EQX–IP18-IPG
EQX Input and IP Gateway Module
User Manual

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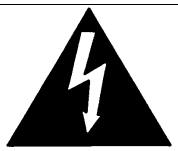
IMPORTANT SAFETY INSTRUCTIONS

	The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “Dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the product.

- Read these instructions
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC – SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE

WARNING
DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS ARE PLACED ON THE EQUIPMENT

WARNING
TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE

WARNING
THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE

INFORMATION TO USERS IN EUROPE

NOTE

CISPR 22 CLASS A DIGITAL DEVICE OR PERIPHERAL

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the European Union EMC directive. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CE

EN60065	Safety
EN55103-1: 1996	Emission
EN55103-2: 1996	Immunity

EN504192 2005
Waste electrical products should not be disposed of with household waste.
Contact your Local Authority for recycling advice

INFORMATION TO USERS IN THE U.S.A.

NOTE

FCC CLASS A DIGITAL DEVICE OR PERIPHERAL

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Changes or Modifications not expressly approved by Evertz Microsystems Ltd. could void the user's authority to operate the equipment.

Use of unshielded plugs or cables may cause radiation interference. Properly shielded interface cables with the shield connected to the chassis ground of the device must be used.

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REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	First Release	May 2016

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1. OVERVIEW

EQX-IP18-IPG is an 18-channel hybrid EQX input module that allows existing or new EQX routers the ability to bridge to the IP world. This IP Gateway module is fully featured with the ability for encapsulation and de-encapsulation of video signals over IP. There are 18 inputs on the EQX that can be selected for either baseband inputs or 10GE IP sources, each of the 18 inputs have a framesync designed to re-time the input video signal to the EQX frame reference signal. The EQX-IP18-IPG modules manage SDI video or 10GE IP source with or without embedded audio signal from 3Mb/s through to 3Gb/s. It also de-embeds audio from all 18 inputs and multiplexes them onto 2 TDM streams, one main and one redundant. Either TDM stream can be used as the primary since they are both indentical.

The EQX input and IP gateway module provides a future proofing answer to the SDI based router and infrastructure, allowing for a smooth integration under MAGNUM Unified Control system for Evertz Software Defined Video Network (SDVN) solution.

Like all other EQX input cards, the EQX-IP18-IPG is cooled by the EQX-FAN-BIN, fully hotswappable and accessed from the front of the EQX frame. The EQX router can be loaded with a maximum of 32 EQX-IP18-IPG modules providing square and non-square matrix configurations from as small as 18 inputs through to 576 inputs.

The EQX-IP18-IPG hybrid input card provides a gateway to link into IP infrastructures as well as allow a more efficient way to tieline routers together. IP based video packetized and transported over fiber will provide greater density and longer distances than coax based solutions would yield, yet still maintaining the low latency and proper SDI SMPTE switching capabilities in the EQX.

For added system flexibility the EQX-IPG-DIN-RP can be used with a standard 18 input 3G and HD Green modules utilizing our IP ready adapter module.

Features & Benefits

- 18 SD/HD/3G SDI inputs
- 18 uncompressed IP inputs (de-encapsulators)
- 18 uncompressed IP outputs (encapsulators)
- Six 10 GbE interfaces
- Fully compatible with all EQX frame models
- Full Audio demux (AVIP) for all sources (SDI or IP ,18 total) over TDM so that it can be routed/processed separately
- Full framesync option for all 18 sources
- Four additional frames of delay can be added
- Support SMPTE ST 259, SMPTE ST 292-1, SMPTE ST 425-1 Level A
- Input expansion in increments of 18, from 18 through to 576
- Access to all modules from front of the EQX
- All modules are hot-swappable
- Fan cooled by EQX-FAN-BIN

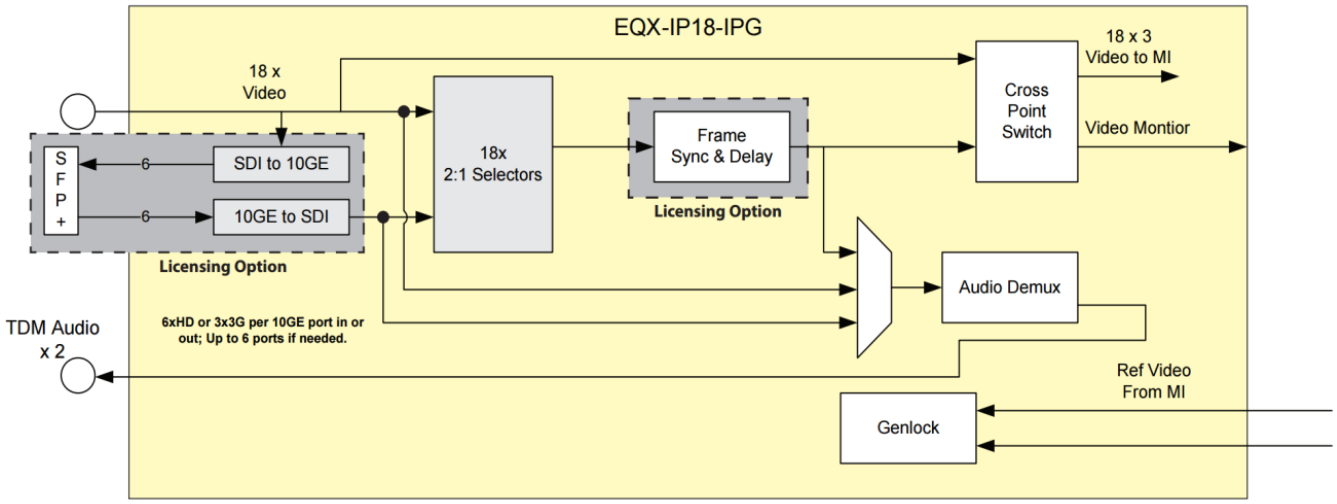

Figure 1-1: EQX-IP18-IPG Block Diagram

VIDEO/IP CONNECTIONS

- **18 SDI Mini DIN Inputs**: The 18 Mini DIN connectors are compatible with SMPTE ST 259, SMPTE ST 292-1 and SMPTE ST 425-1 Level A input signals. The module can automatically detect the input video standard.
- **6 SFP+ Connectors:** The six SFP+ data ports are bi-directional and can be used for both encapsulation and de-encapsulation for the SDI streams. Supports SMPTE ST 259, SMPTE ST 292-1 and SMPTE ST 425-1 Level A input and output signals.

AUDIO CONNECTIONS

- **2 TDM Outputs:** Two Mini DIN connectors for TDM audio (compatible with Evertz TDM v2 only)

Note: EQX-IP18-IPG only supports the RPC based system. All input and output modules including the frame controller must have the RPC based firmware. There is no FLink support for the EQX-IP18-IPG.

2. SPECIFICATIONS

2.1. SERIAL DIGITAL VIDEO INUPUTS

Standards : The following video standards are auto detectable

525i/59.94	625i/50	1080p 59.94	1080p 50	1080i 59.94	1080i 50
720p59.94	720p50	1080i60	720p60	1080p 60	

Table 2-1: Supported Video Standards

Number of SDI inputs: 18 x Mini DIN
Number of SFP Ports: 6 x SFP+
Impedance : 75 Ω terminating

Input Equalization:

SD Standards : Automatic to 190m @ 270Mb/s with Belden 1694 or equivalent cable
HD Standards : Automatic to 135m @ 1.5Gb/s with Belden 1694 or equivalent cable
3G Standards : Automatic to 90m @ 3Gb/s with Belden 1694 or equivalent cable
DC Offset: 0 ±0.5 V

Output Jitter:

SD Standards : < 0.2 UI

HD Standards : < 0.2 UI

3G Standards : < 0.3 UI

2.2. ELECTRICAL

Voltage: +48VDC
Power Consumption: 55W

2.3. FRAMES

Frame and Slot Occupancy: EQX10 Frame with 1 slot occupancy
EQX16 Frame with 1 slot occupancy
EQX26 Frame with 1 slot occupancy

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3. FRAME TYPES

A typical EQX platform has the ability to route up to 576x576 signals in a standard 26RU frame, up to 288x288 in a standard 16RU frame and up to 180X180 in a 10 RU frame. EQX platform can be expanded beyond its standard routing capability by adding X-Link expansions to the frame. The most common frame types are as follow:

1. Standard 26RU,16RU and 10RU frames
2. 26RU frames with Xlink expansion outputs
3. 16RU frames with Xlink expansion outputs
4. 10RU frames with Xlink expansion outputs

For more information on EQX frames see the EQX Series manual.

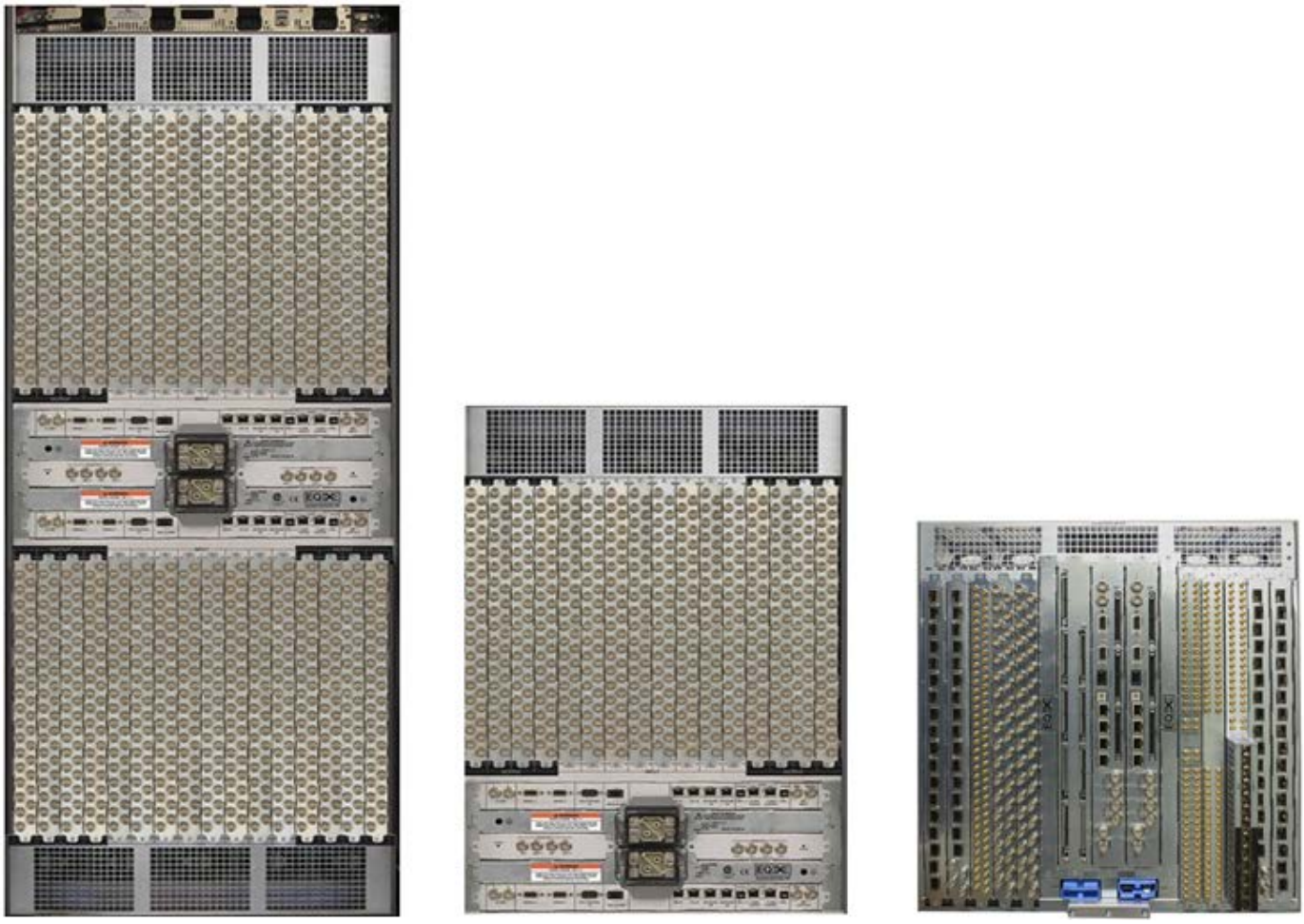

Figure 3-1: Standard 26RU, 16RU, and 10RU Frames

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4. INSTALLATION

Before handling the card it is important to minimize the potential effects of static electricity. It is therefore recommended that an ESD strap be worn.

Locate a vacant slot on the router chassis. Each rear plate can house up to two modules.

Note: The orientation of the rear plate and EQX–IP18-IPG module are different when installing on the top verses the bottom of the EQX26 frame

4.1. INSTALLATION OF REAR PLATE OR MODULE INTO TOP HALF OF A EQX26 FRAME

Most of the time cards come preinstalled in the frame if both frame and the cards are ordered together. In the case of installing spare cards and rear plates into the frame, the following steps need to be taken into consideration.

Step 1 : Install the EQX-IP18-IPG rear plate to the top half of the EQX frame with screws provided and make sure the orientation of the rear plate is the same as shown in Figure 3-1.

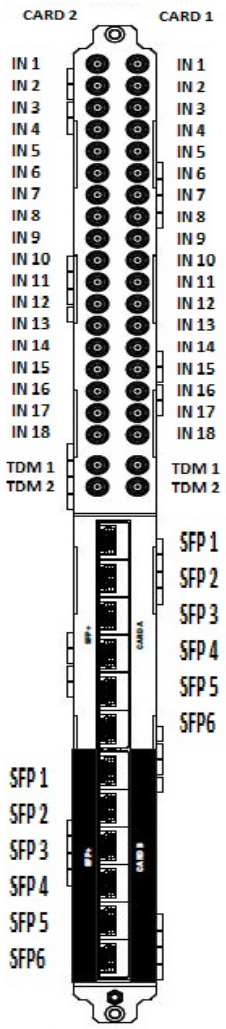

Figure 4-1: Rear Plate Orientation when Installing to the Top half of the Frame

Step 2: Insert the EQX-IP18-IPG module in to the top half of the EQX frame and make sure the orientation of the card is the same as shown in Figure 3-2.

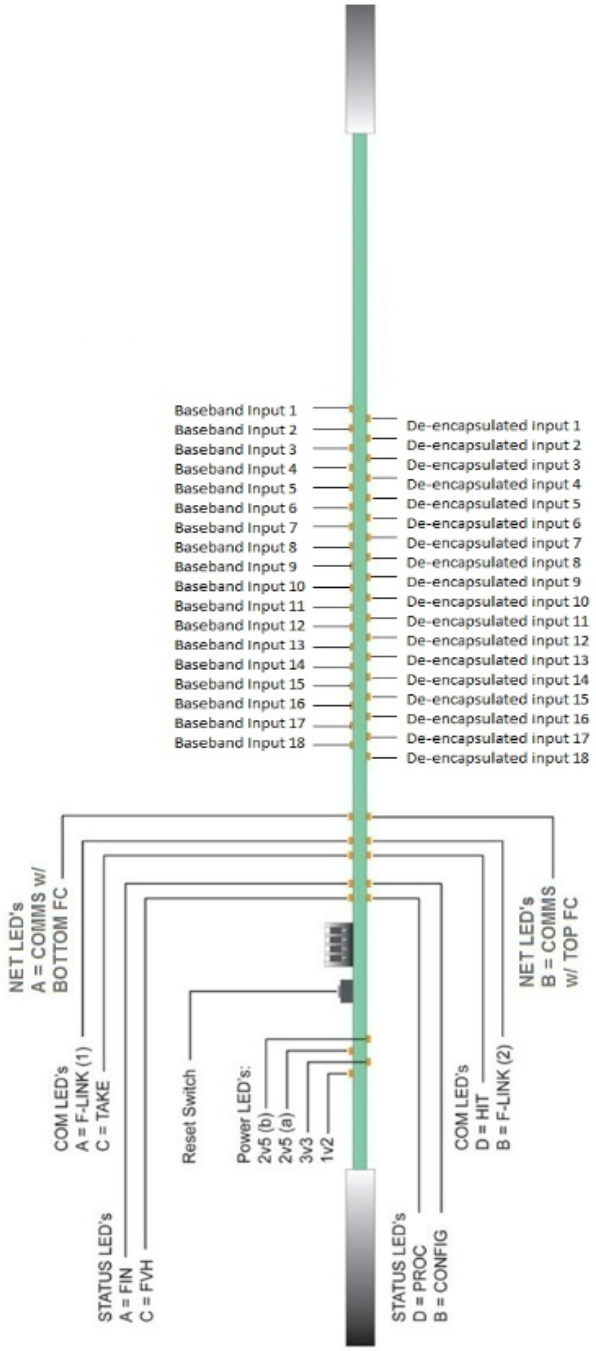

Figure 4-2: Illustration EQX-IP18-IPG Installed in the Top Slot

Note: Orientation of the rear plate and EQX–IP18-IPG module are the same in EQX16 and EQX10 frame as in the top half of EQX26 frame.

4.2. INSTALLATION OF REAR PLATE OR MODULE INTO BOTTOM HALF OF AN EQX26 FRAME

Step 1: Install the EQX-IP18-IPG rear plate to the EQX frame with screws provided and make sure the orientation of the rear plate is the same as shown in Figure 4-4-3.

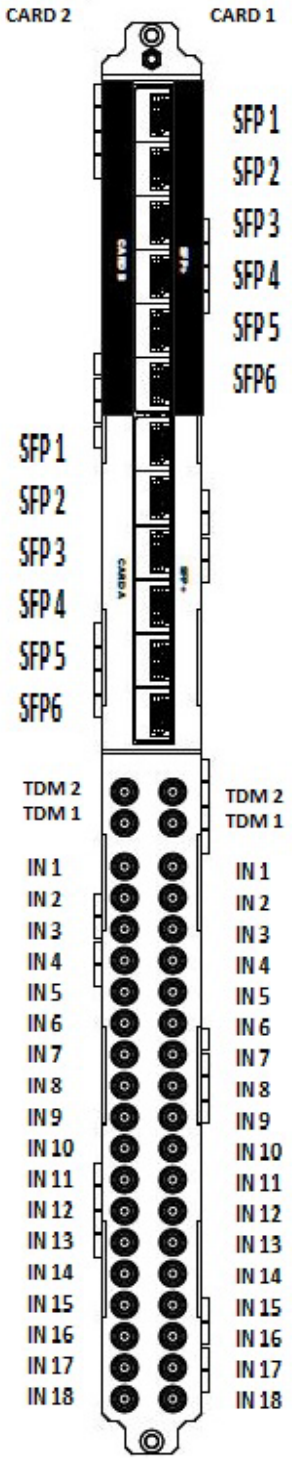

Figure 4-3: Rear Plate Orientation When installing to the Bottom of the Frame

Step 2: Insert the EQX-IP18-IPG module in to the bottom of the EQX26 frame and make sure the orientation of the card is the same as shown in Figure 4-4-4.

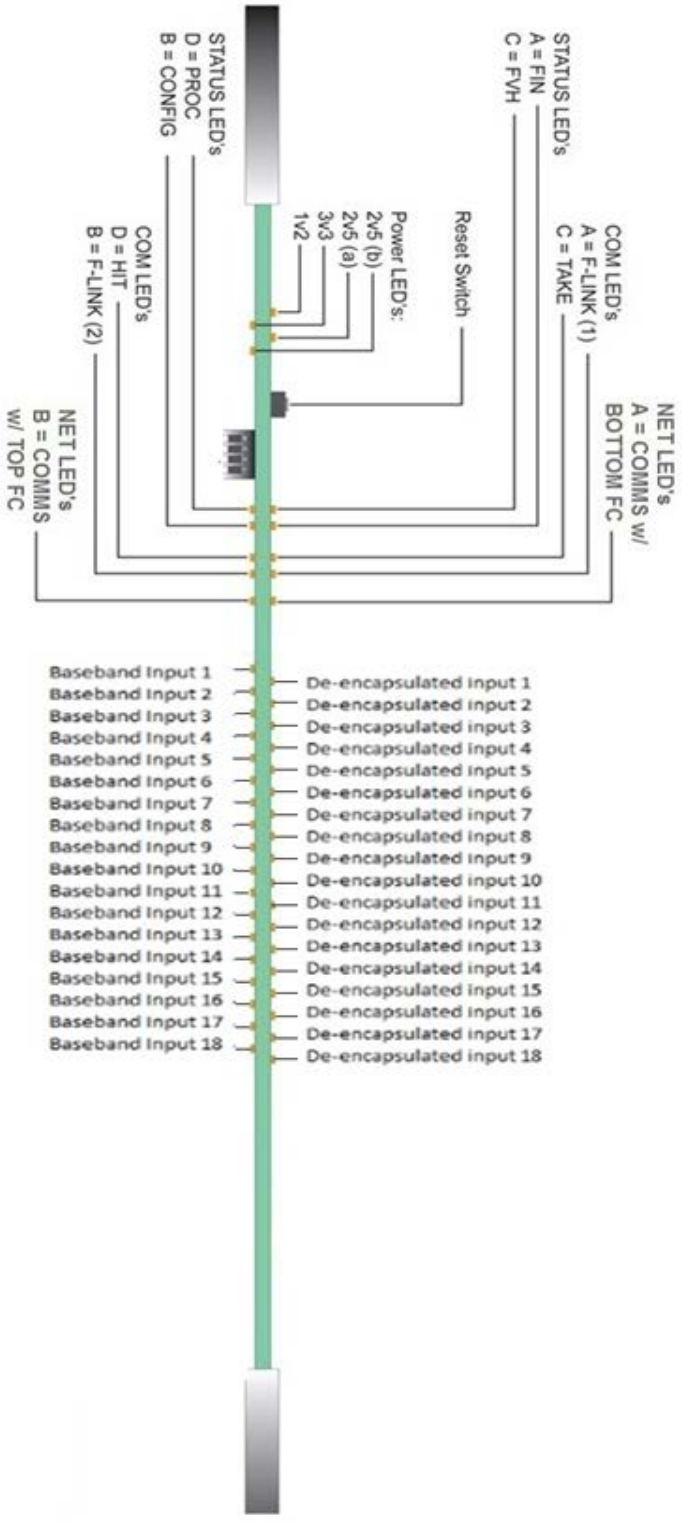

Figure 4-4: Illustration EQX-IP18-IPG Installed in the Bottom Slot

5. SETTING GENLOCK REFERENCE

On the front of the EQX–IP18-IPG module, there is a four position dip switch that is used to select the reference standard to be used for genlock.

Figure 5-1: Location of Dip Switch on the EQX–IP18-IPG Module

Moving the dip switch position will change state to open or closed. When a dip switch is up, means the open position is selected. When a dip switch is down, means the closed position is selected. Figure 5-5-2 illustrates the open position.

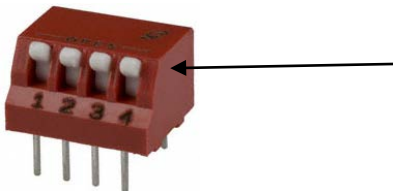

Figure 5-2: Illustration of Dip Switch

5.1. NTSC REFERENCE

Step 1 : Make sure the NTSC reference signal is provided to the EQX frame.
Step 2 : Set the dip switch at the EQX-IP18-IPG card edge position to the following:

Switch Pin	State
1	Open
2	Open
3	Open
4	Closed (down / close to board)

Table 5-1: Card Edge Dip Switch Settings for NTSC Reference

5.2. PAL REFERENCE

Step 1: Make sure the PAL reference signal is provided to the EQX frame
Step 2: Set the dip switch at the EQX-IP18-IPG card edge position to the following:

Switch	State
1	Open
2	Open
3	Open
4	Open

Table 5-2: Card Edge Dip Switch Settings for PAL Reference

Note: It is a recommended practice to provice both NTSC and PAL reference to the frame at the same time.

Note: The reference dip switch has to be set correctly based on the incoming video, misconfiguration of the dip switch will result in malfunctioning of IPG.

6. CHECKING INPUT STATUS WITH LEDS ON THE MODULE

The EQX-IP18-IPG module input status LEDs are split up into two columns to indicate valid input detections. Whether the module is inserted in the top or bottom of the frame, the left side indicates SDI detection from the DIN inputs while the right side indicates SDI detection from the Data Port inputs.

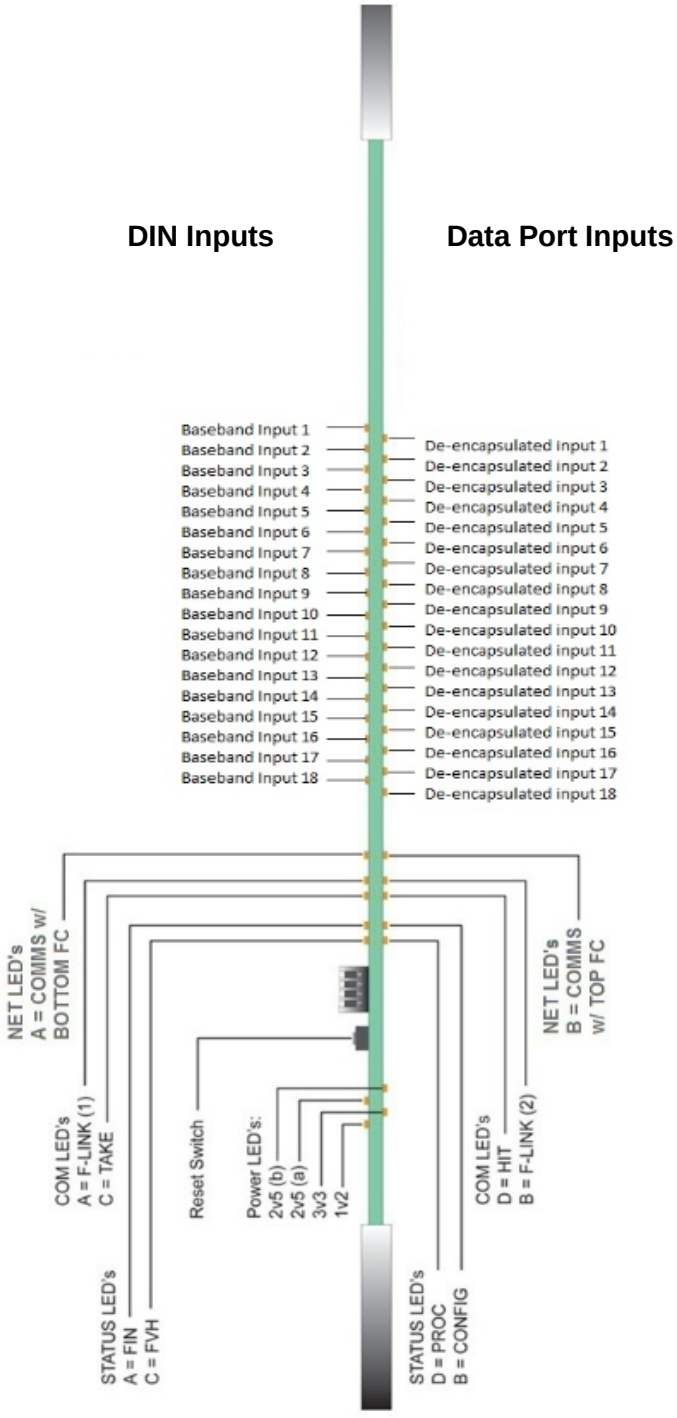

Figure 6-1: LED Indicators when installed in the Top half of the Frame

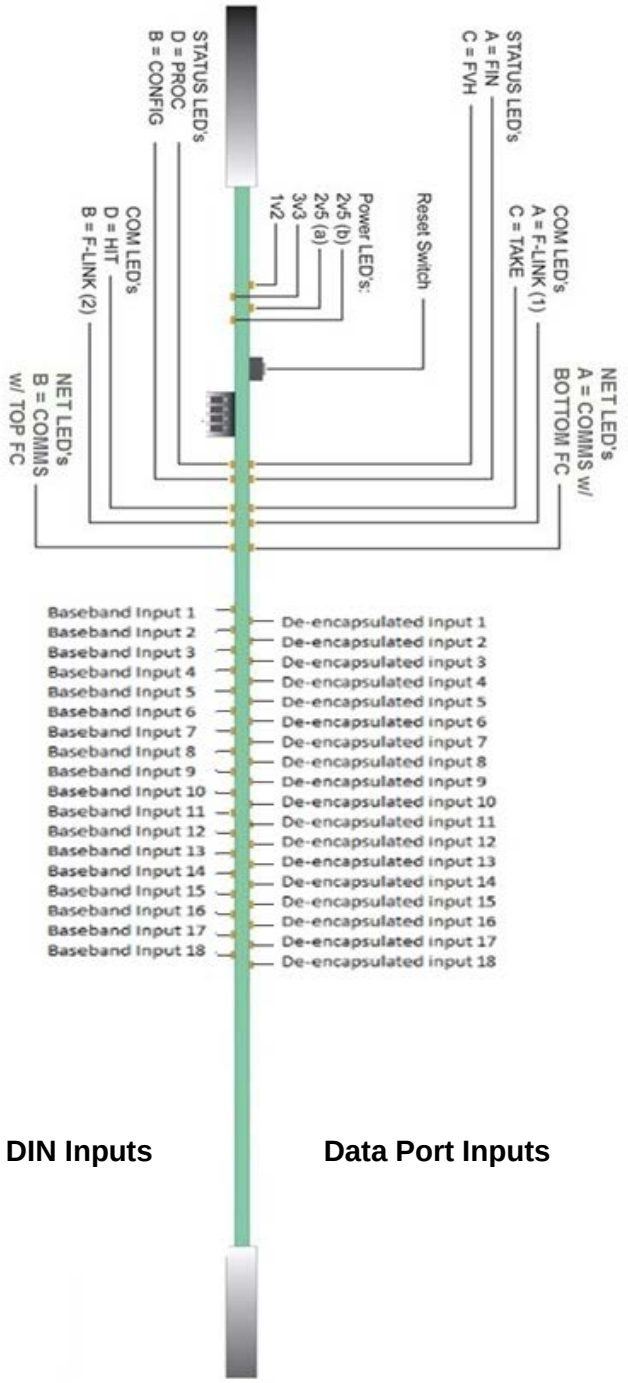

Figure 6-2: LED Indicators when Installed in the Bottom half of the Frame

7. WEB INTERFACE CONFIGURATION

EQX-IP18-IPG can be controlled entirely via web-interface. Each tab in the web interface is explained in the following sections.

7.1. LOGIN

Make sure IPG is pingable from PC and type the IP address of the card in the address bar of the browser. **Error! Reference source not found.** shows the login window for EQX-IP18-IPG. Use "***customer***" for both the Login and Password credentials or "***root***" for login and "***evertz***" for password.

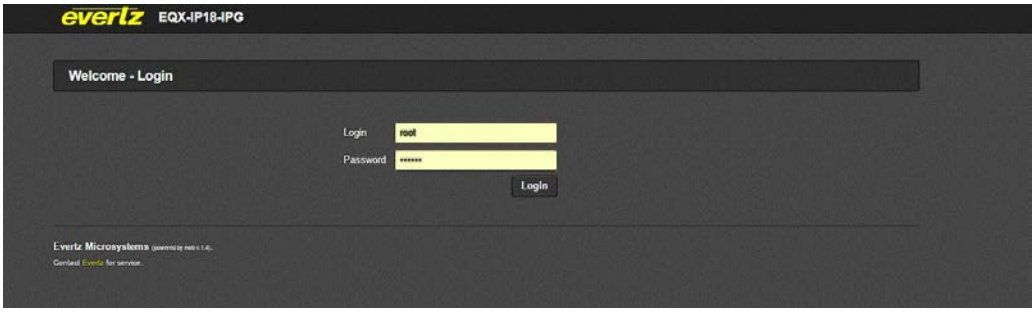

Figure 7-1: Web Interface - Login Screen

7.2. SYSTEM TAB

The System tab provides the user with a snap-shot of the current device configurations and settings. It also provides the user with an interface to configure the system settings on the EQX-IP18-IPG module.

Due to the size of the System tab, it has been broken down into three screen shots and explained each part separately.

7.2.1. Data Port Configuration

This control allows the user to select which data port will be configured. The EQX-IP18-IPG module has six configurable ports, all of which can be assigned to a unique IP Address, Netmask and Gateway.

IP Address

- This parameter allows the user to set the IP Address for the specified data port.

NetMask

- This parameter allows the user to define the subnet mask for the IP address.

Gateway

- This parameter allows the user to define the gateway address for the specified data port.

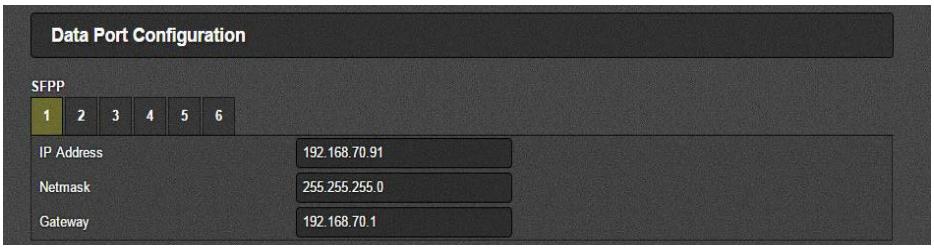

Figure 7-2: Web Interface - System Tab – Data Port Configuration

7.2.2. Data Port Monitor

The following fields display the current statistics on the specified data port.

Ethernet Rx Frames OK

- This field displays the number of error free Ethernet frames received.

Ethernet Rx Frames Err

- This field displays the number of received Ethernet frames containing errors.

Ethernet Rx Broadcast Frames

- This field displays the number of Broadcast frames received.

Ethernet Rx Unicast Frames

- This field displays the number of Unicast frames received.

Ethernet Rx Multicast Frames

- This field displays the number of Multicast frames received.

Ethernet Tx Frames OK

- This field displays the number of error free Ethernet frames transmitted.

Ethernet Tx Frames Err

- This field displays the number of transmitted Ethernet frames containing errors.

Ethernet Tx Broadcast Frames

- This field displays the number of Broadcast frames transmitted.

Ethernet Tx Unicast Frames

- This field displays the number of Unicast frames transmitted.

Ethernet Tx Multicast Frames

- This field displays the number of Multicast frames transmitted.

Video Rx Bandwidth

- This field displays the received Ethernet bandwidth. This value is displayed in Mbps.

Video Tx Bandwidth

- This field displays the transmitted Ethernet bandwidth. This value is displayed in Mbps.

Ethernet Link Status (dB)

- This field displays the current link status on the specified data port as either ***Up*** or ***Down***. The user can also reset the current statistics which have been displayed by selecting the ***Clear Stats*** button.

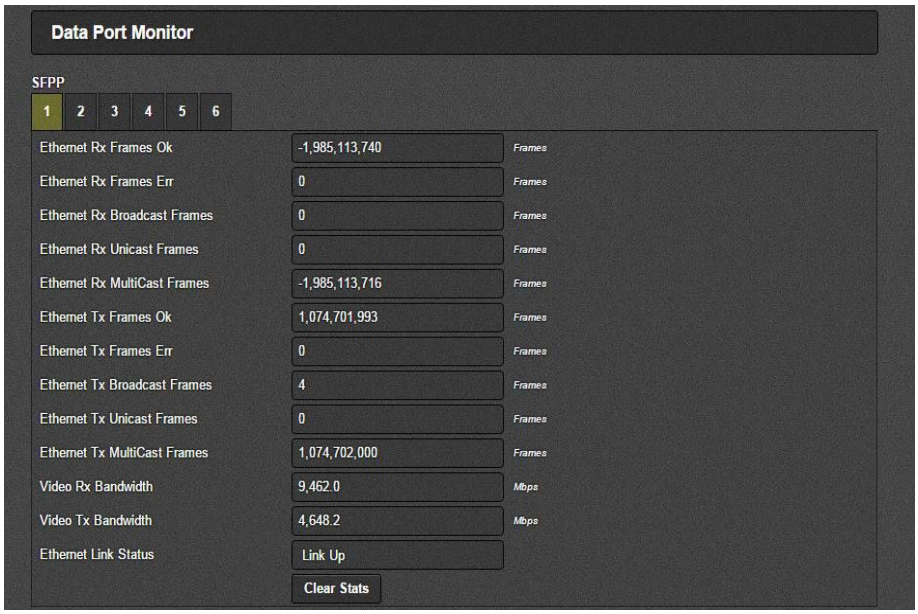

Figure 7-3: Web Interface - System Tab – Data Port Monitor

7.2.3. Rear Panel

The following fields display the current rear plate type and status of the rear plate. Also allows the user to select the type of cable.

Rear Panel Descriptor

- This field displays the type of rear panel installed.

Cxp Presence

- This field displays whether a correct rear panel type is installed.

SFP Detection

- This control allows the user to specify the type of cable used with the SFP. Options are Auto, Optical, Copper 3m and Copper 5m

Figure 7-4: Rear Panel

7.2.4. SFP Monitor

The following fields display the status of SFP on the specified data port.

SFP Part Number

- This field displays the SFP part number detected.

SFP Type

- This field displays the type of SFP.

SFP Rx Power Level

- This field displays the receiving power level.

SFP Tx Power Level

- This field displays the transmitting power level.

SFP Temperature

- This field displays the SFP temperature.

SFP Voltage

- This field displays the SFP voltage.

Figure 7-5: SFP Monitor

7.2.5. Genlock Configuration

Reference Selection

- This field displays the reference selected using the dip switch.

Figure 7-6: Genlock Configuration

7.2.6. Genlock Monitoring

The following fields display the current overall status of the genlock.

Genlock Status

- This field will display the status of Genlock as *Locked* or *Unlocked*.

Genlock Present

- This field will display the presence of Genlock of the specified reference.

Genlock Standard

- This field will display the Genlock standard detected. If the standard is neither ***PAL*** nor ***NTSC***, the value displayed will be ***Unknown***.

Figure 7-7: Genlock Monitoring

7.2.7. Temperature

Board Temperature

- This field displays the board temperature.

CPU Temperature

- This field displays the CPU temperature.

Trap Temperature Threshold

- This control sets the temperature threshold for the module to trigger a fault.

Figure 7-8: Temperature

7.2.8. TRAP Destination IP

TRAP IP (1 to 5): This parameter allows the user to set the TRAP Destination addresses.

Figure 7-9: Trap Destination

7.2.9. Standard Control

SMPTE 2022 Standard

- This control allows the user to select the protocol used for transporting encapsulated video. Options are SMPTE-2022, Evertz TS or ASPEN(for future).

TS Packets Per Frame

- This control is used to set the number of transmission packets per frame.

This options only applies to the non-SMPTE 2022 standards (Evertz TS and ASPEN). Range is 1-7. Must apply and reboot module in order for the change to take effect.

Note: Any changes in the *Standard Control* section require the module to be rebooted.

Figure 7-10: Standard Control

7.2.10. Configuration Management

Export Configuration File

- This option allows the user to download and save the configuration when the *Download* button is clicked.

Import Configuration File

- This option allows the user to upload a configuration file. To upload a file, *Choose File* and click the *Upload* button.

7.2.11. RPC Control

Main and Backup
SFP Port

- This port is used for inband control and magnum is communicating with the card via this port. In IPG, port 1 is used for main and port 2 is used for backup.

Receive IP Address

- This address can be set manually or received from magnum, either way it has to match the multicat address that is defined in magnum. Commands are received from magnum via this multicast address.

Tally IP Address

- This address can be set manually or received from magnum, either way it has to match the multicat address that is defined in magnum. Responses are sent to magnum via this multicast address

Timeout

- This control is used to set the duration befor the connection times out.

7.2.12. Card Control

Purge Card

- This function clears all the settings

Purge Status

- This field displays whether the is ready to be purg or the purg is in progress.

Load Factory config

- This control will allow the user to reload the factory settings and will wipe out all the previous settings.

Reboot Card

- This control allow the user to reboot the card remotely.

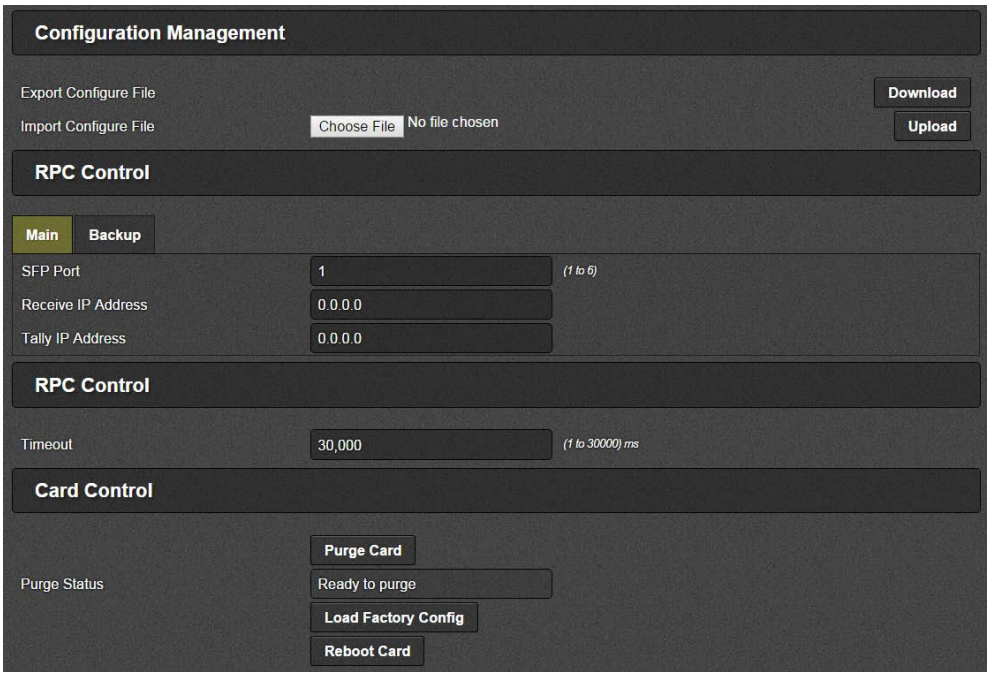

Figure 7-11: Configuration Management

7.3. LICENSE

7.3.1. License Control

Product License File

- This section is used to download the product license file. To download the license, *Choose File* and click *Upload*.

Product Serial Number

- This field displays the product serial number.

Product MAC Address

- This field displays the product MAC address.

7.3.2. Product Feature

Feature 1 and 2

- This field displays the product features enabled.

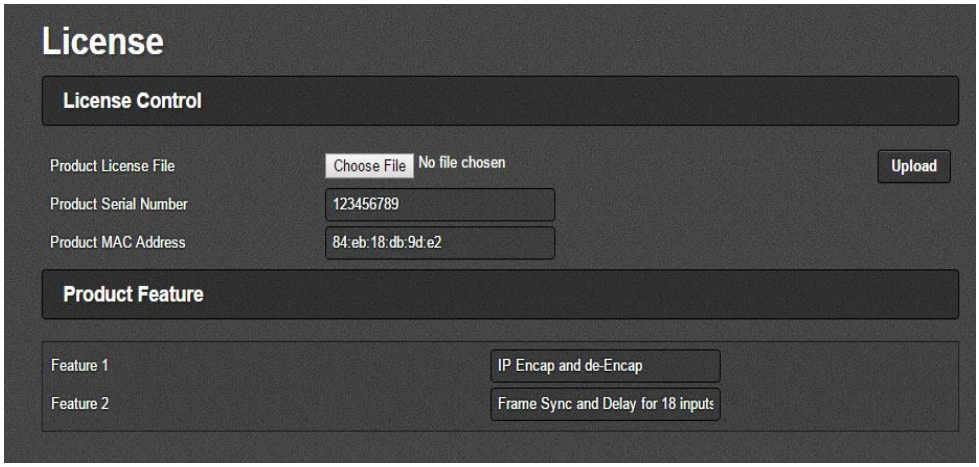

Figure 7-12: License Tab

7.4. INPUT ROUTE CONTROL

7.4.1. Route (Grid/ Management)

The Input Route Grid/ Management displays the current routes configured on the module. It shows which SFP input is routed to which SDI output (out to crosspoint). These configurations are controlled by MAGNUM.

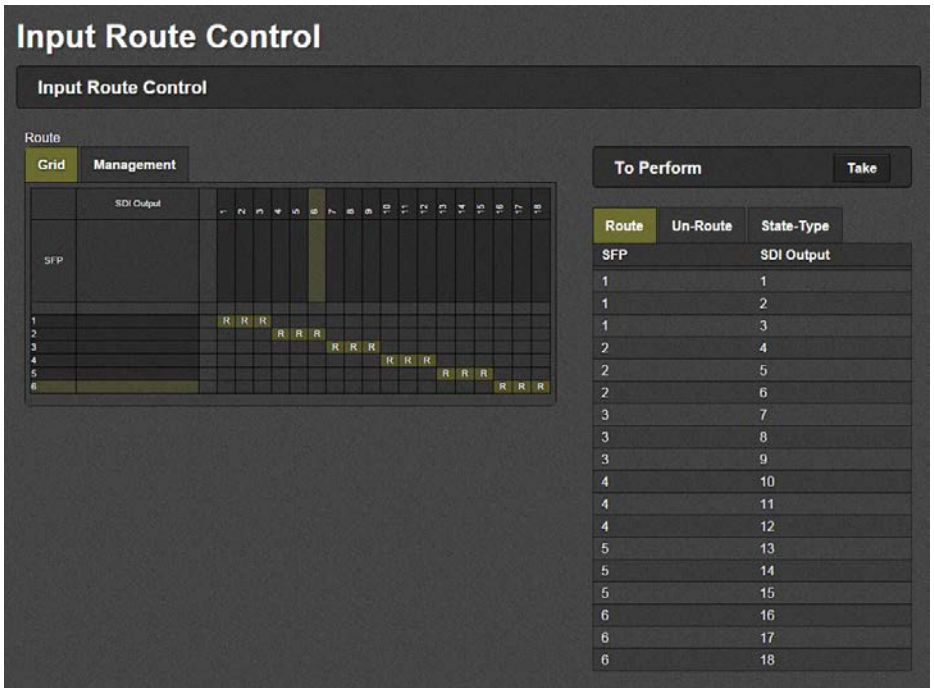

Figure 7-13: Web Interface - Input Route Control Tab 1

Note: *Input Route Control* is managed by Magnum.

Note: Each SFP is 10G and it can carry up to 3 x 3G or 6 x HD signal .

To Perform Take

- Most of the time the routes are managed by Magnum, in some exceptional cases manual route can be done on the IPG as well. Once the manual route is done on the Grid, the Take button has to be pressed for the change to be applied.

Route and State-Type

- Both Route and State-Type are showing the pending routes which require the take button to be pressed. Once the take button is pressed the table under the Rotue and State-Type will be cleared.

Un-Route

- Future use

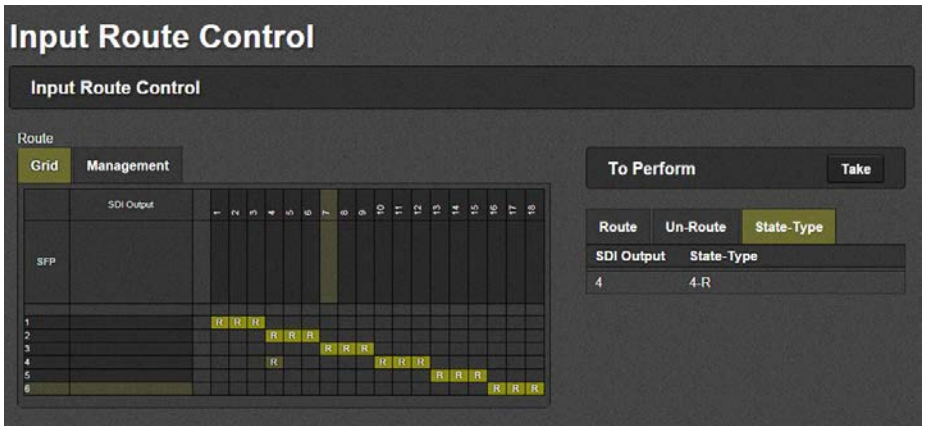

Figure 7-14: Web Interface - Input Route Control Tab 2

7.5. OUTPUT ROUTE CONTROL

7.5.1. Output Route (Grid/Management)

The Output Route Grid/Management displays the current routes configured on the module. It shows which DIN SDI input is routed to which SFP output. These configurations are managed by MAGNUM.

Note: Any SDI input can be routed to any SFP out within the same module. However SDI to SFP can not be routed across two different modules.

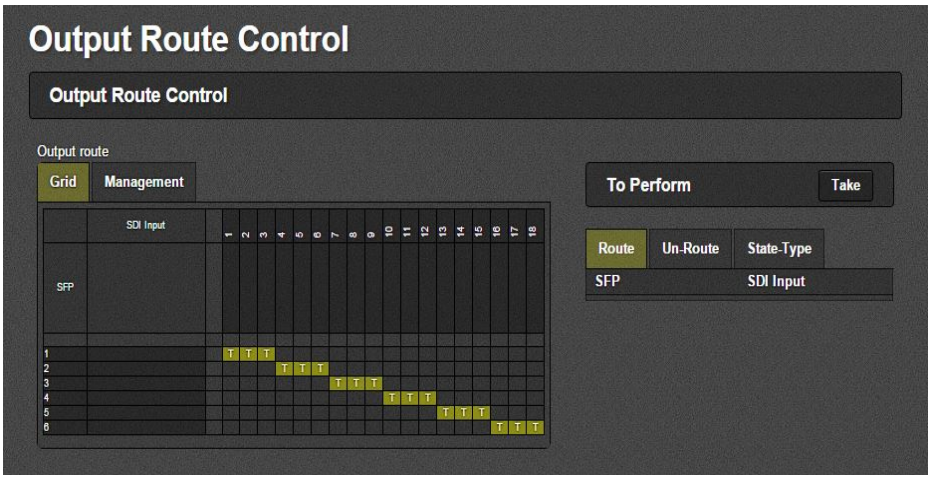

Figure 7-15: Web Interface - Output Route Control Tab

Note: *Output Route Control* is managed by Magnum.

To Perform Take

- Most of the time the routes are managed by Magnum, in some exceptional cases manual route can be done on the IPG as well. Once the manual route is done on the Grid, the Take button has to be pressed for the change to be applied.

Route and State-Type

- Both Route and State-Type are showing the pending routes which require the take button to be pressed. Once the take button is pressed the table under the Rotue and State-Type will be cleared.

Un-Route

- Future use

7.6. DIN SDI INPUTS

This section is to configure and monitor the DIN SDI inputs.

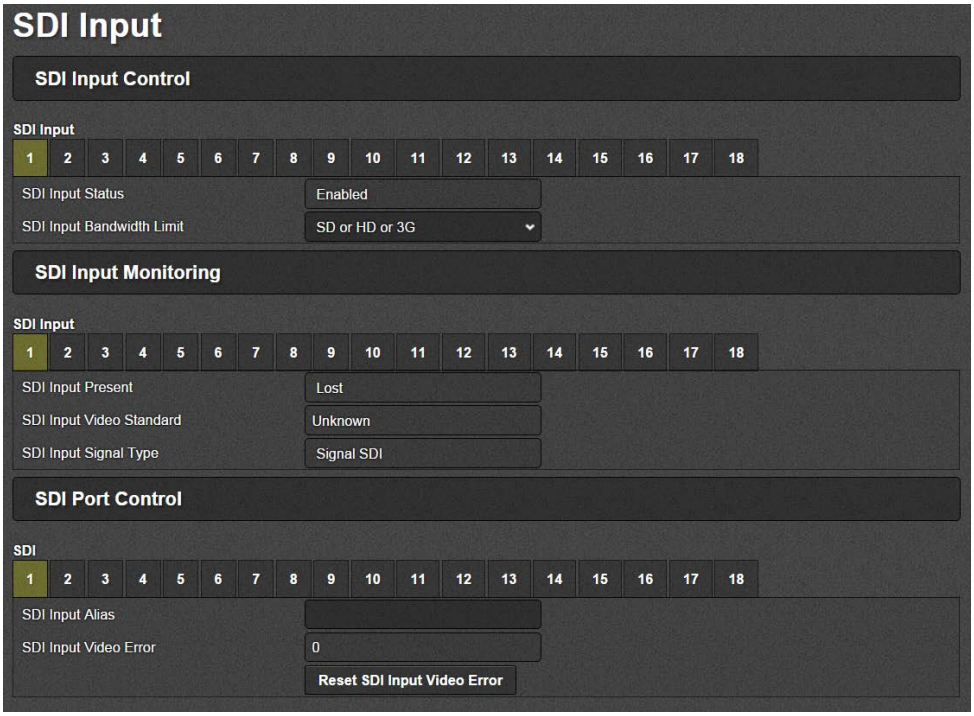

Figure 7-16: SDI Input Tab

7.6.1. SDI Input Control

SDI Input Status

- This field displays whether the card has the SDI Input option enabled or disabled.

SDI Input Bandwidth Limit

- This control is used to limit the bandwidth on the SDI input port. The selections are “SD or HD or 3G”, “SD or HD”, “SD” and “No Bandwidth”. Based on this selection the number of SDI signals per SFP is decided. The control is managed by Magnum.

7.6.2. SDI Input Monitoring

SDI Input Present

- This field displays whether a valid SDI signal (Present) is applied to that input or not (Lost).

SDI Input Video Standard

- This field displays the input video standard.

SDI Input Signal Type

- This field displays the type of input signal detected.

Note: All the above information is available for each input by selecting tabs 1-18.

7.6.3. SDI Port Control

SDI Alias

- This control allows the user to provide an Alias for each SDI Input, so when there is fault in one of the inputs, that particular alias will be displayed in VLPRO.

SDI Video Error

- This field displays the number of errors detected on the SDI signal.

Reset SDI Video Error

- This button allows the user to reset the error count recorded by the ***SDI Video Error*****.**

7.7. IP OUTPUT

This section allows the user to configure and monitor the output settings for each SFP data port.

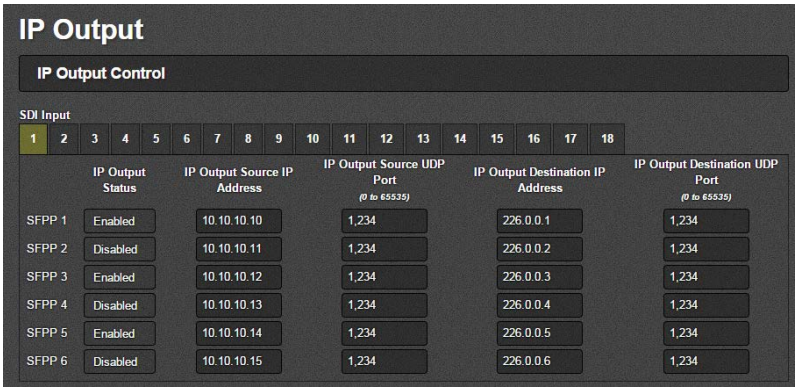

Figure 7-17: Web Interface - IP Output Tab

7.7.1. IP Output Control

IP Output Status

- This field displays for which SDI input the Data Port is *Enabled* or *Disabled*.

E.g. if all 18 inputs are 3G then the first SFP will be enabled for the first 3 SDI inputs, second SFP for the second 3 SDI inputs and so on.

IP Output Source IP Address

- This section displays the IP addresses of the Data Ports (SFPs).These IP addresses are unique for each SFP and are the same for each SDI input(1-18).

IP Output Source UDP Port

- This control displays the source UDP port number.These port could be the same.

IP Output Destination IP Address

- This control is used to configure the output destination multicast IP address. This address is used for IP routing.

IP Output Destination UDP Port

- This control is used to configure the output destination UDP port number. This port along with the Destination IP address is used for IP routing.

Note: All the above configurations are managed by Magnum.

7.7.2. IP Output Advanced Control

IP Output Type Of Service

- This control is used to set the Type of Service number on the IP output from 0-255.

IP Output Time To Live

- This control is used to set the Time to Live number on the IP output.

IP Output RTP Mode

- This control is used to *Enable* or *Disable* RTP (Real-time Transport Protocol) on the IP output.

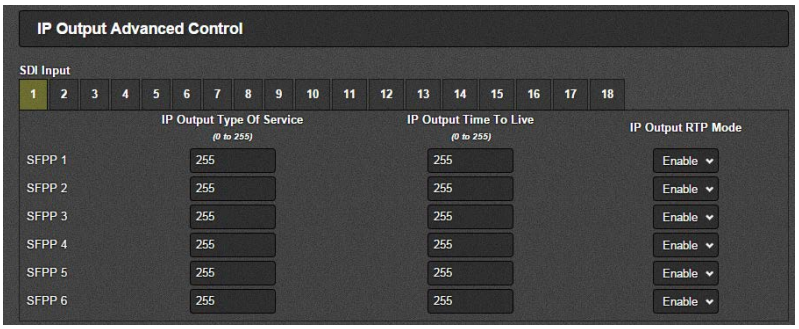

Figure 7-18: IP Output Advanced Control

Note: Magnum will set these values in the Multicast tab in SDVN.

7.7.3. IP Output Monitoring

IP Output Present

- This field displays whether there is valid data on the port by showing *Active* or *Inactive*.

IP Output Bits Rate (Mbps)

- This field displays bits rate on the port from the DIN SDI input selected.

Clear Stats

- The *Clear Stats* button is used to clear the stats recorded for *IP Output bits rate.*

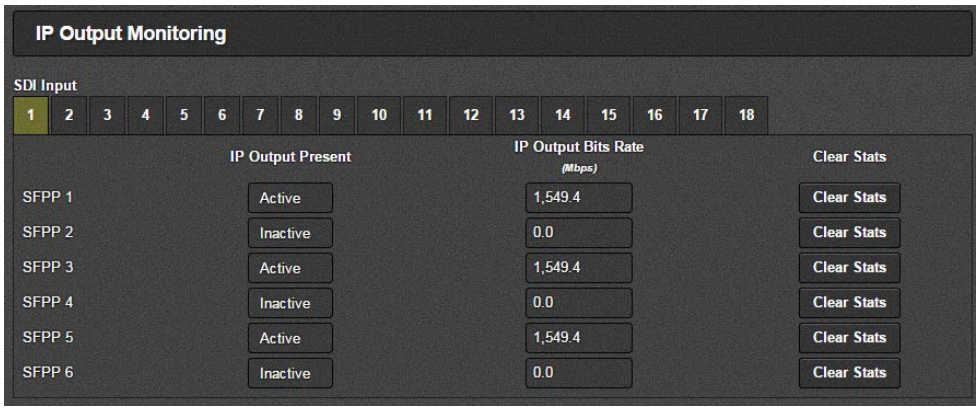

Figure 7-19: IP Output Monitoring

7.8. IP INPUT CONTROL

This section will allow the user to monitor or configure the IP input parameters.

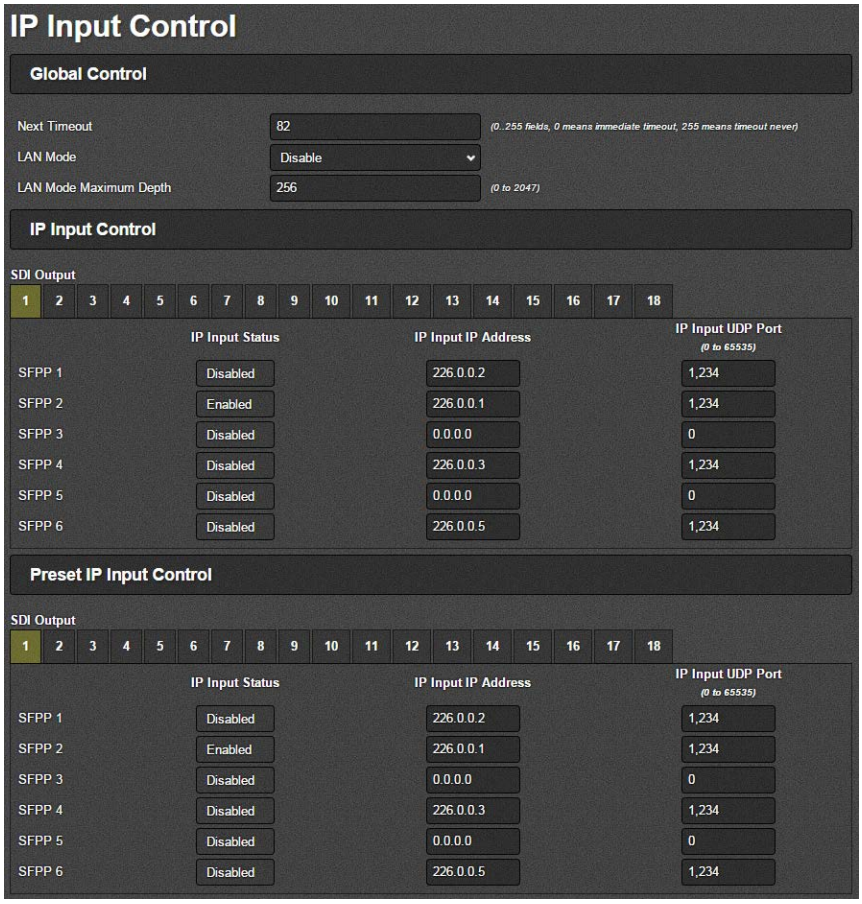

Figure 7-20: IP Input Control Tab

7.8.1. Global Control

Next Timeout

- This control is used to set the *Next Timeout*. A value of 0 means immediate timeout while a value of 255 means timeout never.

LAN Mode

- This control is used to *Enable* or *Disable* the LAN Mode Maximum Depth. Refer to glossary in section 7 for an explanation.

LAN Mode Maximum Depth

- This control is used to set the value for the LAN Mode Maximum Depth. Refer to Glossary in section 7 for an explanation.

7.8.2. IP Input Control

IP Input Status

- This field displays the status of the SFP port as either *Enabled* or *Disabled*. It shows enabled if a valid source is routed to it.

IP Input IP Address

- This control is used to specify the IP address of the incoming stream.

IP Input UDP Port

- This control is used to specify the UDP port number associated with the incoming IP address.

7.8.3. Preset IP Input Control

IP Input Status

- This field displays the status of the SFP port as either *Enabled* or *Disabled*.

IP Input IP Address

- This control is used to specify the input IP address of the next incoming stream.

IP Input UDP Port

- This control is used to specify the UDP port number associated with the next incoming IP address.

Note: All the above parameters are managed by Magnum.

7.9. IP INPUT MONITORING

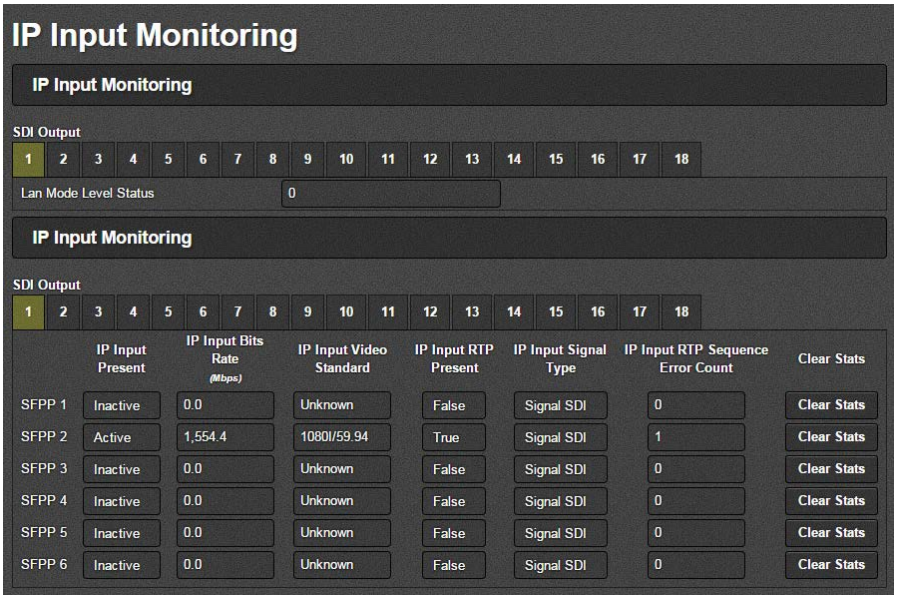

Figure 7-21: IP Input Monitoring Tab

7.9.1. IP Input Monitoring

LAN Mode Level Status

- This field displays the current LAN mode level.

7.9.2. IP Input Monitoring

IP Input Present

- This field displays if the SFP port is Active or *Inactive*.

IP Input Bits Rate (Mbps)

- This field displays the rate of incoming signal.

IP Input Video Standard

- This field displays the standard of video detected on the input.

IP Input RTP Present

- This field displays whether the input protocol is using RTP or not.

IP Input Signal Type

- This field displays the type of input signal.

IP Input RTP Sequence Error Count

- This field displays the number of RTP sequence count errors.

Clear Stats

- The *Clear Stats* click button is used the stats for the selected row.

7.10. SDI OUTPUT

This section will display output settings or allow the user to confiture some of the parameters.

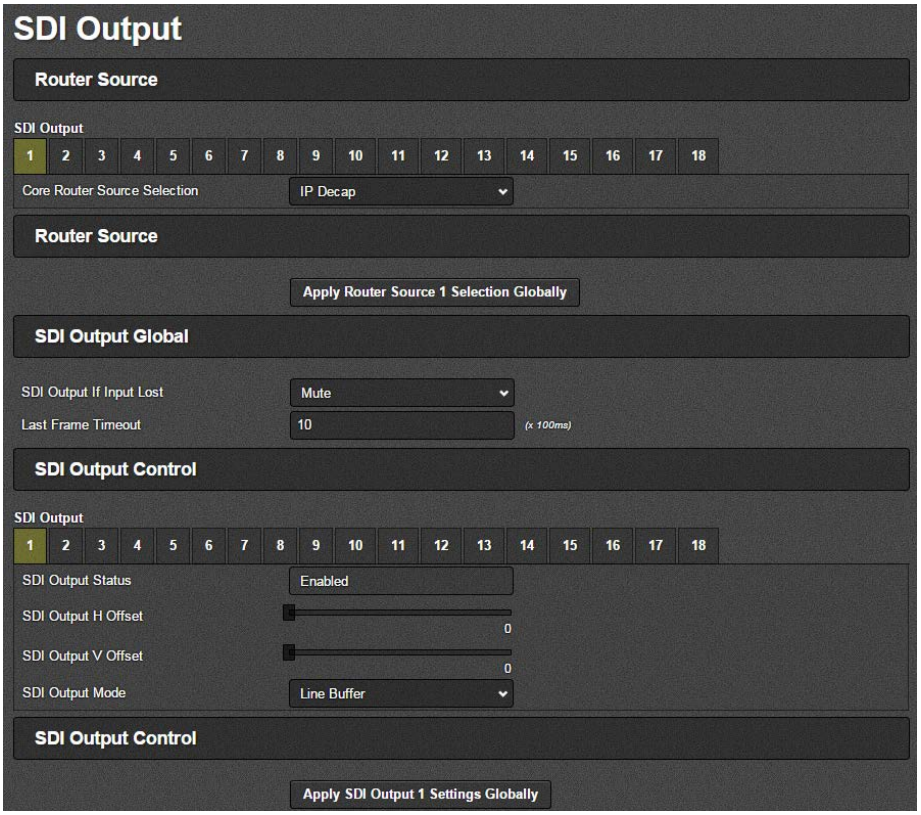

Figure 7-22: SDI Output Tab

7.11.1. Router Source

Core Router Source Selection

- This control is used to select what type of input will be used for routing. The options are ‘IP Decap, Baseband Direct and Baseband Synchronized”.

IP Decap

- De-encapsulated signal is sourced to the EQX-XPT from the Data Ports.

Baseband Direct

- Signal source to EQX-XPT is directly from baseband DIN Inputs.

Baseband Synchronized

- Signal source to EQX-XPT is directly from frame-synced baseband DIN Inputs.

7.11.2. Router Source

Apply Router Source 1 Selection Globally

- Configurations made on SDI Output 1 will be copied to all of the other 17 SDI Outputs.

7.11.3. SDI Output Global

SDI Output if Input Lost

- This control is used to select between *Mute* and *Last Frame* for an SDI output if the input signal is lost.

7.11.4. SDI Output Control

SDI Output Status

- This field displays the SDI output status as either *Enabled* or *Disabled*.

SDI Output H Offset

- This control is used to adjust the horizontal offset on the SDI video output.

SDI Output V Offset

- This control is used to adjust the vertical offset on the SDI video output.

SDI Output Alias

- This control is used to give an alias name on the SDI output.

SDI Output Mode

- This control is used set the delay on the SDI output. Options are *Low Latency*, *Line Buffer,* and *Frame Buffer.* Refer to the Glossary in section 7.

Apply SDI1 Settings Globally

- Configurations made on SDI Output 1 will be copied to all of the other 17 SDI Outputs.

7.11.5. SDI Output Monitoring

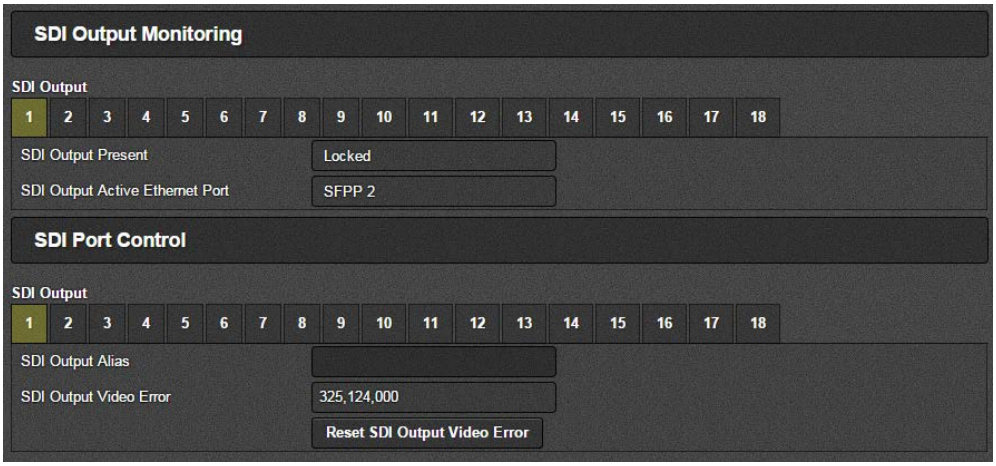

Figure 7-23: SDI Output Monitoring

SDI Output Present

- This field is used to display if there is an SDI output signal present and locked.

SDI Output Active Ethernet Port

- This field is used to display whether the SDI output is coming from DIN input or an SFP input.

7.11.6. SDI Port Control

SDI output Alias

- In this field user can assign an alias for each output

SDI Output Video Error

- This field will display the number of video error on the output.

Reset SDI Output Video Error

- This button will reset the video error count to zero.

7.12. VIDEO NOTIFY

This section will display the health of the input and output of video signals.

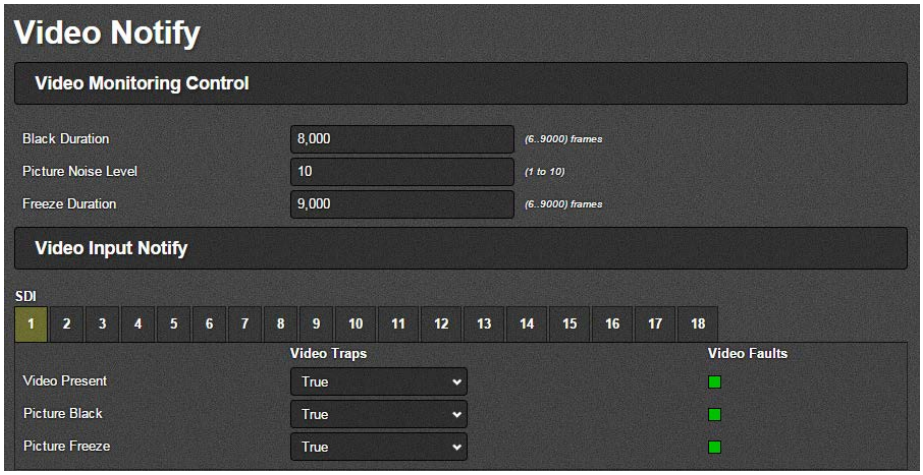

Figure 7-24: Video Notify Tab

7.12.1. Video Monitoring Control

Black Duration

- This control is used to set the duration of black frames before it is considered a fault.

Picture Noise Level

- This section sets the amount for noise level acceptable on the incoming video before triggering a fault. This value should be set to the correct ambient noise level.

Freeze Duration

- This section sets the number of frames for freeze video before it is considered a fault.

7.12.2. Video Input Notify

Video Present

- When set True; in case of signal loss a trap message will be sent to the trap addresses configured in the Trap Control section of the System tab.

Picture Black

- When set *True*, in case of *Black video* a trap message will be sent to the trap addresses configured in the Trap Control section of the System tab.

Picture Freeze

- When set True; in case of *frozen picture* a trap message will be sent to the trap addresses configured in the Trap Control section of the System tab.

7.12.3. Video Output Notify

OutputVideo Present

- When set True; if the output video is missing a trap message will be sent to the trap addresses configured in the Trap Control section of the System tab.

OutputPicture Black

- When set True; if the output video is black a trap message will be sent to the trap addresses configured in the Trap Control section of the System tab.

OutputPicture Freeze

- When set True; if the output video is frozena a trap message will be sent to the trap addresses configured in the Trap Control section of the System tab.

Figure 7-25: Video Output Notify

7.13. AUDIO NOTIFY

This section will display the health of Input and output Audio signal,

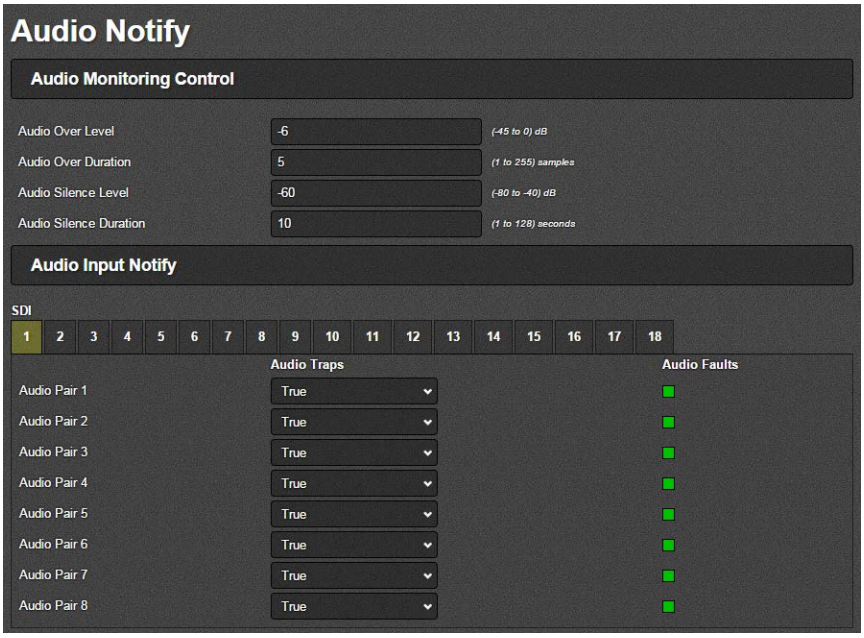

Figure 7-26: Web Interface - Audio Notify Tab

7.13.1. Audio Monitoring Control

Audio Over Level (-45 to 0 dBFS)

- The control sets the threshold limit for the *Audio Over Level* (relative loudness) before a fault condition is triggered..

Audio Over Duration (1 to 255 samples)

- This control sets the duration for the audio over level before a fault condition is triggered.

Audio Silence Level (-80 to -40 dBFS)

- This control sets the threshold limit for the audio silence level before a fault condition is triggered.

Audio Silence Duration (1 to 128 seconds)

- This control sets the duration for the audio silence level before a fault condition is triggered.

7.13.2. Audio Input Notify

Input Audio Traps (Audio Pair)

- When set True; a fault condition on a *Audio Pair* will send out a trap message to the trap addresses configured in the Trap Control section of the System tab.

Input Audio Faults

- This field will display green when there is no fault on the audio and red for a fault indication.

7.13.3. Audio Output Notify

Audio Traps (Outputaudio Pair)

- When set True; a fault condition on a *Audio Pair* will send out a trap message to the trap addresses configured in the Trap Control section of the System tab.

Audio Faults
This field will display green when there is no fault on the audio and red for a fault indication.

7.14. IP NOTIFY

IP notify will show the current status of *Ethernet* port, *Encapsulator* and *Decapsulator* and allow the user to enable/disable SNMP trap settings.

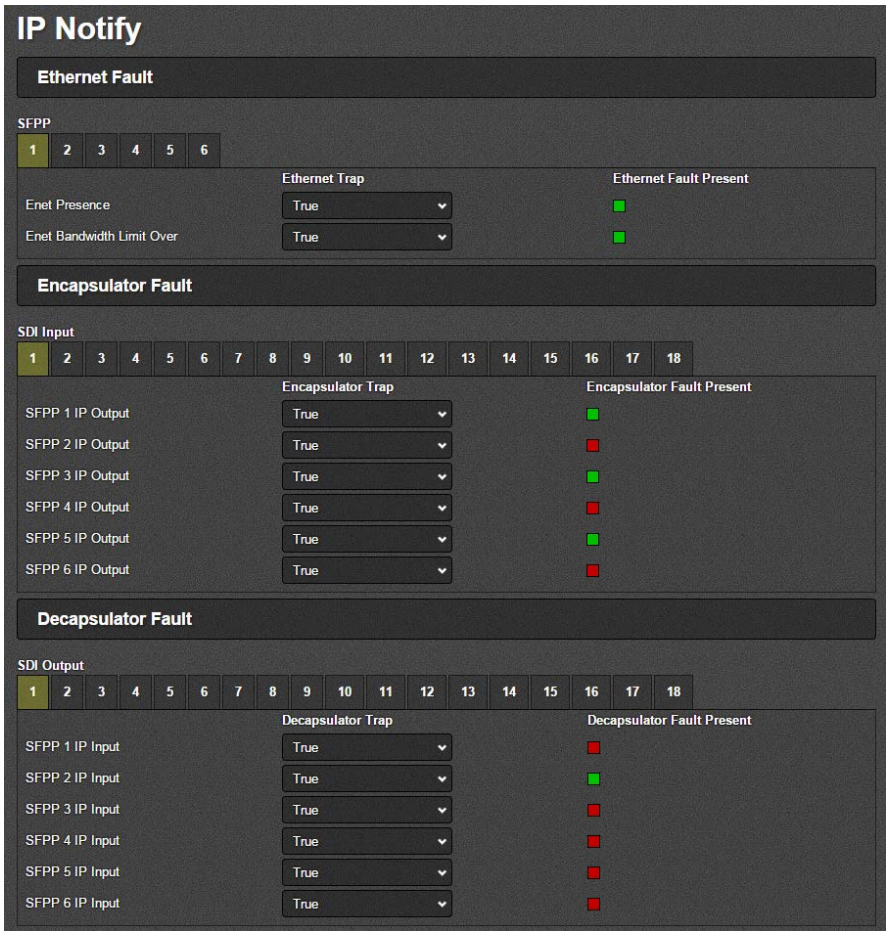

Figure 7-27: IP Notify Tab

7.14.1. Ethernet Fault

Enet Presence

- When set True; if the Ethernet is missing, a trap message will be sent to the trap addresses configured in the Trap Control section of the System tab.

Enet Bandwidth Limit Over

- When set True; if the bandwidth limit is exceeded, a trap message will be sent to the trap addresses configured in the Trap Control section of the System tab.

Ethernet Fault Present

- This field will display green when there is no fault and red for a fault indication

7.14.2. Encapsulator Fault

SFPP 1 to 6 IP Output

- When set True; an error on the Encapsulator will send a trap message to the trap addresses configured in the Trap Control section of the System tab.

Encapsulator Fault Present

- This field will display green when there is no fault and red for a fault indication

7.14.3. Decapsulator Fault

SFPP 1 to 6 IP Input

- When set True; an error on the Decapsulator will send a trap message to the trap addresses configured in the Trap Control section of the System tab.

Decapsulator Fault Present

- This field will display green when there is no fault and red for a fault indication.

7.15. NOTIFY

Notify tab allows the user to enable or disable the DIN *SDI Input Present* traps and *Fan Notify* traps with monitoring.

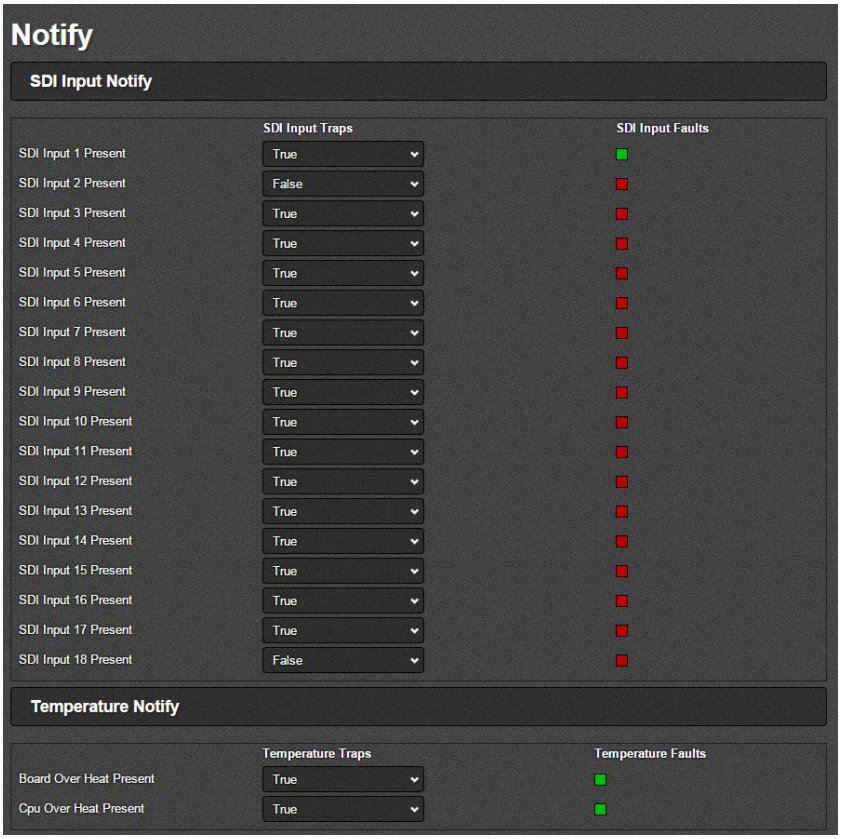

Figure 7-28: Notify Tab

7.15.1. SDI Input Notify

SDI Input 1 to 18 Present

- When set True; a fault condition triggered by a missing DIN SDI Input will send a trap message to the trap addresses configured in the Trap Control section of the System tab.

SDI Input Faults

- This field will display green when there is no fault and red for a fault indication

7.15.2. Fan Notify

Board Over Heat Present

- When set True; if the board temperature exceeds the threshold limit that is set in the *System* tab, a trap message will be sent to the trap addresses configured in the Trap Control section of the System tab.

CPU Over Heat Present

- When set True; if the CPU temperature exceeds the threshold limit that is set in the *System* tab, a trap message will be sent to the trap addresses configured in the Trap Control section of the System tab.

Fan Faults

- This field will display green when there is no fault and red for a fault indication

7.16. TASKBAR FUNCTIONS

The taskbar functions consist of refersh, apply, upgrade and etc.

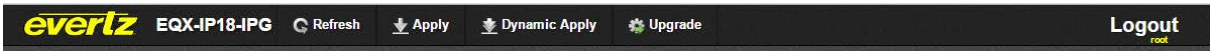

Figure 7-29: Webeasy Taskbar

Refersh

- In some cases Refersh buttons is press in order to see the updated changes in each section.

Apply

- This function is only available if longed in as root/evertz and only used if any manual change is done

Dynamic Apply

- This function is only available if logged as root/evertz. When this option is enabled, any manual change will be automatically applied.

7.16.1. Firmware Upgrade

This section will allow the user to upgrade the module remotely.

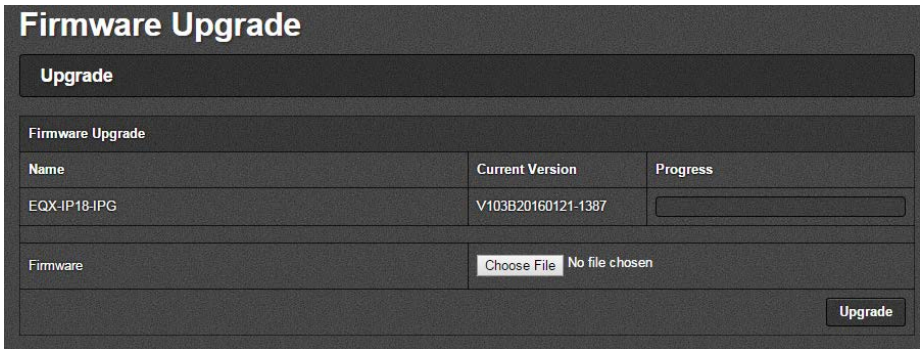

Figure 7-30: Firmware Upgrade

Name

- Displays the nam of the card

Current Version

- Displays the current firmware loaded

Choose File

- This button allows the user to locate the new firmware (.ciu) and open it**.**

Upgrade

- Once the new firmware is located and opened, click on the upgrade button and wait until the the upgrade is successfully done and the card will reboot automatically.