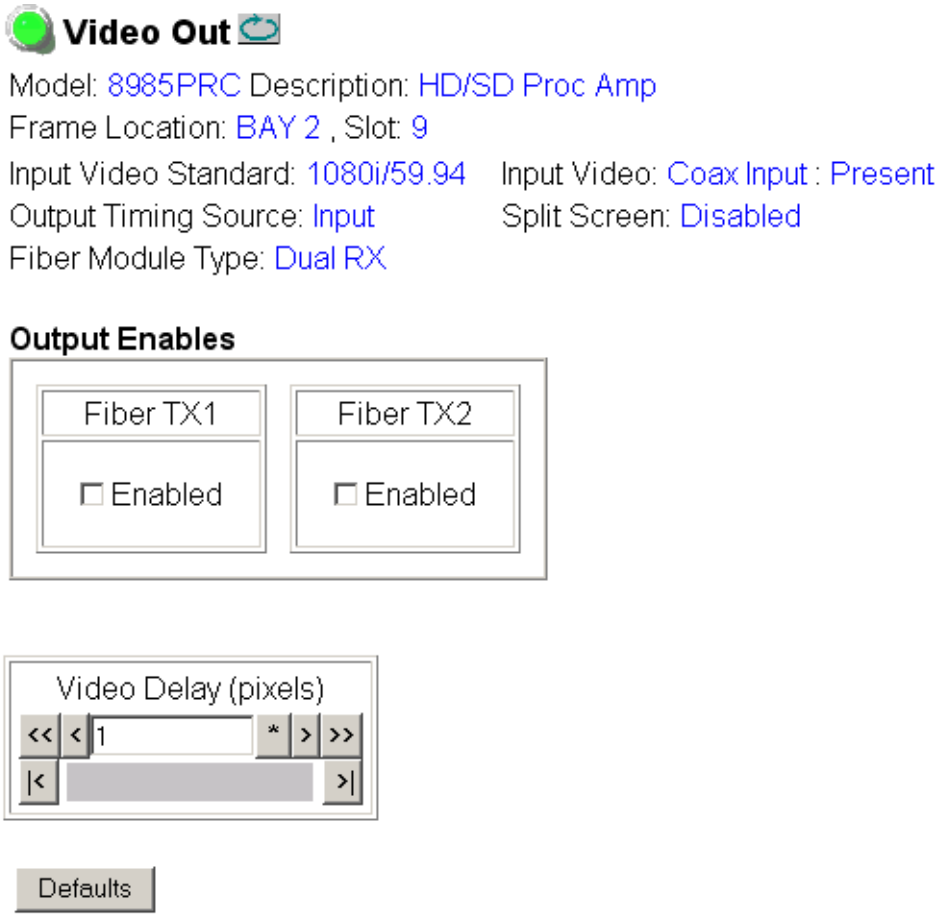
Note Fiber optic outputs will be present when either the 1310NM-DTL or 1310NM-TRL Fiber Optic submodule is installed.

Output Video

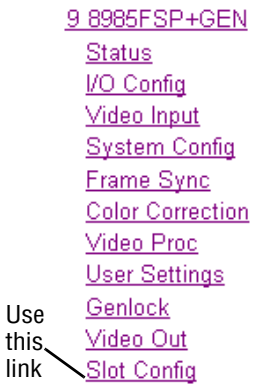
This section provides the following for the video output signal:

- **Fiber TX1** – check the **Enabled** checkbox to enable the output (1310NM-DTL submodule installed).
- **Fiber TX2** – check the **Enabled** checkbox to enable the output (1310NM-TRL or 1310NM-DTL submodule installed).
- **Video Delay (8985PRC only)** – set the amount of video delay on the output in pixels.

Figure 32. Video Out Web Page



Slot Config Web Page



Use the Slot Config web page shown in Figure 33 to perform the following functions on the module:

- Locate Module
- Slot Identification
- Slot Memory
- Frame Health Reporting
- SNMP Trap Reporting

Each of these functions is described in detail below.

Figure 33. Slot Config Web Page

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 identify the module by typing 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 identification may be entered in the **Asset Tag** field. This will appear on the module Status web page and in the NetConfig inventory report.

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 and software version 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.

Only the same module type, with the same version software should be installed in this slot. Inserting a similar module with a different version software can cause unexpected results.

If a different type of module is installed in this slot, a warning message will state that the original module type has been replaced with another module type. In this case, a **Clear** button will appear allowing you to clear the stored configuration from the previous module.

Note Uncheck the **Restore Upon Install** button before downloading new software.

Frame Health Reports Link

Select the Frame Health Reports link to open the 8900NET module Frame Alarm Reporting web page. This web page allows configuration of the alarms and warnings that are reported to the external Frame Health Alarm connector on the rear of the Gecko Flex frame.

SNMP Trap Reports Link

Select the SNMP Trap Reports link to open the 8900NET SNMP Reporting web page. This link will only be present when SNMP Agent software has been installed on the 8900NET module. This web page allows configuration of which alarms and warnings that are reported to the SNMP management software.

Refer to the *8900NET Instruction Manual* for complete details on using the 8900NET web pages.

Software Updating

Software updating of the 8985FSP modules is done using the NetConfig Networking Application PC option. This application is available free of charge from the Thomson Grass Valley web site.

The procedure for updating software with NetConfig is given in the 8985FSP Release Notes when software updates become available. Check the Thomson Grass Valley web site for update information. Refer to *Contacting Grass Valley* *on page 2* for more information.

Status Monitoring

This section provides a summary of status monitoring and reporting for a Gecko Flex 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 and Gecko Flex 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 16. 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 Gecko Flex 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 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.

Service

The 8985FSP modules make extensive use of surface-mount technology and programmed parts to achieve compact size and adherence to demanding technical specifications. Circuit boards should not be serviced in the field unless directed otherwise by Customer Service.

Power-Up Diagnostic Failure

If the module has not passed self-diagnostics, do not attempt to trouble-shoot. Return the unit to Grass Valley (see *Module Repair*).

Troubleshooting

Electronic Circuit Breaker

An electronic circuit breaker on the module works during a fault condition or an overcurrent to cut off power to the module in place of a fuse.

If power has been cut off to module, remove the module and replace it in the frame to reset. If the problem persists contact Grass Valley Customer Service.

Module Repair

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 Customer Service representative for depot locations.

Refer to *Contacting Grass Valley* *on page 2* at the front of this document for the Grass Valley Customer Service contact information.

Specifications

Table 6. 8985FSP Specifications

Parameter	Value
Serial Digital Input	
Number and type of inputs	1 BNC
Input impedance	75 ohm
Return loss	> 15 dB from 5 MHz to 1.5 GHz
Signal type	1080i @59.94, 50 1080p@24sF, 24 720p@60, 59.94, 50 480i@59.94 (NTSC) 576i@50 (PAL-B)
Reclocking	Yes
Auto equalization cable lengths (for any of the above signal types)	325m (Belden 1694A cable or similar for 270 Mb/s) 125m (Belden 1694A cable or similar for 1.5Gb/s)
Serial Digital Outputs	
Connector	BNC, optional fiber optic SFP
Number of outputs	4
Output impedance	75 ohm
Return loss	> 15 dB from 5 MHz to 270 MHz, > 15 dB typical from 270 MHz to 1.5 GHz
Signal level	SDI 800 mV p-p, ± 10% maximum
Rise/fall time (20-80%)	140 ps typical for HD 500 ps typical for SD
Output jitter (In Frame Sync mode, low jitter applied)	< 0.2 UI HD > 100 kHz < 1.0 UI HD 10 Hz to 100 kHz < 0.2 UI SD > 1 kHz < 0.2 UI HD, 10 Hz to 1 kHz
Electrical Length	
Input to Output (With 0 programmable delay - Delay Mode)	1080i@59.94: 1 Frame; @50: 1 Frame + 223 pixels 1080p@24: 1 Frame + 6 lines + 1337 pixels 1080sF@24: 1 Frame - 36 lines - 1337 pixels 720p@59.94: 1 Frame; @50: 1 Frame - 37 pixels 575i@50: 1 Frame + 27 pixels 480i@59.94: 1 Frame -5 lines -311 pixels
Reference to Output (Offset from reference from 0 programmable delay - Frame Sync Mode)	1080i@59.94: + 129 pixels; @50: +109 pixels 1080p@24: -1173 pixels; sF@24: 720p@59.94: +129 pixels; @50 +108 pixels 575i@50: +25 pixels 480i@59.94: -2 lines - 293 pixels
Power	
Power dissipation	< 8.0 W (with Genlock and fiber optic submodules)
Environmental	
Frame type	Gecko Flex
Frame temperature range	See Gecko Flex frame specification
Operating humidity range	
Non-operating temperature	

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