

8985PRC

SD/HD PROCESSING AMPLIFIER

Instruction Manual

SOFTWARE VERSION 1.0.2

071866600
SEPTEMBER 2008



Affiliate with the N.V. KEMA in The Netherlands

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Online User Documentation — Current versions of product catalogs, brochures, data sheets, ordering guides, planning guides, manuals, and release notes in .pdf format can be downloaded.

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

Software Downloads — Download software updates, drivers, and patches.



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Grass Valley's end-of-life product take back program assures proper disposal by use of Best Available Technology. This program accepts any Grass Valley branded equipment. Upon request, a Certificate of Recycling or a Certificate of Destruction, depending on the ultimate disposition of the product, can be sent to the requester.

Grass Valley will be responsible for all costs associated with recycling and disposal, including freight. However, you are responsible for the removal of the equipment from your facility and packing the equipment to make it ready for pickup.



For further information on the Grass Valley product take back system please contact Grass Valley at + 800 80 80 20 20 or +33 1 48 25 20 20 from most other countries. In the U.S. and Canada please call 800-547-8949 or 530-478-4148, and ask to be connected to the EH&S Department. Additional information concerning the program can be found at: www.thomsongrassvalley.com/environment



Contents

Preface	7
About This Manual.....	7
8985PRC SD/HD Processing Amplifier Module	9
Introduction	9
Module Features	9
Software Requirements.....	10
Installation	11
Module Placement in the GeckoFlex Frame	11
Module Installation Precautions	12
Rear Module Installation	13
Front Module Installation.....	14
Fiber Optics Submodule Installation.....	15
Cabling	16
Fiber Optic Cleaning Requirement	16
Video Inputs	16
Video Outputs	17
J1 – J4 BNCs	17
Power Up	18
Operation Indicator LEDs	18
Configuration.....	20
Configuration Overview	20
Video Input Selection	20
System Configuration	20
Split Screen Control.....	20
Color Correction.....	21
Video Processing Adjustments	21
User Settings.....	21
Video Outputs	21
Remote Configuration and Monitoring	22
Local/Remote Jumper.....	22
8900NET Module Information.....	22
Newton Control Panel Configuration.....	23
Web Browser Interface	24
Status Web Page.....	29
I/O Config Web Page	32
Video Input Web Page	33
System Config Web Page	34
Color Correction Web Page	36
Video Proc Web Page	38
User Settings Web Page	40
Video Out Web Page	43
Slot Config Web Page	44

Software Updating.....	46
Specifications.....	47
Status Monitoring Summary	49
External Frame Alarm	49
LED Reporting.....	50
Web Browser Interface.....	50
SNMP Reporting.....	50
Service	51
Power-Up Diagnostic Failure	51
Troubleshooting	51
Electronic Circuit Breaker	51
Module Repair.....	51
Contacting Grass Valley	51
Functional Description	52
Configuration Parameter Summary	53

Preface

About This Manual

This manual describes the features of the 8985PRC module and the corresponding rear module in the GeckoFlex frame. As part of this family of modular products, it is subject to the Safety and Regulatory Compliance information described in the *GeckoFlex Frames Instruction Manual*.

The 8985FS and 8985FSP modules are covered in separate documentation.

This manual also has instructions for using the 8900GEN-SM submodule. For more detailed information, refer to the *8900GEN-SM GeckoFlex Genlock Submodule Instruction Manual* available online on the Thomson Grass Valley web site.

When using any of the fiber optic options, refer to the laser compliance information in the *GeckoFlex Frames Instruction Manual* for safety information.

All Modular product documentation can be found on-line in PDF format at this link:

www.thomsongrassvalley.com/docs/modular

8985PRC SD/HD Processing Amplifier Module

Introduction

This manual covers installation, configuration, and operation for the 8985PRC SD/HD Processing Amplifier module. The 8985PRC offers the full-spectrum of video processing controls to correct colors and avoid illegal signal levels for applications not requiring a timed signal.

Module Features

This module provides video processing for environments utilizing SD and HD signals in both broadcast and ProAV applications. These environments require video signals to be processed for video quality.

The following features are available with this module:

- Two module set including a hot-swappable front and rear module.
- Up to ten audio or video modules in the same 2 RU GeckoFlex frame, including all 8900 Gecko Series modules.
- 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).
- 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.
- SNMP and product health monitoring is supported through the 8900NET module with applications such as NetCentral.
- Software updating using the NetConfig Networking application.

Software Requirements

8985PRC software version 1.0.2 requires the presence of an 8900NET (Net Card) Network Interface module running software version 4.3.0 or later for software updating and is this version is recommended for proper operation. The front edge configuration controls for this module are not used.

Check the software version of your 8900NET module by navigating to the Frame Status web page ([Figure 9 on page 25](#)) and noting the software version given below the frame graphic. The latest version is recommended for optimum operation. Check the Thomson Grass Valley ftp server at this link for the latest 8900NET release:

<ftp://ftp.thomsongrassvalley.com/modular/8900/8900NET>

Installation

The 8985PRC consists of a front and rear module set that installs into a GeckoFlex frame.

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

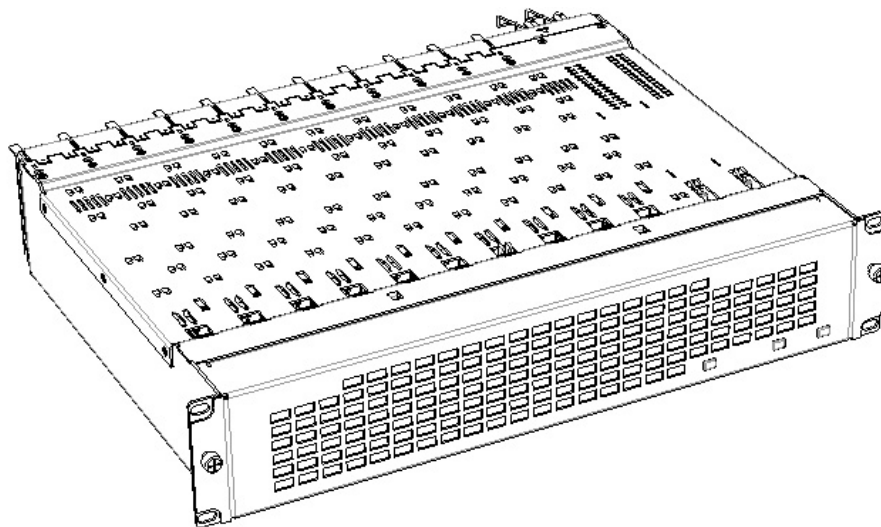
1. Placing the 8900GFR-R rear module in a rear frame slot ([page 13](#)),
2. Placing the front module in the corresponding front slot ([page 14](#)),
3. Installing the optional SFP Fiber Optic submodule ([page 15](#)), and
4. Cabling the signal ports ([page 16](#)).

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

Module Placement in the GeckoFlex Frame

There are ten front and rear cell locations in the 2 RU Gecko Flex frame ([Figure 1](#)) to accommodate either audio or analog and digital video module sets. The 8985 module set uses the 8900GFR-R rear module that can be installed in any one of the ten rear locations.

Figure 1. GeckoFlex Frame



Module Installation Precautions

Please read and follow the precautions listed below before installing the front and rear modules and any fiber optic option submodules:

- Use standard anti-static procedures during installation. As modules can be installed or removed when the GeckoFlex frame is powered up, before removing the cover, please use an anti-static bracelet tied to a metal part of the frame.
- Install the rear module first, then the front module, then the optical submodule option (if used).
- When installing or removing a rear module, loosen or tighten the screws holding the retainer clips to the frame manually with the retainer clip tool provided inside the front cover of the frame or use a 2 mm (5/64") hex screwdriver. Please do not use an electric screwdriver.

Note On newer 751- version GeckoFlex frames, a Rear Retainer Clip removal tool and 2 extra retainer clips and screws for installing them are provided on the inside of the frame cover.

- Make every effort to leave the screws holding the retainer clips in place (do not remove them completely). They are very small and can easily drop into other equipment causing a shorting hazard. (Two turns of the screw should be enough to loosen the screws, 3 turns or more will remove it.)
- When installing a rear module, tighten the screws on the retainer clips just until snug. The retainer clip screw maximum torque specification is 12 inch-lb/1.35 nm.
- If using a fiber optic submodule, handle it carefully, use anti-static precautions, and read the [Fiber Optic Cleaning Requirement on page 16](#) before cabling.

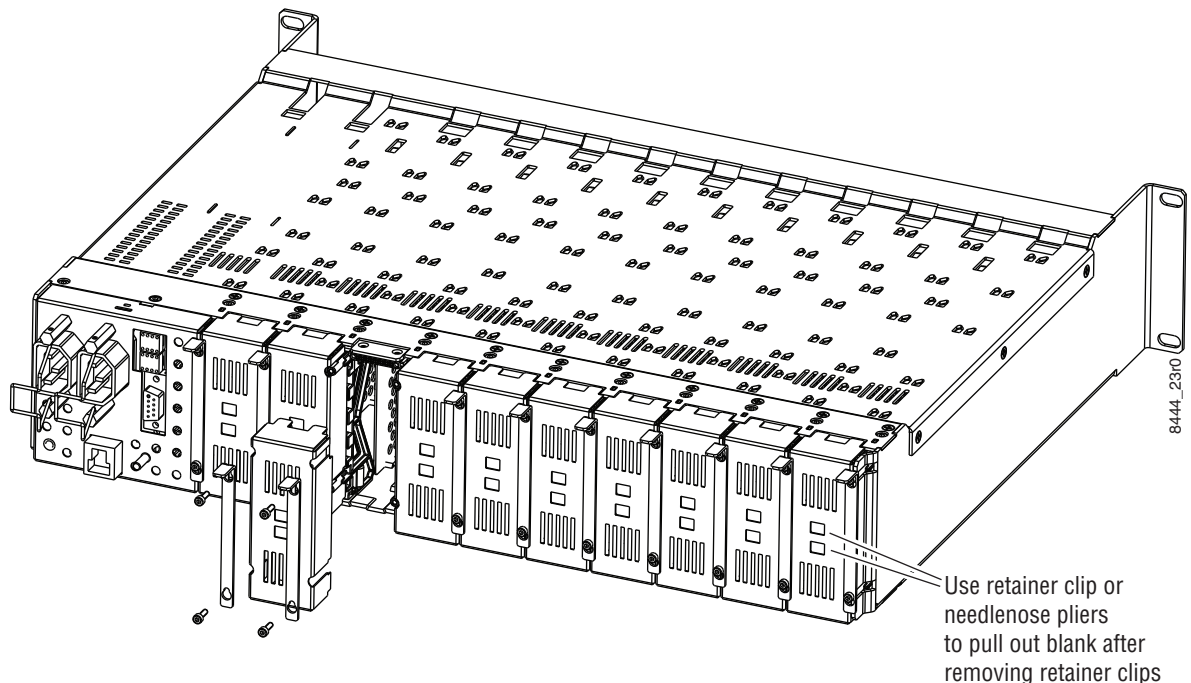
Rear Module Installation

To install the rear module, refer to [Figure 2](#) and the instructions below:

1. To remove a blank rear adapter cover (or a rear module already present), manually loosen the two screws holding each retainer clip on the rear adapter cover or rear module to the frame with the retainer clip tool provided inside the front cover of the frame (newer model frames only) or a 2 mm (5/64") hex screwdriver. Do not remove the screws.
1. After loosening the retainer clip screws, pull up on each retainer clip and completely remove it, leaving the screws in place.
2. Remove the blank rear adapter cover by inserting needlenose pliers into the slots in the blank cover and pulling it off.
3. Insert the rear module into the empty slot, guiding it carefully into place.
4. Replace each retainer clip over the two screws on both sides of the module and push down to seat the retainer clip.
5. Tighten the two screws on each retainer clip just until they come into contact with the retainer clip then tighten about a 1/4 turn more (snug). Refer to the retainer clip screw torque specification ([Table 2 on page 47](#)). The retainer clips should not bend or be bowed.

Note All unused rear slots in a GeckoFlex frame should have a blank rear adapter cover installed.

Figure 2. Installing Rear Module (751- Version Frame Shown)



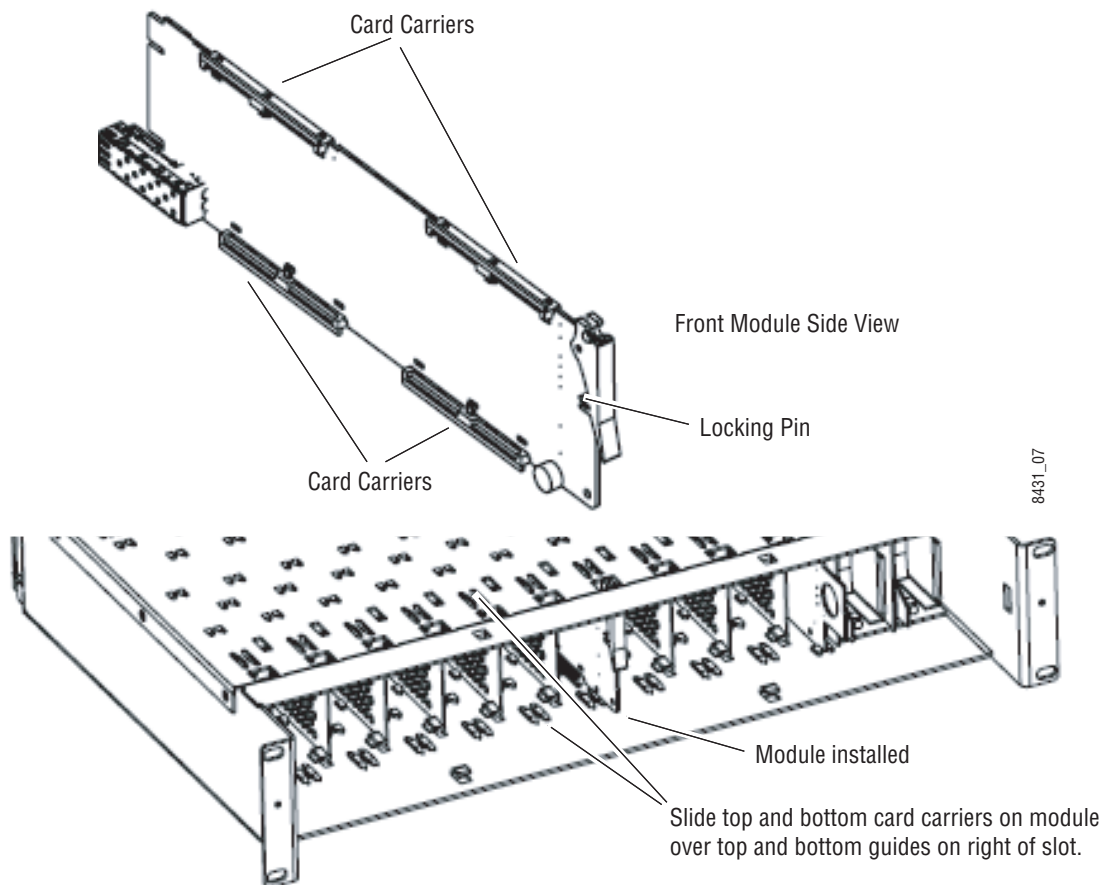
Front Module Installation

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

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 3](#)).
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 3. 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.

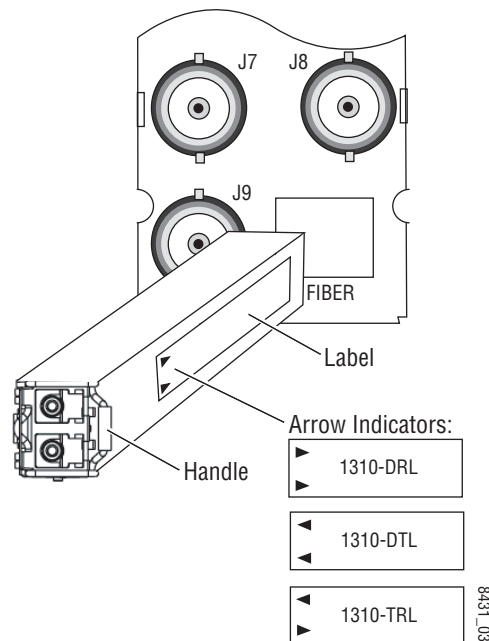
After the front and rear modules have been installed, if required, install the SFP Fiber Optic submodule option into the rear module metal cage labeled FIBER (Figure 4). The SFP submodule is hot-pluggable and may be installed or removed with power applied to the module.

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 16](#) and [Video Outputs on page 17](#).

Note Fiber inputs or outputs must be enabled in configuration.

Figure 4. Installing Fiber Optics Submodule



Removing an SFP Submodule

If you need to remove an SFP submodule, uncable the fiber optic connection on the rear module first. Then snap the handle out and pull the submodule slowly out of the metal cage.

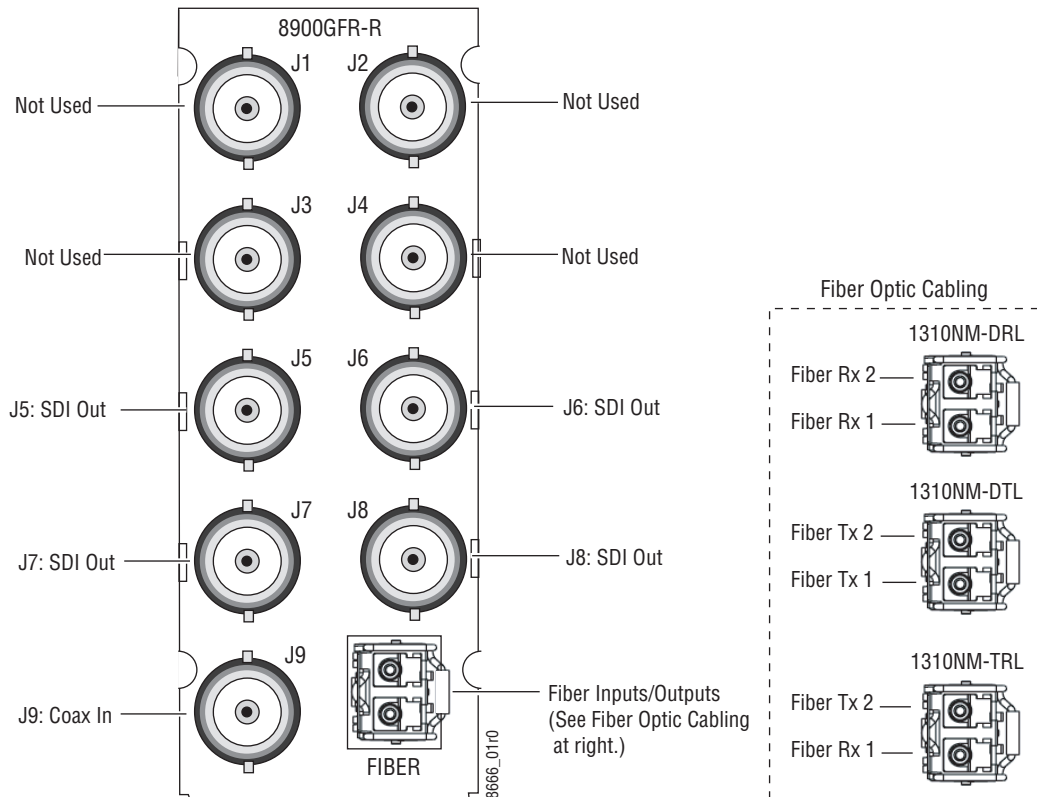
Cabling

Cabling is done on the rear BNCs of the 8900GFR-R module illustrated in [Figure 5](#). Inputs and outputs are also illustrated on the I/O Config web page ([I/O Config Web Page on page 32](#)).

Fiber Optic Cleaning Requirement

Before making any fiber optic cable mating connections and after every de-mating cycle, use an industry standard fiber optic cleaning kit, including oil-free compressed air, to clean the fiber connectors and the connectorized fiber end faces. This helps ensure optimum performance of the fiber optic interface. Industry standard fiber optic cleaning kits can be purchased on the web and in electronics stores.

Figure 5. 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).

Note Refer to [Table 2 on page 47](#) for important video input and external genlock reference input video frame rate compatibility information.

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

Video Outputs

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

If a 1310NM-TRL SFP optical submodule is installed, one fiber optic output is also available. If a 1310NM-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.

J1 – J4 BNCs

These BNCs are not used on the 8985PRC module. BNCs J1 and J3 are looping inputs that support the optional Genlock submodule on the 8985FSP/FS modules with an external genlock reference. BNCs J2 and J4 output an auto tracking delay signal on the 8985FSP/FS that can be fed to audio modules to synchronize the audio to the Genlock reference.

Power Up

The front LED indicators and configuration switches are illustrated in [Figure 6](#). 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. The on-board configuration switches are not used on this module even though they may be present on the module.

Note When a media module is first plugged into a GeckoFlex 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 6) on the top side of the module front edge should illuminate (refer to [Table 1 on page 19](#) to see the possible operating indicator combinations).

Figure 6. Front Panel LED Indicators

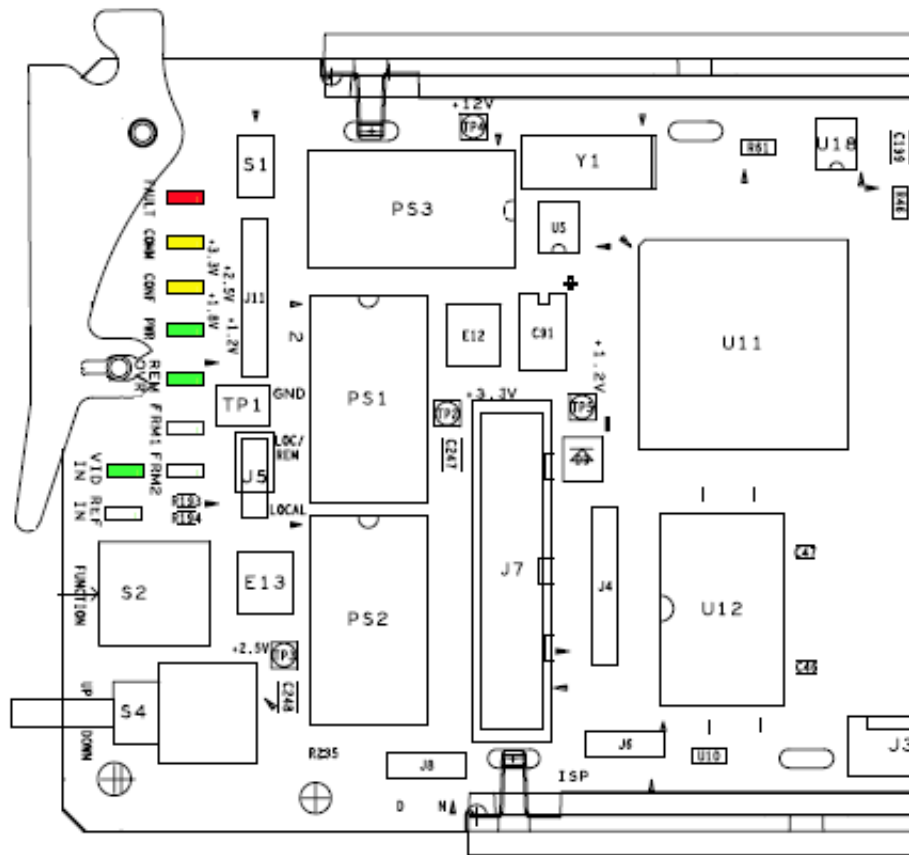


Table 1. Board Front Edge LED Names and Meaning

LED	Indication	Condition
FAULT (red)	Off	Normal operation.
	On continuously	Module has detected an internal fault.
	Flashing	Indicates a warning condition such as configuration problems or missing video. Check inputs and configuration settings.
COMM (yellow)	Off	No activity on frame communication bus.
	3 Quick Pulses	Locate Module command received by the module from a remote control system.
	Short flash	Activity present on the frame communication bus.
CONF (yellow)	Off	Module is in normal operating mode.
	On continuously	Module is initializing, changing operating modes or programming hardware.
	3 Quick Pulses	Locate Module command received by the module from a remote control system.
PWR (green)	Off	No power to module or module's DC/DC converter failed.
	On continuously	Normal operation, module is powered.
REM OVR (green)	Off	Not used on this module.
	On	
FRM1 (green)	Off	Not used on this module.
	On	
FRM2 (green)	Off	Not used on this module.
	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	Not used on this module.
	Off	

Configuration

The 8985PRC module can only be configured remotely using the 8900NET network interface GUI or a networked Newton control panel. An 8900NET module running software version 4.3.0 is required. (See [Software Requirements on page 10](#) for instructions for upgrading this software.)

Refer to the following sections for configuration instructions:

- Configuration Overview ([page 20](#))
- Remote Control and Monitoring ([page 22](#))
- Configuration Parameter Summary ([page 53](#))

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

Configuration Overview

This section provides a brief overview of all parameters that can be configured on the 8985PRC module. Use this section in conjunction with the specific configuration method instructions for each configuration type. [Table 3 on page 53](#) provides a summary in table format of all parameters and their ranges, default values, and remote web page and Newton 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 allows enabling of the colorbars test signal.

Split Screen Control

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%). Interactive Split Screen controls are present on the System Config, Video Processing, and Color Correction web pages.

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.

The SD or HD horizontal video output delay can also be set in pixels.

Remote Configuration and Monitoring

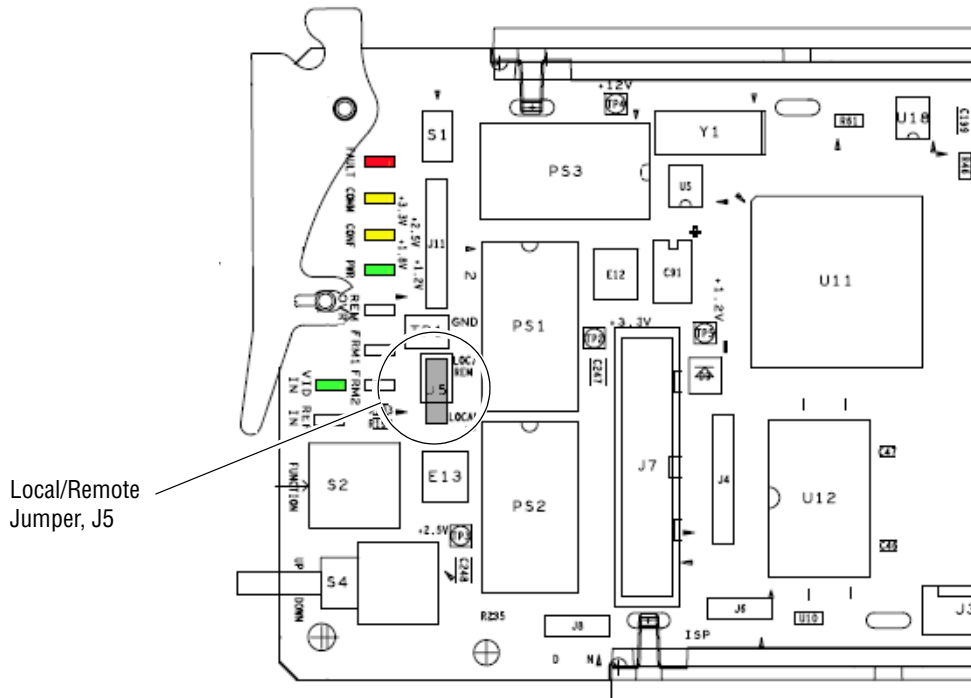
8985PRC module configuration and monitoring must be performed remotely using a web browser GUI interface or a networked Newton Control Panel when the 8900NET Network Interface module is present in the GeckoFlex frame. Each of these interfaces is described below.

Note The local configuration switches are present but not active on this module.

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 7. Module 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 GeckoFlex frame network.

Note The 8900NET module in the GeckoFlex frame must be running software version 4.3.0 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 GeckoFlex 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 8985PRC module are listed in [Table 3 on page 53](#).

An example of the Newton Configurator is shown in [Figure 8](#).

Figure 8. Newton Configurator Example

Module (drag and drop from Device View)

Module Name: 8985PRC Frame Name: Bay2 Reset

Slot: 8 Frame IP Address: 10 . 16 . 18 . 127 Select Module

Label	Description	Type	PID	IID
Y Gain	Y Gain	control	220	0
Cb Gain	Cb Gain	control	221	0
Cb Off	Cb Offset	control	222	0
Y Off	Y Offset	control	223	0
Chro Gn	Color Saturation	control	224	0
Cr Gain	Cr Gain	control	225	0
Cr Off	Cr Offset	control	226	0
Hue	Hue	control	227	0
VPrC-Enable	Video ProcAmp Enable	switch	228	0
R Gn	R Gain	control	240	0
G Gn	G Gain	control	241	0

Configure Knob 1 Configure Knob 2 Configure Knob 3 Configure Knob 4

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 9 on page 25](#). 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 4.3.0 required for this module.

For information on status and fault monitoring and reporting shown on the Status page, refer to [Status Monitoring Summary on page 49](#).

Figure 9. GeckoFlex Frame Status Page

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

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

Refresh button for manual update of page

Frame

- Status
- Configuration
- Connections
- Frame Alarm Reporting
- LED Reporting
- SNMP Reporting
- Power Supply/Demand
- 1 8995UDX+GEN
- 2 Media Slot 2
- 3 8995UDX+GEN
- 4 Media Slot 4
- 5 Media Slot 5
- 6 Media Slot 6
- 7 8985FSP
- 8 8985PRC
- 9 8985FS+GEN
- 10 Media Slot 10
- 11 8900NET
- 12 Power Supply 1
- 13 Power Supply 2

Status

Model: 8900FFN Description: Module Frame
 Frame Location: not assigned
 Frame Health Alarm WARN Temperature Status PASS
 Power Status PASS

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

Front Cover No Cover

Properties

Vendor	Thomson, Grass Valley	Software Version	4.3.0
Media Slots	10	Network Config	Network configuration stored on frame

8431_0813

Web Page Operations and Functional Elements

The following conventions and functional elements (shown at left) are used in GeckoFlex web page operations. (The examples shown throughout this manual represent 8900NET software version 4.3.0 and later):

Pull-down Menu **Locate Module**

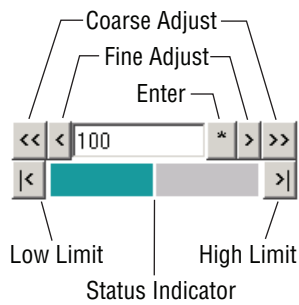


Button — **Default**

Radio button — 525 625

Check box — Report Error

Refresh button —



Entry Field

Name:

Status LED — 8341_13

- Pull-down 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 indicates module status and is a link to the module Status web page where status is reported.

Status 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 10](#).

Figure 10. 8985PRC Web Page Header



The header information on each web page of the 8985PRC module includes the following:

- **Model** and **Description** are read-only generated by the module.
- **Frame Location** is defined on the 8900 Series GeckoFlex 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. This module has no frame sync controls and will always report **Input**.
- **Split Screen** status is reported (**Enabled** or **Disabled**) as set on the System Config, Color Correction, or Video Proc Amp web pages.
- **Fiber Module Type** is reported on the Video Input and Video Output web page headers only on this module.

Defaults

Web pages with configuration parameters each have a **Defaults** button at the bottom of the page to allow resetting of default parameters for only that page. Default values for all parameters are listed in [Table 3 on page 53](#).

Web Page Links

The web interface GUI provides the following links and web pages for the 8985PRC module (see links at left):

- Status – reports input and output signal status, frame bus communication status, module status and information, warnings and errors ([page 29](#)),
- I/O Config – shows a graphic representation of inputs and outputs of the module and allows naming of each input and enabling and disabling of signal reporting ([page 32](#)),
- Video Input – allows selection of the video input source and provides the status of all sources, including fiber optic submodule option inputs ([page 33](#)),
- System Config – set input video rate and line standard, enable colorbars test signal, and controls for the Split Screen functions ([page 34](#)),
- Color Correction – provides RGB gain, offset and gamma correction adjustments and controls for the Split Screen functions ([page 36](#)),
- Video Proc – provides overall video processing for the HD or SD signal and a control for Split Screen functions ([page 38](#)),
- User Settings – allows recalling of factory defaults for all module parameters or factory signal names, and provides a save/load configuration file function ([page 40](#)),
- Video Out – enable and disable the fiber optic outputs when a fiber module is installed and set SD or HD horizontal video output delay ([page 43](#)), and
- Slot Config – provides Locate Module, Slot Identification, and Slot Memory functions along with links to the 8900NET SNMP, LED Reporting, and Frame Alarm configuration web pages ([page 44](#)).

A summary table of all module parameters including defaults, ranges, and Newton Control panel controls is given in [Table 3 on page 53](#).

Status Web Page

Use
this
link

- [8 8985PRC](#)
- [Status](#)
- [I/O Config](#)
- [Video Input](#)
- [System Config](#)
- [Color Correction](#)
- [Video Proc](#)
- [User Settings](#)
- [Video Out](#)
- [Slot Config](#)

The Status web page ([Figure 11 on page 31](#)) reports information and status about the front media and rear modules and any submodules present (if applicable for the module) in both graphical (using color to indicate status) and textual formats. It also reports the status of the input and reference video signals to the module and submodules, and the Frame Bus status. Video and reference signal reporting can be enabled and disabled at the module level on the I/O Config web page ([page 32](#)).

In general, graphics and text colors used for status indication are 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.



Note Always refresh the page first with the **Refresh** button at the top of the page (shown at left) to update the current status of the web page.

Web Page Header

The content of the web page header for the module is described in detail in [Web Page Header on page 29](#).

Module Physical Structure

Status is reported for the front, rear, and optional submodules as follows:

- Rear Module – the presence, name, and internal status of the rear module is reported in the graphic on the left. If the rear module is the wrong type or missing, the graphic will indicate the status by color and text within the graphic.
- Front Processing Module – the presence, name, and internal status of the front processing module is reported in the graphic on the right. The graphic will indicate the status of the front module by color and text within the graphic.
- Fiber Module – the optional fiber optic submodule status will be shown in the box on the front module graphic. When a fiber optic submodule is installed, the type will be reported in the top header and the Status text below the graphic on the right.
- Genlock Submodule – the 8900GEN-SM submodule is not used on this module.

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 – (gray) not monitored in this application.
- Genlock Ref In – (gray) not applicable so not monitored on this module.
- Frame Bus – indicates the status of the communication bus between the 8900NET module and the module.

Warning/Fault/Message Reporting

Faults, warnings, and informational messages from the module are displayed between the double bars below the graphic.

Note Many of these warnings are informational only and concern frame rate compatibility. Pay close attention to the frame rate compatibility explanations and tables in this manual.

Module Status

Module status for the front and rear modules (and any submodules if applicable) are reported as PASS, WARNING, ERROR, or EMPTY on the right at the bottom of the display.

Front Module Information

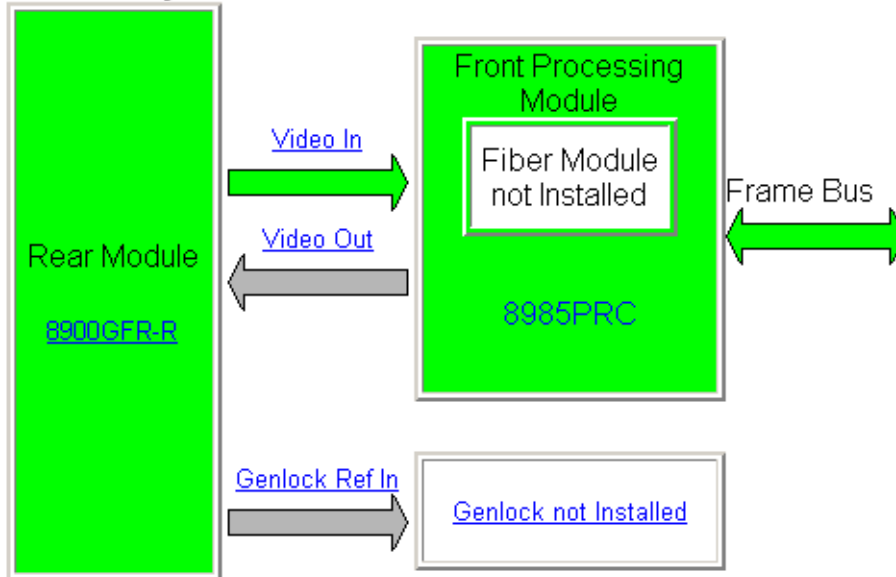
Information about the module, such as part number, serial number, hardware revision and software, firmware, and boot versions, and asset tag number (assigned on the [Slot Config Web Page on page 44](#)) are given on the left at the bottom of the display.

Figure 11. 8985PRC Status Web Page



Model: [8985PRC](#) Description: [HD/SD Proc Amp](#)
 Frame Location: [not assigned](#) , Slot: [8](#)
 Input Video Standard: [1080i/59.94](#) Input Video: [Coax Input : Present](#)
 Output Timing Source: [Input](#) Split Screen: [Disabled](#)

Module Physical Structure



Fiber Module is not installed
 Genlock Module is not installed

Status:
 Front Module: [PASS](#)
 Rear Module: [PASS](#)
 Genlock Module: [EMPTY](#)
 Fiber Module: [EMPTY](#)

Front Module:
 Part Number: [691-0079----](#)
 Serial Number: [-----](#)
 Hardware Revision: [---](#)
 Firmware Image 1 Version: [1.4.5](#)
 Firmware Image 2 Version: [inactive](#)
 Firmware Image 3 Version: [inactive](#)
 Firmware Image 4 Version: [inactive](#)
 Software Version: [1.0.2](#)
 Boot Version: [1.2.0](#)
 Asset Tag:

I/O Config Web Page

Use
this
link

- [8 8985PRC](#)
- [Status](#)
- [I/O Config](#)
- [Video Input](#)
- [System Config](#)
- [Color Correction](#)
- [Video Proc](#)
- [User Settings](#)
- [Video Out](#)
- [Slot Config](#)

Use the I/O Config web page (Figure 12) for the following:

Rear Connectors

All of the input and output connectors on the corresponding 8985PRC rear module are illustrated on the I/O Config web page. BNCs J1, J2, J3, and J4 are not used for this module.

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. Each signal has a default name. To recall default factory names, refer to *Recall Factory Defaults and Names on page 40*. 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 Summary on page 49* for an explanation of the color coding and using an SNMP monitoring application.

Note Outputs are not monitored in this application.

Figure 12. 8985PRC I/O Config Web Page

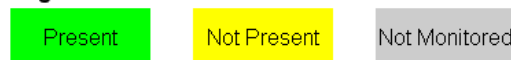


Model: 8985PRC Description: HD/SD Proc Amp
 Frame Location: not assigned , Slot: 8
 Input Video Standard: 1080i/59.94 Input Video: Coax Input : Present
 Output Timing Source: Input Split Screen: Disabled

Rear Connections

Signal Names	Reporting Enabled						Reporting Enabled	Signal Names
Ref Input	<input checked="" type="checkbox"/>	Genlock Ref In Loop	J1		J2	Audio Tracking Delay		
			J3		J4	Audio Tracking Delay		
		Output	J5		J6	Output		
		Output	J7		J8	Output		
Coax Input	<input checked="" type="checkbox"/>	COAX Video Input	J9		Fiber	Fiber Video In/Out 2	<input checked="" type="checkbox"/>	Fiber 2
						Fiber Video In/Out 1	<input checked="" type="checkbox"/>	Fiber 1

Legend:



Video Input Web Page

- Use this link
- [8 8985PRC](#)
 - [Status](#)
 - [I/O Config](#)
 - [Video Input](#)
 - [System Config](#)
 - [Color Correction](#)
 - [Video Proc](#)
 - [User Settings](#)
 - [Video Out](#)
 - [Slot Config](#)

Use the Video Input web page (Figure 13) 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 from one of the following:
 - **Coax** – corresponds to BNC input J9.
 - **Fiber RX 1** – will be present when either the 1310NM-DRL or 1310NM-TRL submodule is installed, or
 - **Fiber RX 2** – will be present when the 1310NM-DRL submodule is installed.
- **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).

Figure 13. Video In Web Page



Model: [8985PRC](#) Description: [HD/SD Proc Amp](#)
 Frame Location: [not assigned](#) , Slot: [8](#)
 Input Video Standard: [1080i/59.94](#) Input Video: [Coax Input : Present](#)
 Output Timing Source: [Input](#) Split Screen: [Disabled](#)
 Fiber Module Type: [Not Installed](#)

Video Input Selection

	Select Input Video	Signal Name	Signal State
Coax	<input checked="" type="radio"/>		Present
Fiber RX1	<input type="radio"/>		Not Supported
Fiber RX2	<input type="radio"/>		Not Supported

Defaults

System Config Web Page

- Use this link
- [8 8985PRC](#)
 - [Status](#)
 - [I/O Config](#)
 - [Video Input](#)
 - [System Config](#)
 - [Color Correction](#)
 - [Video Proc](#)
 - [User Settings](#)
 - [Video Out](#)
 - [Slot Config](#)

Use the System Config web page ([Figure 15 on page 35](#)) to set the following system configuration parameters for the module:

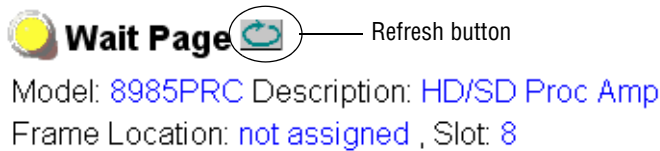
Input Video

Use the following controls to set the video input type and rate. Refer to [Table 3 on page 53](#) for a complete list of available input types and rates.

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

Pressing the **Defaults** button or changing the Input Type from HD to SD on the System Config web page or with an E-MEM recall will cause the module to reboot. It will take approximately 30 seconds to re-initialize. During this time a Wait Page ([Figure 14](#)) will appear. Wait for the operation to complete then select the **Refresh** button to update the web page.

Figure 14. Wait Page



Please Wait for Operation to complete

Test Output

An internally generated colorbars test signal may be enabled on the output of the module by checking the **Enabled** checkbox. Be sure to disable this output before going on-air.

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 15. System Config Web Page

 **System Config** 

Model: 8985PRC Description: HD/SD Proc Amp

Frame Location: not assigned , Slot: 8

Input Video Standard: 1080i/59.94 Input Video: Coax Input : Present

Output Timing Source: Input Split Screen: Disabled

Input Video		Split Screen	
Input Type	Input Rate	Split	<input type="checkbox"/> Enabled
<input checked="" type="radio"/> HD 59.94 <input type="radio"/> SD <input type="radio"/> HD 50 <input type="radio"/> HD 24	1080i/59.94 ▾	Orientation	Position (%)
		<input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal	<input type="button" value="<<"/> <input type="button" value="<"/> <input type="text" value="50"/> <input type="button" value="*"/> <input type="button" value=">"/> <input type="button" value=">>"/> <input type="button" value=" <"/> <input type="range" value="50"/> <input type="button" value="> "/>
Test Output			
Colorbars	<input type="checkbox"/> Enabled		

Color Correction Web Page

- 8 8985PRC
- [Status](#)
- [I/O Config](#)
- [Video Input](#)
- [System Config](#)
- Use this link → [Color Correction](#)
- [Video Proc](#)
- [User Settings](#)
- [Video Out](#)
- [Slot Config](#)

Use the Color Correction web page (Figure 16 on page 37) 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 $\pm 100\%$ for the R, G, or B channel with the corresponding control or adjust all of the offsets together by adjusting the **RGB Offset** 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 16. Color Correction Web Page

 **Color Correction** 

Model: [8985PRC](#) Description: [HD/SD Proc Amp](#)

Frame Location: [not assigned](#) , Slot: [8](#)

Input Video Standard: [1080i/59.94](#) Input Video: [Coax Input](#) : [Present](#)

Output Timing Source: [Input](#) Split Screen: [Disabled](#)

Color Correction

VCC Enable: <input checked="" type="checkbox"/> Enable		
<p>R Gain (%)</p> <p><< < 100 * > >></p> <p> < [] > </p>	<p>R Offset (%)</p> <p><< < 0 * > >></p> <p> < [] > </p>	<p>R Gamma Correction</p> <p><< < 1.00 * > >></p> <p> < [] > </p>
<p>G Gain (%)</p> <p><< < 100 * > >></p> <p> < [] > </p>	<p>G Offset (%)</p> <p><< < 0 * > >></p> <p> < [] > </p>	<p>G Gamma Correction</p> <p><< < 1.00 * > >></p> <p> < [] > </p>
<p>B Gain (%)</p> <p><< < 100 * > >></p> <p> < [] > </p>	<p>B Offset (%)</p> <p><< < 0 * > >></p> <p> < [] > </p>	<p>B Gamma Correction</p> <p><< < 1.00 * > >></p> <p> < [] > </p>
<p>Total Gain</p> <p><< < 0 * > >></p> <p> < [] > </p>	<p>RGB Offset (%)</p> <p><< < 0 * > >></p> <p> < [] > </p>	<p>Total Gamma Correction</p> <p><< < 0 * > >></p> <p> < [] > </p>

Defaults

Split Screen

Split	<input type="checkbox"/> Enabled
<p>Orientation</p> <p><input checked="" type="radio"/> Vertical</p> <p><input type="radio"/> Horizontal</p>	<p>Position (%)</p> <p><< < 50 * > >></p> <p> < [] > </p>

Video Proc Web Page

- [8 8985PRC](#)
- [Status](#)
- [I/O Config](#)
- [Video Input](#)
- [System Config](#)
- [Color Correction](#)
- [Video Proc](#)
- [User Settings](#)
- [Video Out](#)
- [Slot Config](#)

Use
this
link

The Video Proc web page ([Figure 17 on page 39](#)) provides overall video processing for the HD or SD signal for the 8985PRC module.

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 $\pm 100\%$ 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 17. Video Proc Web Pager



Model: [8985PRC](#) Description: [HD/SD Proc Amp](#)
 Frame Location: [not assigned](#) , Slot: [8](#)
 Input Video Standard: [1080i/59.94](#) Input Video: [Coax Input : Present](#)
 Output Timing Source: [Input](#) Split Screen: [Disabled](#)

Video Processing Controls

VPA Enable: Enable

<p>Y Gain (%)</p> <p><< < 100 * > >></p> <p> < > </p>	<p>Cb Gain (%)</p> <p><< < 100 * > >></p> <p> < > </p>	<p>Cb Offset (%)</p> <p><< < 0 * > >></p> <p> < > </p>	<p>Y Offset (%)</p> <p><< < 0 * > >></p> <p> < > </p>
<p>Color Saturation (%)</p> <p><< < 100 * > >></p> <p> < > </p>	<p>Cr Gain (%)</p> <p><< < 100 * > >></p> <p> < > </p>	<p>Cr Offset (%)</p> <p><< < 0 * > >></p> <p> < > </p>	<p>Hue (Deg)</p> <p><< < 0 * > >></p> <p> < > </p>
<p>Total Gain</p> <p><< < 0 * > >></p> <p> < > </p>			

Defaults

Split Screen

Split	<input type="checkbox"/> Enabled
<p>Orientation</p> <p><input checked="" type="radio"/> Vertical</p> <p><input type="radio"/> Horizontal</p>	<p>Position (%)</p> <p><< < 50 * > >></p> <p> < > </p>

User Settings Web Page

- [8 8985PRC](#)
- [Status](#)
- [I/O Config](#)
- [Video Input](#)
- [System Config](#)
- [Color Correction](#)
- [Video Proc](#)
- [User Settings](#)
- [Video Out](#)
- [Slot Config](#)

Use
this
link

The User Settings web page (Figure 18) 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 buttons 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 3 on page 53.
- **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 12 on page 32.

Figure 18. User Settings Web Page

User Settings

Model: [8985PRC](#) Description: [HD/SD Proc Amp](#)

Frame Location: [not assigned](#) , Slot: [8](#)

Input Video Standard: [1080i/59.94](#) Input Video: [Coax Input : Present](#)

Output Timing Source: [Input](#) Split Screen: [Disabled](#)

Fiber Module Type: [Not Installed](#)

File Operations

<input type="button" value="Save to..."/>	<input type="button" value="Load from..."/>
---	---

- | | |
|---|-------------------------|
| <input type="button" value="Set Factory Defaults"/> | Recall factory settings |
| <input type="button" value="Set Factory Names"/> | Recall factory names |

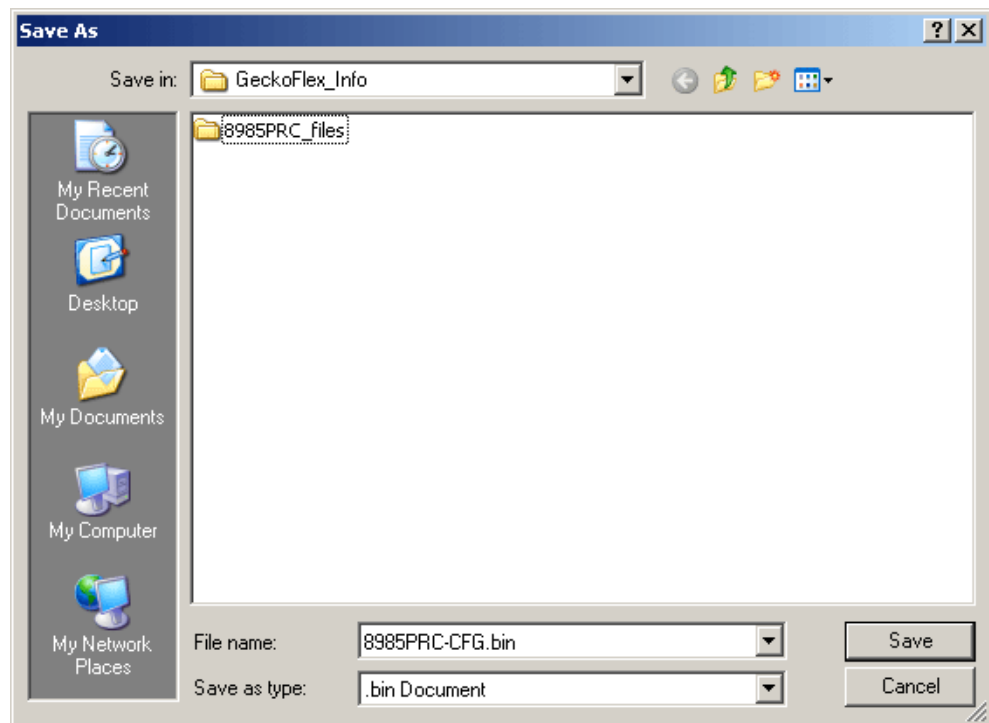
File Operations

Configuration files from the 8985PRC 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 on the User Settings web page (Figure 18 on page 40) 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 19.
4. Enter a name in the **File name** field. This file is saved as a .bin type.

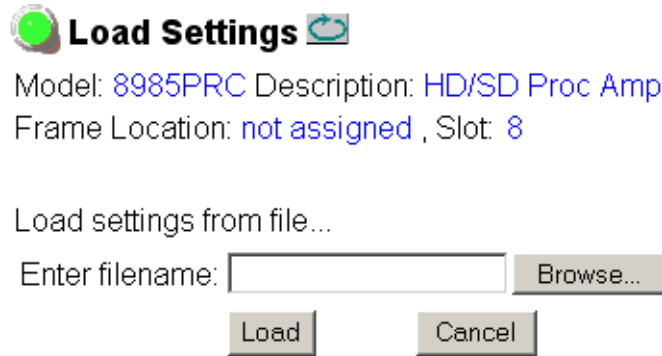
Figure 19. Save As Screen.



To load and recall a file, do the following:

1. Selecting the **Load From...** button on the User Settings web page (Figure 18 on page 40) which will bring up the Load Settings web page shown in Figure 20 on page 42.
2. Enter a path and file name or select **Browse...** to locate the directory where the files have been saved.

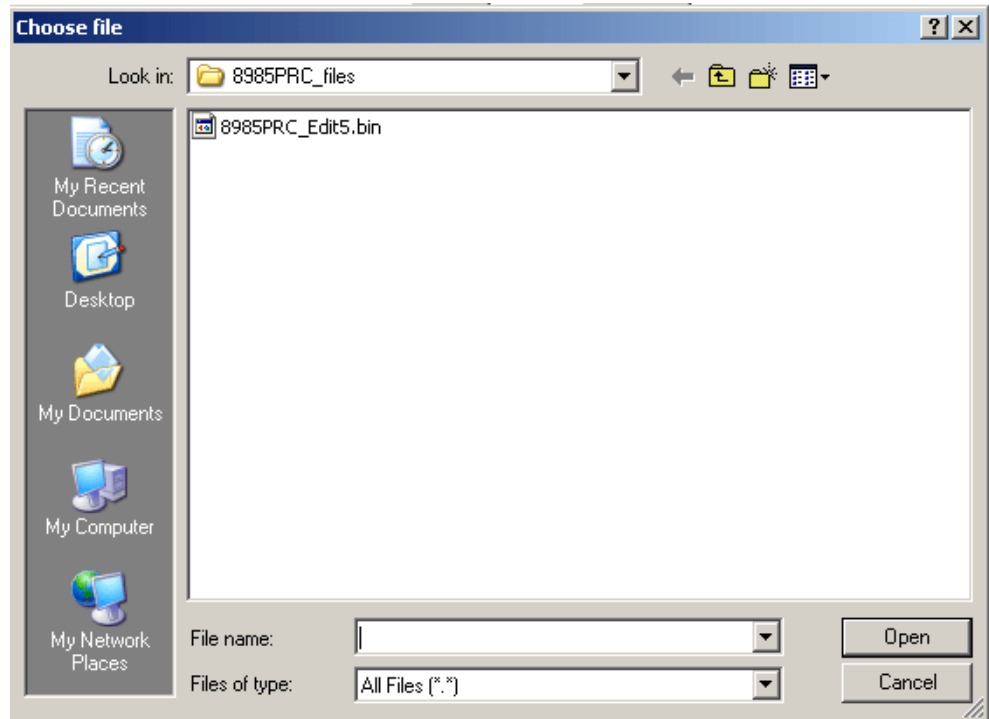
Figure 20. Load Settings Web Page.



3. This will bring up the Choose File screen shown in [Figure 21](#).
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 Settings web page ([Figure 20](#)) 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 21. Choose File Screen



Video Out Web Page

- [8 8985PRC](#)
- [Status](#)
- [I/O Config](#)
- [Video Input](#)
- [System Config](#)
- [Color Correction](#)
- [Video Proc](#)
- [User Settings](#)
- [Video Out](#)
- [Slot Config](#)

Use
this
link

Use the Video Out web page ([Figure 22](#)) to enable or disable the SFP Fiber Optic submodule outputs when present and set the horizontal video delay on the video output.

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

Output Enables

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).

SD/HD Video Delay (pixels)

The horizontal video delay can be adjusted in 1.0 pixel steps for HD video and 0.5 pixel steps for SD video.

Figure 22. Video Output Web Page

Video Out

Model: [8985PRC](#) Description: [HD/SD Proc Amp](#)
 Frame Location: [not assigned](#) , Slot: [8](#)
 Input Video Standard: [1080i/59.94](#) Input Video: [Coax Input: Present](#)
 Output Timing Source: [Input](#) Split Screen: [Disabled](#)
 Fiber Module Type: [Not Installed](#)

Output Enables

Fiber TX1	Fiber TX2
<input type="checkbox"/> Enabled	<input type="checkbox"/> Enabled

HD Video Delay (pixels)

Slot Config Web Page

- [8 8985PRC](#)
- [Status](#)
- [I/O Config](#)
- [Video Input](#)
- [System Config](#)
- [Color Correction](#)
- [Video Proc](#)
- [User Settings](#)
- [Video Out](#)
- [Slot Config](#)

Use
this
link

Use the Slot Config web page shown in [Figure 23 on page 45](#) to perform the following functions on the 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 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 polled and refreshed periodically (about every 50 minutes) by the 8900NET module when the **Always Slot Refresh** checkbox on the 8900NET Configuration web page (with version 4.3.0 software) and/or the **Restore upon Install** checkbox on any media module Slot Config web page ([Figure 23 on page 45](#)) is selected.

When the **Restore upon Install** checkbox on any media module Slot Config web page has been selected, the current configuration from that module is saved in slot memory on the 8900NET module. This allows the current module to be removed and when another module of the same type, part number, and software version is installed, the configuration saved to the 8900NET module will be downloaded to the new module. The **Restore upon Install** checkbox must be selected before the current module with the saved configuration is removed.

Note Make sure all modules of the same type are running the same software version and have the same part number silk-screened on the printed circuit board. Downloading a configuration to a module with a different software version or part number can produce 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.

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 no **Restore upon Install** checkboxes on any of the media module Slot Config web pages are selected and the **Always Slot Refresh** checkbox on the 8900NET Configuration web page is unchecked, the slot refresh polling function on the 8900NET module will be disabled. See the **Always Slot Refresh** checkbox description in the *8900NET (Net Card) Network Interface Instruction Manual* for more details.

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

Figure 23. Slot Config Web Page



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 GeckoFlex frame.

LED Reports Link

Select the LED Reports link to open the 8900NET LED Reporting web page. Normally, every module in the frame will report to the 8900NET module any Fault, Signal Loss, Reference Loss, or Config Error conditions. These conditions will be reflected by the status LEDs on the 8900NET module. Using this web page, any of these conditions can be disabled from being reported to the 8900NET module for each individual module in the 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 8985PRC modules is done using the NetConfig Networking Application PC option. This application is available free of charge from the Thomson Grass Valley web site. Refer to the current *8985PRC Release Notes* for software updating instructions.

Software updating requires the presence of the 8900NET module running software version 4.3.0. Refer to [Software Requirements on page 10](#) for acquiring the latest version 8900NET software.

All modular product documentation can be found in PDF format on the Thomson Grass Valley web site at this link:

www.thomsongrassvalley.com/docs/modular

Specifications

Table 2. 8985PRC Specifications

Parameter	Value
Serial Digital Input	
Number and type of input	1 non-isolated terminating BNC
Input impedance	75 ohm
Input return loss	> 15 dB from 5 MHz to 1.5 GHz
Input signal level	800 mV +/- 10%
Input DC tolerance	+/- 0.25 mV maximum
Serial mode hum voltage	1 V p-p to 60 Hz maximum
Common mode rejection ratio (CMMR)	N/A
Auto equalization	325 meters of Belden 1694A or 270 Mb/s 125 meters of Belden 1694A for 1.5 Gb/s
Reclocking	Yes
Input lock range	+/- 100 PPM
Input signal type	HD-SDI: <ul style="list-style-type: none"> • 1080i 59.9 / 50 • 1080p24/sF24 • 720p 59.9 /50 SD-SDI: <ul style="list-style-type: none"> • 480i59.9 • 576i50
Serial Digital Outputs	
Connector type	Coax BNC, optional fiber optic SFP
Number of outputs	4
Output impedance	75 ohm
Return loss	> 15 dB 5 MHz-270 MHz > 15 dB typical 270 MHz - 1.5 GHz
Output signal level	SDI 800 mV p-p, +/- 10%
Rise/fall time (20-80%)	140 ps for HD 500 ps for SD
Output jitter (FS mode, in low jitter mode)	< 0.2 UI HD > 100 kHz < 1.0 UI HD 10 Hz-100 kHz < 0.2 UI SD < 10 Hz < 1.0 UI HD 10 Hz-100 kHz

Table 2. 8985PRC Specifications - (continued)

Parameter	Value
Electrical Length (Delay)	
HD modes	104 pixels
SD mode	90 pixels
Precision	± 1 pixel
Optical Video Receiver/Transmitter (1310NM-DRL, 1310NM-DTL, and 1310NM-TRL)	
Optical fiber interface	Compliant with SMPTE 291M-1998 and SMPTE 297M-2000
Input/Output configuration	2 inputs (DRL) or 1 input and 1 output (TRL) or 2 outputs (DTL)
Optical wavelength	1310 nm +/- 40 nm
Minimum/maximum output power (Tx)	-12 dBm < or equal to Pw TX < or equal to -7.5 dBm
Maximum reflected power	4 %
Transmission circuit fiber	Single mode
Minimum/maximum input power (Rx)	-12 dBm < or equal to Pw TX < or equal to -7.5 dBm
Detector threshold	+ 1 dBm
Power	
Power dissipation	< 8.0 W (with fiber optic submodule)
Mechanical	
Frame type	GeckoFlex
Number of rear slots required	1 slot
Retainer clip screw torque	12 inch-lb/1.35 nm
Environmental	
Frame temperature range	See GeckoFlex frame specification
Operating humidity range	
Non-operating temperature	

Status Monitoring Summary

There are a number of ways to monitor frame and module status. These methods are summarized here. For more detailed information, refer to the *8900NET (Net Card) Network Interface Module Instruction Manual* and the *8900 Gecko* or *8900 GeckoFlex Frame Instruction Manuals*.

All modular product documentation is available on-line in PDF format at this link:

www.thomsongrassvalley.com/docs/modular

The main status monitoring methods include the following:

- External frame alarm output on the rear of the 8900 frame with reporting from the Module Health Bus and other frame status alarm reports,
- LEDs on the Frame, 8900NET module, and individual frame media modules,
- Web browser status reporting for each frame component, and
- SNMP traps, captured by Thomson Grass Valley's NetCentral or another SNMP Manager Application.

Note SNMP trap information is only available when an SNMP Agent has been installed and configured.

External Frame Alarm

An external Frame Alarm output is available on pins 8 and 9 of the RS-232 connector on the rear of the frame. The Frame Alarm outputs a voltage level indicating there is an alarm condition on the Module Health Bus or one of the other frame components reported to the Frame Monitor module in a Gecko 8900TF or GeckoFlex 8900FF frame or the 8900NET module in an 8900TFN and GeckoFlex 8900FFN frame.

- The Module Health bus is a separate line on the frame motherboard that provides a means for older or less capable modules (such as DAs with no microprocessor) that cannot communicate over the Frame (serial) bus to report warning and alarm conditions to the external Frame Alarm. All media modules in the frame report a voltage level to this line when a warning condition occurs on the module. The specific warning or module location is not reported, only an indication that an warning condition has occurred.
- Frame alarm reporting from other frame components can be enabled and disabled using DIP switches on the Frame Monitor and 8900NET module. For frames with an 8900NET module, the Frame Alarm Reporting web page allows configuration of the alarms and warnings that are reported to this external Frame Health Alarm.

LED Reporting

LEDs on the front of media modules, the Frame Monitor or 8900NET modules, and the front covers of the 8900TF/TFN and GeckoFlex FF/FFN frames indicate status of the frame and the installed power supplies, fans in the front covers, and module status. (The 8900TX-V/A and GeckoFlex 8900FX frames have no LED indicators on the front cover.)

LED reporting from the modules in the frame to the 8900NET module is configurable using the 8900NET LED Reporting web page. LEDs for the 8900NET module are described in the *8900NET (Net Card) Network Interface Instruction Manual*.

The Status LEDs for this module are described in [Operation Indicator LEDs on page 18](#).

Web Browser Interface

The 8900NET module controls a web browser GUI that indicates frame and module status on the following web pages:

- Frame Status web page – reports overall frame and module status in colored graphical and text formats. Refer to the [Figure 9 on page 25](#) for an example.
- Module Status web page ([Figure 9 on page 25](#)) – shows specific input and reference signal configuration error status to the module along with module status and information (part number, serial number, hardware version, software/firmware/boot versions, and Asset number (as assigned on the Slot Config web page)).
- A Status LED icon on each web page reflects the module status on the module Status web page where warnings and faults are displayed and is a link to the module Status web page.

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.

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.

Service

The 8985PRC 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 troubleshoot. 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.

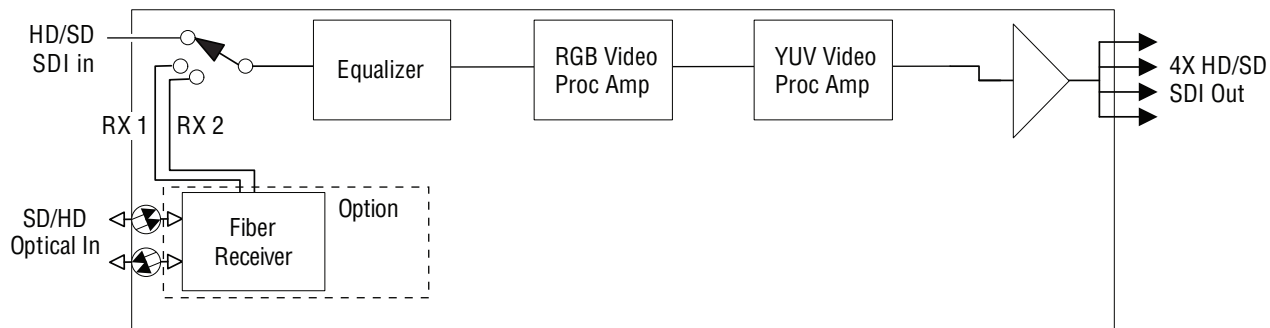
Contacting Grass Valley

If you need to contact Grass Valley for any module issues, refer to [Contacting Grass Valley on page 4](#) at the front of this document for the Grass Valley Customer Service Information number.

Functional Description

A block diagram of the 8985PRC module is shown in [Figure 24](#).

Figure 24. 8985PRC Block Diagram



Configuration Parameter Summary

Table 3 provides a complete summary of the 8985PRC functions and a comparison of the functionality available with the web page and Newton control panel control type along with the ranges and default values for each parameter.

Table 3. Summary of 8985PRC Configuration Functions

Function Type	Default	Range/Choices Resolution	Web Page/ Function Name	Newton Control Panel
Reference Signal Loss Reporting			N/A	
Coax Input Signal Loss Reporting	On	On or Off	I/O Config/ COAX In Reporting Enabled checkbox	N/A
Fiber Input 1 and 2 Signal Loss Reporting	On	On or Off	I/O Config/ Fiber Video in/Out 1 and 2 Reporting Enabled checkbox	N/A
Video Input Selection	COAX	COAX, Fiber RX 1, or Fiber RX 2	Video In/ Video Input Select Video Input Selection radio button	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	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	N/A
Test Output Color Bars signal	Disabled	Enable or Disable	System Config/ Test Output Colorbars Enabled checkbox	ClrBars
Enable or disable split screen	Disabled	Enabled or Disabled	System Config/, or Color Correction/, or Video Proc/, or Split Screen Split: Enabled checkbox	SplitEn
Split screen orientation	Vertical	Horizontal or Vertical	System Config/, or Color Correction/, or Video Proc/, or Split Screen: Orientation: radio button	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 (%)	SSPos

Configuration Parameter Summary

Table 3. Summary of 8985PRC Configuration Functions

Function Type	Default	Range/Choices Resolution	Web Page/ Function Name	Newton Control Panel
VCC (Video Color Correction) enable control	Enable	Enable or Disable	Color Correction/ VCC Enable Enable checkbox	CC-Enable
Adjust R gain	100%	0 to 200% (1% steps)	Color Correction/ R Gain (%)	R Gn
Adjust G gain	100%	0 to 200% (1% steps)	Color Correction/ G Gain (%)	G Gn
Adjust B gain	100%	0 to 200% (1% steps)	Color Correction/ B Gain (%)	B Gn
Adjust total gain	100%	0 to 200% (1% steps)	Color Correction/ Total Gain (%)	RGB Gn
Adjust R offset	0	± 100% (1% steps)	Color Correction/ R Offset (%)	R Off
Adjust G offset	0	± 100% (1% steps)	Color Correction/ G Offset (%)	G Off
Adjust B offset	0	± 100% (1% steps)	Color Correction/ B Offset (%)	B Off
Adjust total offset	0	0 to 200% (1% steps)	Color Correction/ Total Offset (%)	RGB Off
Adjust R gamma	1.0	0.25 to 4.00 (0.01 unit steps)	Color Correction/ R Gamma Correction	RGmC
Adjust G gamma	1.0	0.25 to 4.00 (0.01 unit steps)	Color Correction/ G Gamma Correction	GGmC
Adjust B gamma	1.0	0.25 to 4.00 (0.01 unit steps)	Color Correction/ B Gamma Correction	BGmC
Adjust total gamma	100	0.25 to 4.00 (0.01 unit steps)	Color Correction/ Total Gamma Correction	RGBGmC
Set Color Correction to unity	N/A	See Defaults column	Color Correction/ Defaults button	Unity-VCC
VPA (Video Proc Amp) enable control	On	On or Off	Video Proc/ VPA Enable Enable checkbox	VPrC-Enable
Adjust Y gain (contrast)	100%	0 to 200% (1% steps)	Video Proc/ Video Processing Controls Y Gain (%)	Y Gain
Adjust color saturation (chroma gain)	100%	0 to 200% (1% steps)	Video Proc/ Video Processing Controls Color Saturation (%)	Chro Gn
Adjust Cb gain	100%	0 to 200% (1% steps)	Video Proc/ Video Processing controls Cb Gain (%)	Cb Gain
Adjust Cr gain	100%	0 to 200% (1% steps)	Video Proc/ Video Processing Controls Cr Gain (%)	Cr Gain
Adjust Y Offset (brightness)	0	± 100% (1% steps)	Video Proc/ Video Processing Controls Y Offset (%)	Y Off
Adjust Cb offset	0	± 100% (1% steps)	Video Proc/ Video Processing Controls Cb Offset (%)	Cb Off
Adjust Cr offset	0	± 100% (1% steps)	Video Proc/ Video Processing Controls Cr Offset (%)	Cr Off

Table 3. Summary of 8985PRC Configuration Functions

Function Type	Default	Range/Choices Resolution	Web Page/ Function Name	Newton Control Panel
Adjust hue	0	-180 to +179 degrees (1 degree steps)	Video Proc/ Video Processing Controls Hue (Deg)	Hue
Adjust total gain	0	0 to 200% (1% steps)	Video Proc/ Video Processing Controls Total Gain	VPA Gain
Reset VPA to unity	N/A	See Defaults column	Video Proc/ Default button	Unity-VPA
Recall factory default parameters	N/A	See Defaults column	User Settings/ Recall Factory Defaults Set Factory Defaults button	N/A
Recall factory default signal names	N/A	See I/O Config Web Page on page 32 .	User Settings/ Recall Factory Names Set Factory Names button	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
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
SD/HD Video Delay (display follows SD or HD input standard)	0	0 to 4094 pixels (SD: 0.5 pixel steps HD: 1 pixel steps)	Video Output/ SD/HD Video Delay (pixels) control	SD-Delay HD-Delay

Index

Numerics

- 8900GFR-R rear module
 - cabling [16](#)
 - installation [13](#)
- 8900NET module
 - required software version [22](#)
 - software requirements [10](#)
- 8985FS module [7](#)
- 8985FSP module [7](#)
- 8985PRC module
 - block diagram [52](#)
 - features [9](#)

B

- blank rear cover [13](#)

C

- cabling [16](#)
- circuit breaker [51](#)
- Clear button [44](#)
- Coarse adjust button
 - overview [26](#)
- coax outputs
 - cabling [17](#)
- coax video input
 - cabling [16](#)
 - configuration and input type [34](#)
- color correction (VCC)
 - overview [21](#)
 - remote control [36](#)
 - summary table [54](#)
- Color Correction web page [36](#)
- COMM LED [19](#)
- CONF LED
 - LED table [19](#)
- configuration
 - Remote, GUI [22](#)
 - summary table [53](#)
- control panel [23](#)

D

- documentation online [4](#)

E

- external frame alarm [49](#)

F

- factory default names
 - I/O Config web page [32](#)
 - remote control [40](#)
- factory defaults
 - recall with remote controls [40](#)
 - summary table [53](#)
- FAQ database [4](#)
- FAULT LED
 - states [19](#)
- fiber optic cleaning kit [16](#)
- file operations (save and load) [41](#)
- Fine adjust button
 - overview [26](#)
- Frame Health Reporting [46](#)
- Frame Status web page [50](#)
- frequently asked questions [4](#)
- FRM1 LED [19](#)
- FRM2 LED [19](#)
- front edge configuration controls [22](#)
- front module
 - installation [14](#)
 - removal [14](#)

G

- gamma correction
 - overview [21](#)
 - summary table [54](#)
- Gecko Flex frame
 - module placement [11](#)
- GeckoFlex frame

- external frame alarm [49](#)
- Genlock Loop
 - I/O Config web page [32](#)
- graphical user interface (GUI) [28](#)
- Grass Valley web site [4](#)

I

- I/O Config web page [32](#)
- input video rate
 - remote control [34](#)
 - summary table [53](#)
- input video type
 - remote control [34](#)
 - summary table [53](#)
- inputs
 - specifications [47](#)
- installation
 - 8900GFR-R rear module [13](#)
 - front module [14](#)
 - overview [11](#)
 - precautions [12](#)
 - SFP Fiber Optic submodule [15](#)

L

- LED Reporting [46](#)
- LEDs
 - front edge [18](#)
 - Names and Meanings table [19](#)
- Local/Remote jumper
 - operation [22](#)
- Locate Module function [44](#)
- loss of signal reporting
 - remote controls [32](#)
 - summary table [53](#)

M

- Module Health Bus [49](#)
- module installation precautions [12](#)
- module repair [51](#)
- Module Status web page [50](#)

N

- NetConfig
 - updating software [46](#)
- Newton Control Panel
 - overview [23](#)
 - summary table [53](#)

O

- online documentation [4](#)

P

- PWR LED [19](#)

R

- rear module
 - installation precautions [12](#)
- REF IN LED [19](#)
- Refresh button [26](#)
- REM OVR LED [19](#)
- Restore upon Install checkbox [44](#)
- retainer clip tool [13](#)
- retainer clips
 - maximum screw torque specification [12](#)

S

- service [51](#)
- SFP Fiber Optic submodule
 - cabling [16](#)
 - input cabling [17](#)
 - installation and removal [15](#)
 - output cabling [17](#)
- signal naming
 - on I/O Config web page [32](#)
- Slot Config web page [44](#)
- slot memory [44](#)
- SNMP reporting
 - enabling [46](#)
 - overview [50](#)
- software download from web [4](#)
- software requirements
 - 8900NET module [10](#)
- software updating [46](#)

- specifications [47](#)
- split screen
 - overview [20](#)
 - remote control, Color Correction web page [36](#)
 - remote control, System Config web page [34](#)
 - remote control, Video Proc web page [38](#)
 - summary table [53](#)
- Status LED icon [26](#)
- status monitoring
 - summary [49](#)
- Status web page [29](#)
- System Config web page [34](#)
- system configuration
 - overview [20](#)
 - remote controls [34](#)

T

- troubleshooting [51](#)

U

- user settings
 - overview [21](#)
- User Settings web page [40](#)

V

- VID IN LED [19](#)
- video delay control [43](#)
- Video Input web page [33](#)
- video inputs
 - configuring, remote control [33](#)
 - summary table [53](#)
- Video Output web page [43](#)
- video outputs
 - cabling [17](#)
 - fiber optic, summary table [55](#)
 - overview [21](#)
- video proc amp (VPA)
 - overview [21](#)
 - remote controls [38](#)
 - summary table [54](#)
- Video Proc web page [38](#)

W

- Wait web pge [34](#)
- web browser
 - overview [24](#)
- web site
 - documentation [4](#)
 - FAQ database [4](#)
 - Grass Valley [4](#)
 - software download [4](#)

