3067VIP10G Series
JPEG2000 Advanced Compact
Multi-Image Display Processors
User Manual

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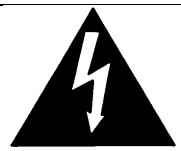
IMPORTANT SAFETY INSTRUCTIONS

	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

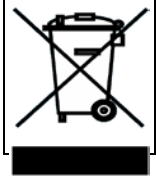
NOTE

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
0.1	Preliminary Release	July 2014

1. OVERVIEW

The 3067VIP10G offers multiviewer functionality with up to 32 inputs of processing and up to 2 Mosaic outputs, all via 10G physical interfaces. The 3067VIP10G displays inputs at any size, aspect ratio and position. 3067VIP10G device accepts JPEG2000 encoded inputs as sources; and encodes the mosaic output as a JPEG2000 signal over IP.

The 3067VIP10G provides the best quality input reproduction employing the latest in video processing technology developed by Evertz. The 3067VIP10G is a hot-swappable device which can be populated in an Evertz EMX6-FR, EMX3-FR, or EMX1-FR frame with an option for redundant power supplies.

The 3067VIP10G is VistaLINK enabled, offering remote monitoring, control and configuration capabilities via Simple Network Management Protocol (SNMP). The 3067VIP10G is easily configurable via a web server interface. Layout creation can be performed in a live control environment using Evertz VUE software.

The 3067VIP10G is built on top of the industry leading 7867VIP product line and inherits key features such automatic aspect ratio adjustment per source, graticule generation, audio monitoring with level bar display, signal fault monitoring and under monitoring display.

Used in conjunction with the 3000REM-TX9 and 3080IPX, the 3067VIP10G integrates into a very flexible infrastructure to harness the many advantages provided by high bandwidth 10GE connectivity.

Features & Benefits

- Support up to 32 JPEG2000 encoded input sources
- Support up to 2 JEG2000 encoded mosaic output
- Uses Evertz next generation image processing technology present on other conversion products
- Output display resolutions of up to WUXGA (1920x1200) possible
- Full screen view of any input on an output
- Provides support for dynamic under monitor displays and tallies from routers and switchers
- Built-in AVM-Lite monitoring functionality
- Application specific customizable feature sets available as software options
- Minimal processing delay
- Real time control of display outputs via VUE software, and integration with
- VistaLINK Pro, Magnum, VUE, and Mediator software suites.

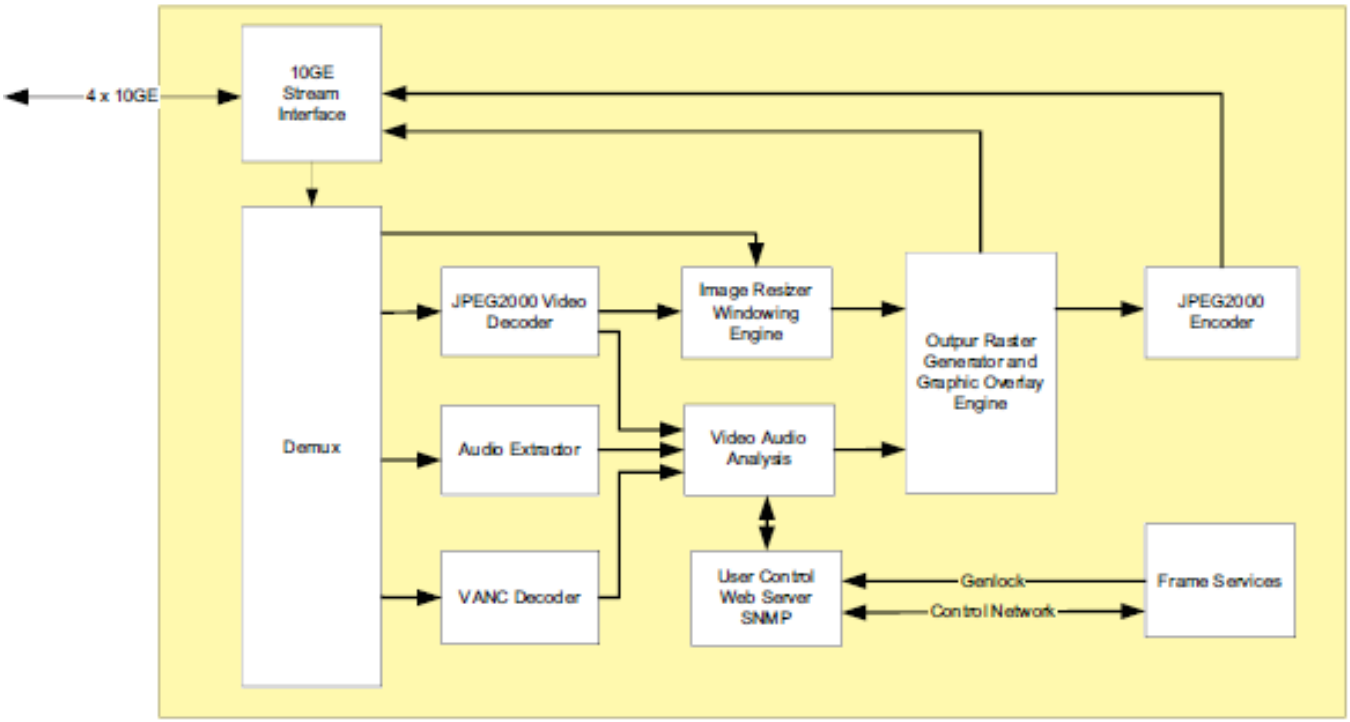

Figure 1-1: Block Diagram

2. GETTING STARTED

2.1. REAR PLATE DESCRIPTION

Figure 2-1: 3067VIP10G Rear SFP Plate

SFP+ 1: Data Input/ Display Primary
SFP+ 2: Data Input/Display Redundant (backup)
SFP+ 3: Currently not supported
SFP+ 4: Currently not supported

2.2. HARDWARE INSTALLATION

NOTE: SFP's must be ordered separately
To successfully install the 3067VIP10G you will require the following:

1. Unused IP address on the network or a DHCP server.
2. VistaLINK® PRO Server IP address.
3. EMX3 or EMX6 Frame

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 on the chassis 2 adjacent vacant slots. Unpack the 3067VIP10G and separate the rear panel from the main card. Insert the rear panel into the back of the chassis and secure using the screws

provided. Locate on the rear of the rack the two slots and remove the blanking panels. Insert the rear panel into the back of the chassis and secure using the screws provided.
Now insert the 3067VIP10G card into the corresponding front slots ensuring the card lines up with the slot runners on the bottom and the top of the chassis. Push the card **firmly** into the slot ensuring that when it mates with the rear card it has been firmly pushed into a seated position. Do not connect any cables to the rear card (failure to do this could cause unwanted network issues) until the initial configuration has been completed.

Ensure that the device is powered up and the green LED is on. Connect the device via the COM port using a 9-pin d-type ribbon serial cable, connect the end of the serial cable to the serial port of your PC. Connect the opposing end to the upgrade port J1 labeled on card. This port is located directly behind card edge LED panel. In order to begin configurations ensure the below settings are configured properly:

Baud: 115200
Data: 8-BIT
Parity: none
Stop Bits: 2
Flow Control: none

Open TeraTerm (if using Windows XP or older open Hyper Terminal) to make the required changes to the IP address on the card. Use the login *customer* and password *customer.*

2.3. CONFIGURING BASIC NETWORK SETTINGS

To make changes to the IP address select ***Network Setup***. Set the IP address to the desired subnet as well as set the ***Gateway***. Make the same changes for the IP address and Gateway of Port 2 as required. When done ***Exit (X)*** the Network Setup and ***Save and Exit (X)*** from the Main Menu to ensure all changes are saved.

Power Cycle the 3067VIP10G to ensure all changes are loaded to the card.

2.4. CONNECTING TO VLPRO

This chapter assumes that the VistaLINK® PRO server and client are already configured for your network and you have basic knowledge of the VistaLINK® PRO interface. It also assumes that the user or network administrator has already added the appropriate jar file to the server, and both the client and server applications have been restarted. Please refer to the VistaLINK® PRO manual for instructions on how to load a jar file.

Open VistaLINK® PRO and click on the refresh tree icon. Expand the hardware tree by clicking on the "+" button. Your card should appear as a newly listed device with the IP address used to configure the card. It may take up to a minute to appear while the card and switch negotiate network settings (this can be verified directly on the switch if necessary). Please note that the 3067VIP10G will identify thirty-two decoders. The user will be required to individually select each item to configure the appropriate function.

Note: If after a couple of minutes the card has still not appeared, try selecting *Add Agent* from the *Tree> Add/Update Agent* menu. Enter the IP address and select OK. The card should now be listed and will remain grayed out for a moment while VistaLINK® PRO finds the card and confirms its configuration.

Please consult your network administrator if you continue to have problems connecting the card with VistaLINK® PRO, alternatively contact Evertz Microsystems Ltd. or your authorized reseller for technical support.

3. TECHNICAL SPECIFICATIONS

3.1. INPUT

- **Format:** JPEG2000

3.2. OUTPUT

- **Format:** JPEG2000
- **Resolution supported:** 1080p/59.94, 1080p/50, 720p/59.94 and 720p/50

3.3. CONNECTIVITY

- **Number of Connectors:** 4
- **Connector Type:** Female LC/UPC

3.4. GENLOCK INPUT

- NTSC/PAL color black
- **Level:** 1V p-p nominal
- **Connector:** uses frame Genlock BNC

3.5. ELECTRICAL

- **Voltage**: +12V DC
- **Power:** 80W
- **Compliance**
  - EMI/EFI: Complies with FCC Part 15, Class A EU EMC directive

3.6. PHYSICAL

- **Number of slots:** 2

3.7. INPUT & OUTPUT OPTIONS

- **+32x1:** Single JPEG 2000 encoded mosaic output, 32 JPEG 2000 encoded inputs
- **+32x2:** Dual JPEG2000 encoded mosaic outputs, 32 JPEG 2000 encoded inputs Maximum of 16 images per display
- +**24x1:** Single JPEG 2000 encoded mosaic output, 24 JPEG 2000 encoded inputs
- **+24x2:** Dual JPEG 2000 encoded mosaic outputs, 24 JPEG 2000 encoded inputs Maximum of 12 images per display
- **+16x1:** Single JPEG 2000 encoded mosaic output, 16 JPEG 2000 encoded inputs
- **+16x2**: Dual JPEG 2000 encoded mosaic outputs, 16 JPEG 2000 encoded inputs Maximum of 8 images per display
- **+12x1**: Single JPEG 2000 encoded mosaic output, 12 JPEG 2000 encoded inputs

3.8. MONITORING OPTIONS

- **+SM:** Audio level, fault monitoring and Under monitoring display
- **+MCR:** Dolby E monitoring, Loudness monitoring, CC/Teletext decode

4. VISTALINKPRO INTERFACE

4.1. SYTEM INFO

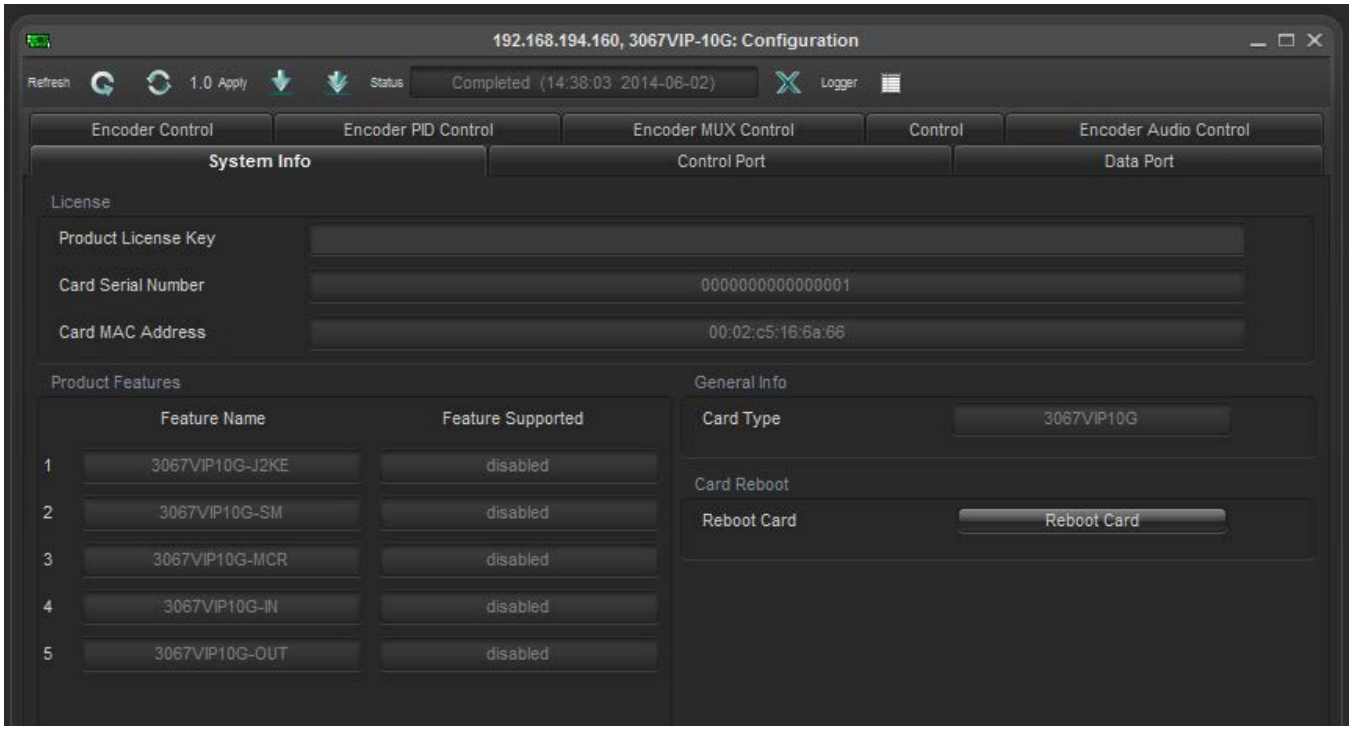

Figure 4-1: System Information Tab

Product License Key: This parameter displays the product license key

Card Serial Number: This parameter displays the card serial number, which is identical to the card MIB control number. This value is required to access this device via the Evertz Product Support Services Webpage.

Card Media Access Control (MAC) Address: This parameter displays the card MAC address.

Product Features: These features can be purchased either separately or with the initial purchase of the 3067VIP10G card.

Card Type: This parameter simply identifies the actual hardware that has been installed.

Reboot: This parameter enable a soft system reset. To allow for a power cycle of the device a manual reboot must be performed.

4.2. CONTROL PORT

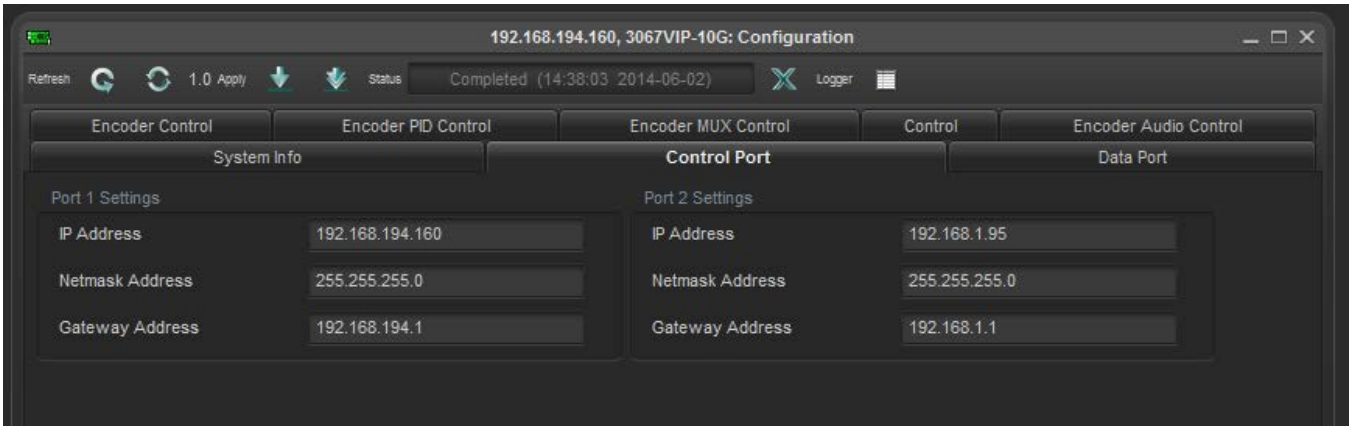

Figure 4-2: Control Port Tab

Note: Both IP addresses use the same physical Network Interface Cards (NICs). The two IP addresses which are set enable connections to the 3067VIP10G on two different subnets, using the same physical NIC on the back of the EMX frame for both IPs.

IP Address: This parameter allows the user to set an IP address for the control port.

NetMask: This parameter allows the user to set the netmask (subnet) for the control port.

Gateway: This parameter allows the user to set the gateway address for the control port.

4.3. DATA PORT

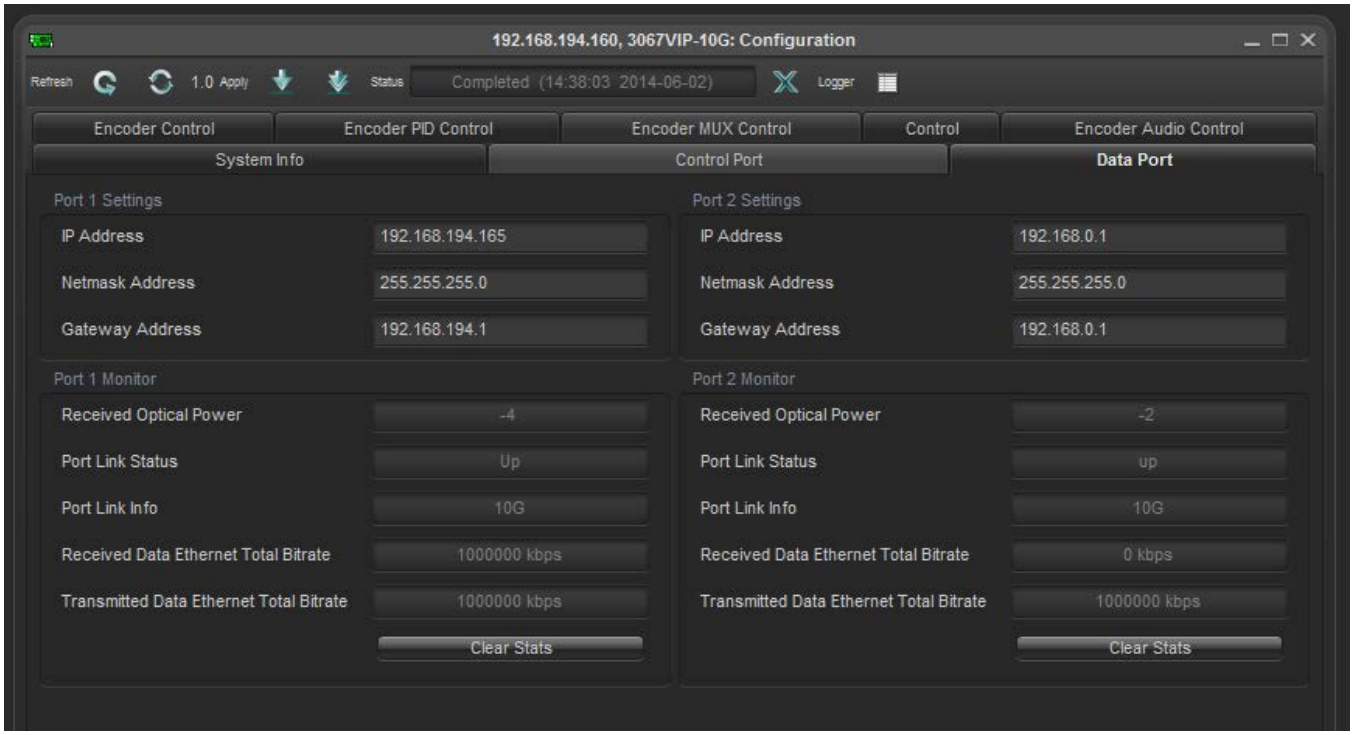

Figure 4-3: Data Port Tab

IP Address: This parameter allows the user to set the IP Address.

Netmask/Subnet Address: This parameter allows the user to set the Netmask/Subnet.

Gateway Address: This parameter allows the user to set the Gateway Address.

Received Optical Power: This parameter indicates the received optical power status on the SFP-Rx, and is measured in 1dBm units. Range for this value can be from -128dB to 128dBm.

Port Link Status: This parameter will indicate the status of the port link as either ‘Up’ or ‘Down’.

Port Link Info: This parameter displays link status (i.e. speed, duplex).

Received Data Ethernet Total Bitrate: This parameter indicates the bit rate received on an Ethernet Port in kbps. Range for this value can be from 0 to 1000000.

Transmitted Data Ethernet Total Bitrate: This parameter indicates the bit rate transmitted on an Ethernet Portin kbps. Range for this value can be from 0 to 1000000.

Clear Stats: This parameter allows the user to reset the Ethernet monitored statistics.

4.4. ENCODER CONTROL

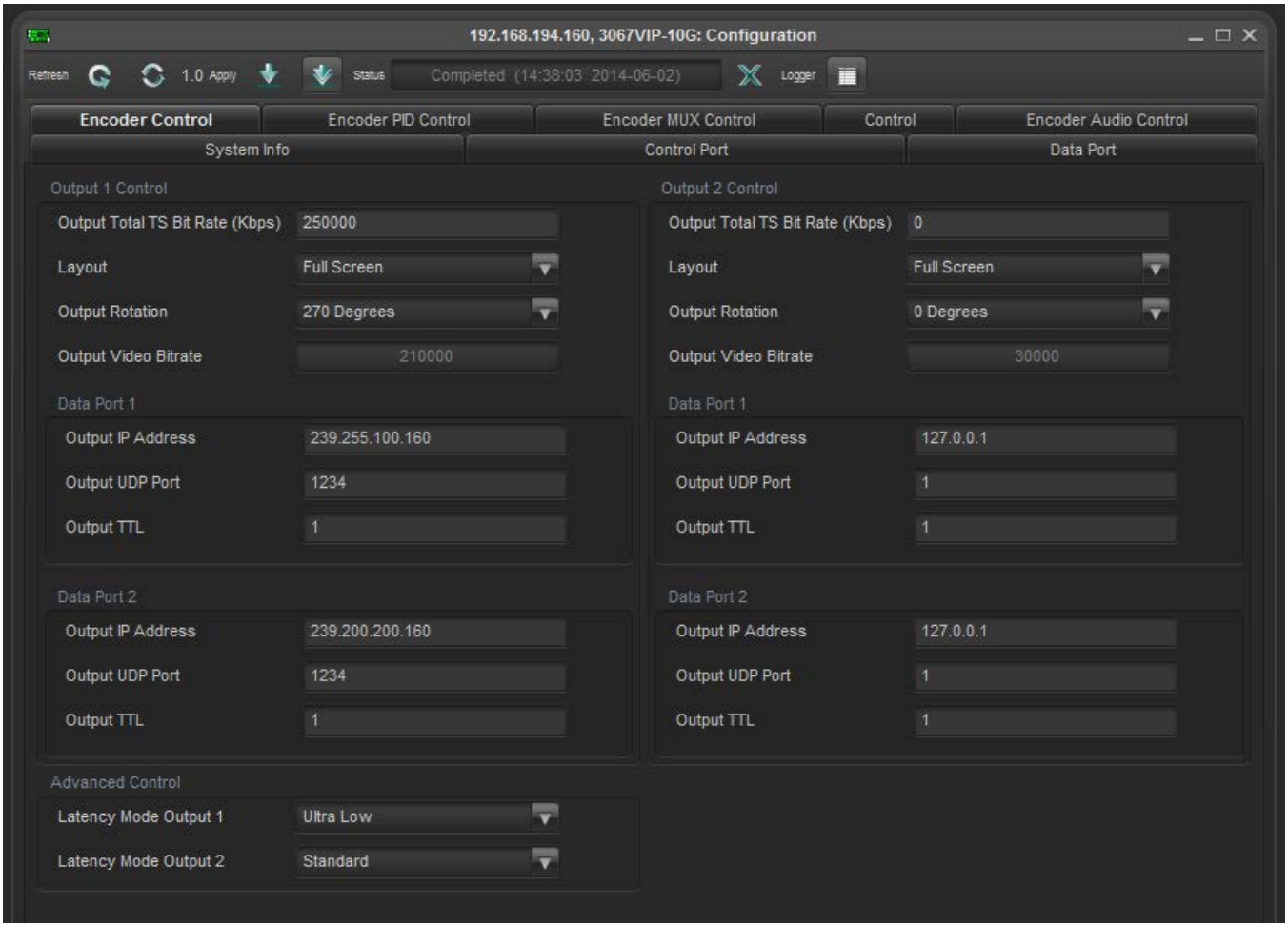

Figure 4-4: Encoder Control Tab

Output Total Transport Stream (TS) Bit Rate (Kbps) for Output Control: This parameter allows the user to select the output TS Bitrate, which is expressed in kbps. The Card will adjust the bitrate for video and other PIDS based on this settings.

Note: 1.) For ENC10bit 4:2:2 H264 range is 0 to 100000
2.) For ENC 8bit 4:2:0 H264 range is 0 to 20000
3.) For ENC J2K range is 0 to 400000

Layout for Output Control: This parameter sets the layout information from the following options: Full Screen, Mode 2x2, Mode 3x3, Mode 4x4, or Advanced (for use with the Magnum Multiviewer design tool).

Output Rotation for Output Control: This parameter enables or disables portrait mode for Output Control. Rotation can be set to the following degrees; 0º, 90º, or 270º.

Output Video Bitrate for Output Control: This parameter allows the user to select the output TS Bitrate, which is expressed in kbps. The Card will adjust the bitrate for video and other PIDS based on this settings.

Note: 1.) For ENC10bit 4:2:2 H264 range is 0 to 100000
2.) For ENC 8bit 4:2:0 H264 range is 0 to 20000
3.) For ENC J2K range is 0 to 400000

Output IP Address: This parameter allows the user to select output IP address and Multicast address for the Data Port.

Output UDP Address: This parameter allows the user to set the output UDP port number for the Data Port. Range for this value can be from 1 to 65535.

Output Time-To-Live (TTL): This parameter allows the user to set TTL field of the IP packets being sent out of the Data Port. Range for this value can be set from 1 to 128.

Latency Mode Ouput for Advanced Control: This parameter allows the user to change latency on outputs to either standard, medium, low, or ultra low.

4.5. ENCODER PID CONTROL

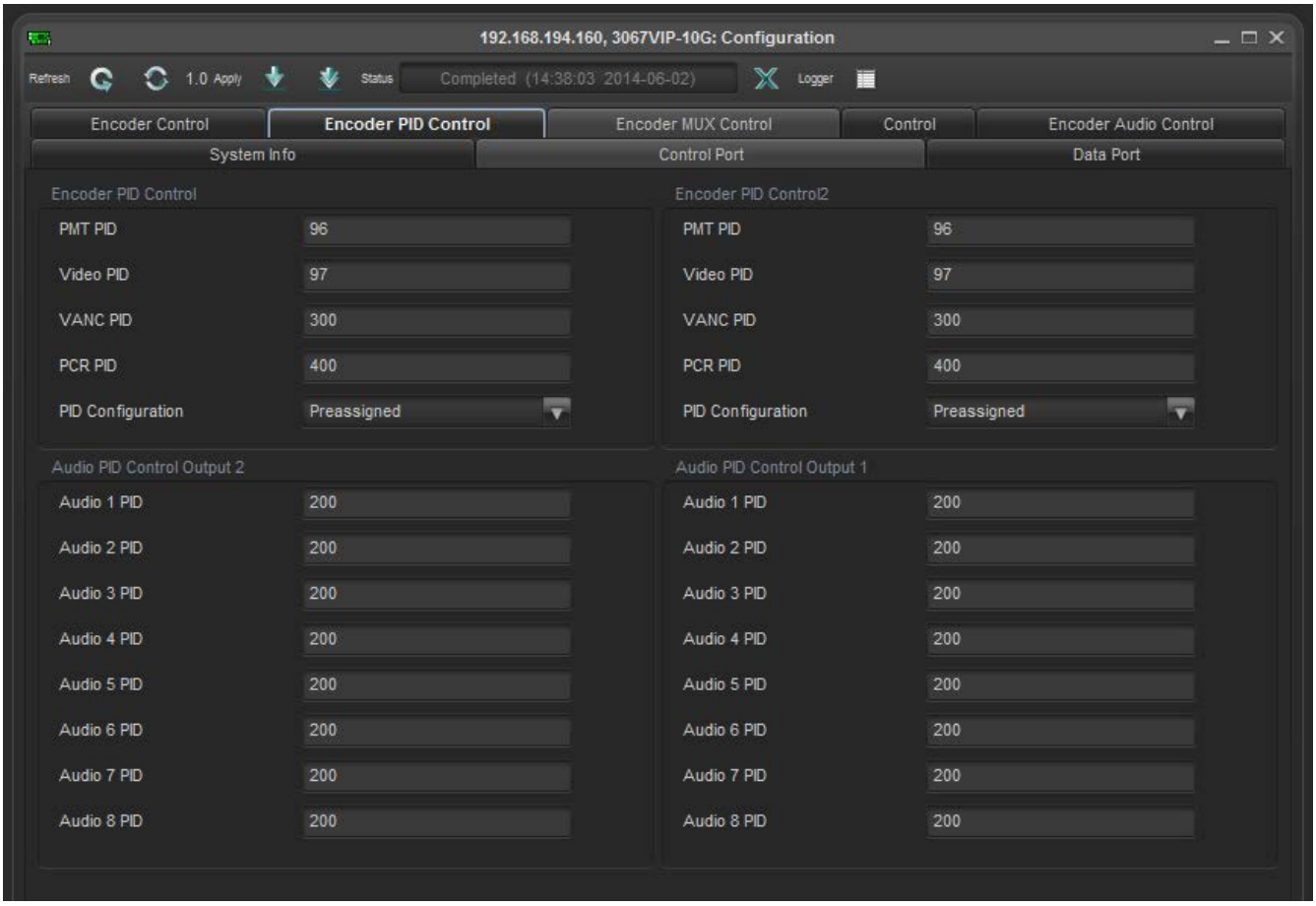

Figure 4-5: Encoder PID Control Tab

PMT PID: This parameter allows the user to select the PMT PID for the output stream. Range for this value can be from 16 to 8190.

Video PID: This parameter allows the user to select the Video PID for the output stream. Range for this value can be from 16 to 8190.

VANC PID: This parameter allows the user to set the PID for VANC data being sent on ENC J2K and ENC 10bit 4:2:2 H264. Range for this value can be from 16 to 8190.

PCR PID: This parameter allows the user to set the PID for PCR data being sent on ENC J2K and ENC 10bit 4:2:2 H264. Range for this value can be from 16 to 8190.

PID Configuration: This parameter sets the method to configure the PID. If it is pre-defined, then all PID controls will be greyed out. The second method allows the user to manually configure them.

Audio PID Control Output: This parameter defines the Audio PID for audio 1 through 8, and can range from 16 to 8190.

4.6. ENCODER MUX CONTROL

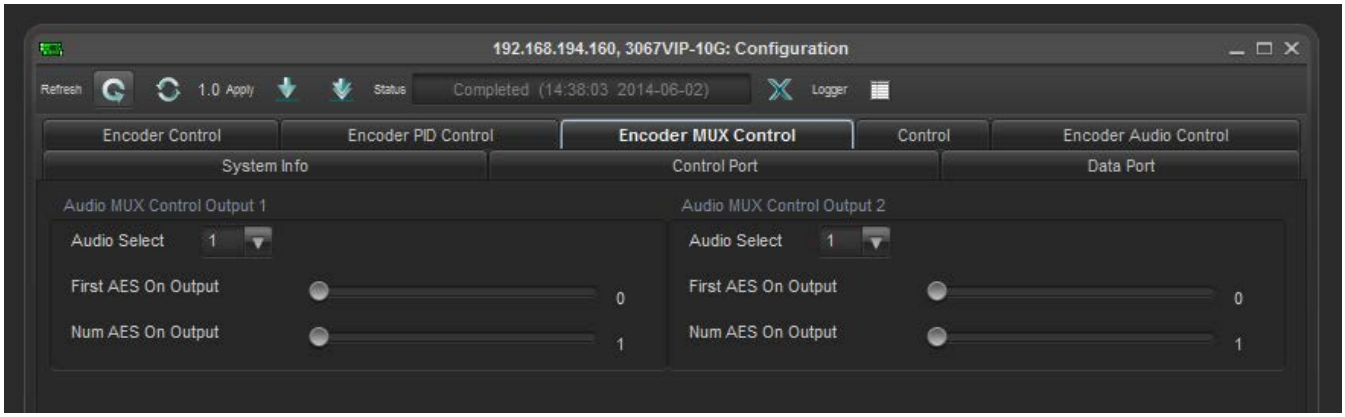

Figure 4-6: MUX Encoder Control Tab

Audio Select: This drop down box allows the user to select the specific Audio PID from audio 1 through 8, being configured for AES settings on the MUX Control Output.

First AES On Output: This parameter defines the AES Output level on the MUX Control, and can be set from 0 to 8.

Num AES Output: This parameter sets the total number of AES outputs desired, 1 through 8 would equal from stereo (2) to 16 channels of audio.

4.7. CONTROL

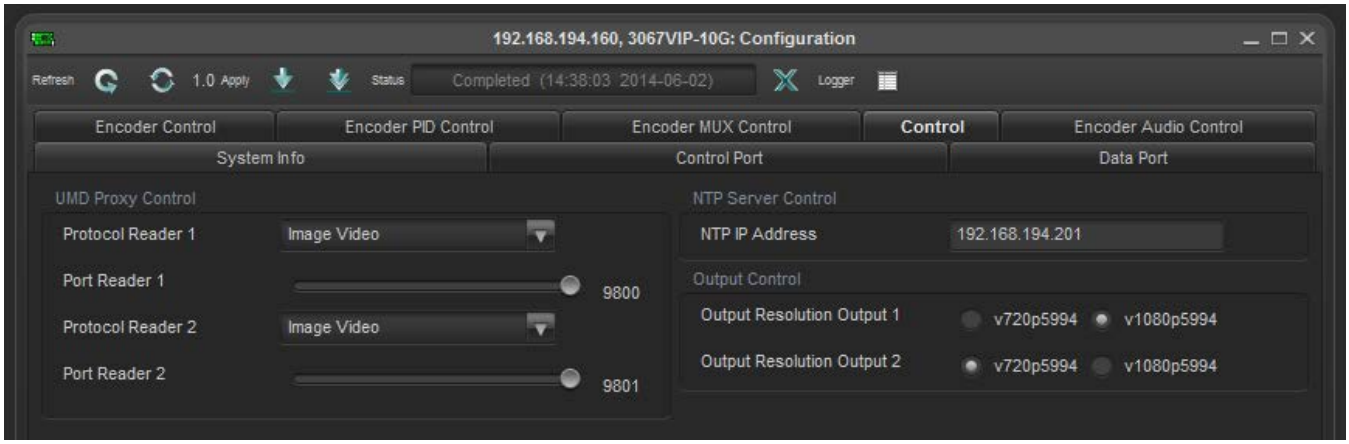

Figure 4-7: Control Tab

Protocol Reader: This sets the UMD protocol to the following: Image Video, Philips ASCII, XY Integrator, tsl31. Tsl40, and Harris Image Video

Port Reader: This parameter sets the UMD protocol port and can be set from 0 to 10000.

NTP IP Address: This parameter defines the NTP Server address.

Output Resolution: This parameter sets the allows the user to set the resolution for the Output control to either v720p/59.94 or 1080p/59.94.

4.8. ENCODER AUDIO CONTROL

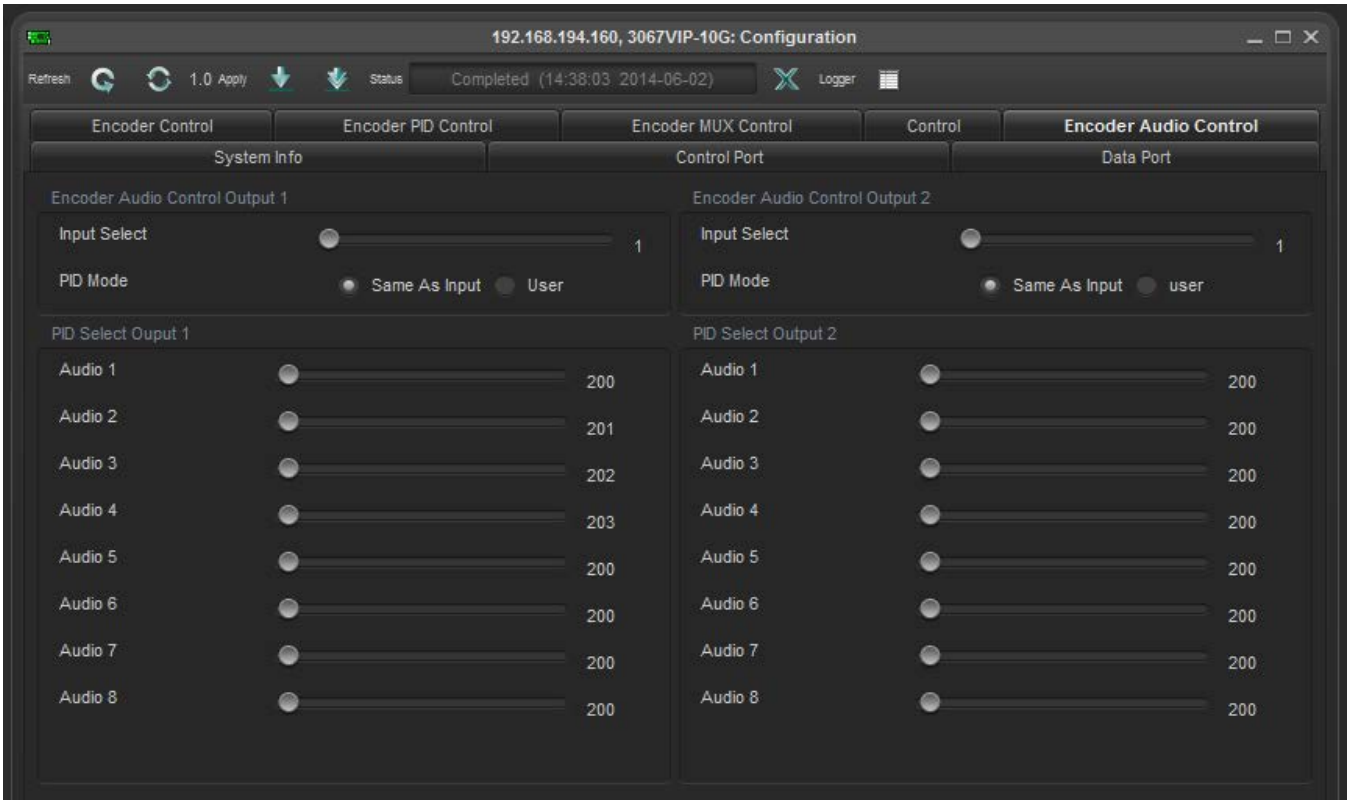

Figure 4-8: Encoder Audio Control Tab

Input Select: This parameter allows the user to select the audio inputs from 1 through 32.

PID Mode: This parameter allows the user to define the PID Mode as either the same as the input or User (manually) assigned.

Audio PID Select for Output: This parameter allows the user to select which audio PID will be embedded by the decoder into the video output, and can only be applied when ***Program Tuning Mode*** is set to PID Select. Range for this value can be from 2 to 8190. When this setting is applied, if any of the selected PIDS have been duplicated the user will be alerted with an 'error' message.

Note: 0, 1, and 8191 are reserved PIDS in MPEG so they are not included within the value range.

5. DECODER CONFIGURATION

To begin configuration on the 3067VIP10G, select the '+' symbol next to the IP Address the device is currently assigned to:

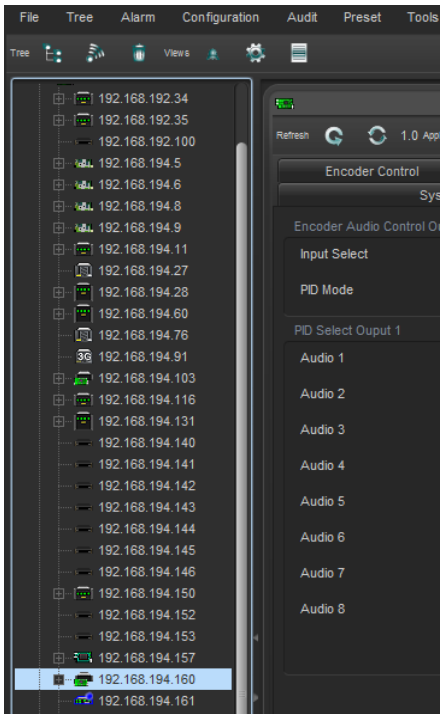

Figure 5-1: Hardware Tree Pane

A drop down menu will appear allowing the user to configure any of the 32 decoders on the device. Right-click the desired device and select 'View Configuration'.

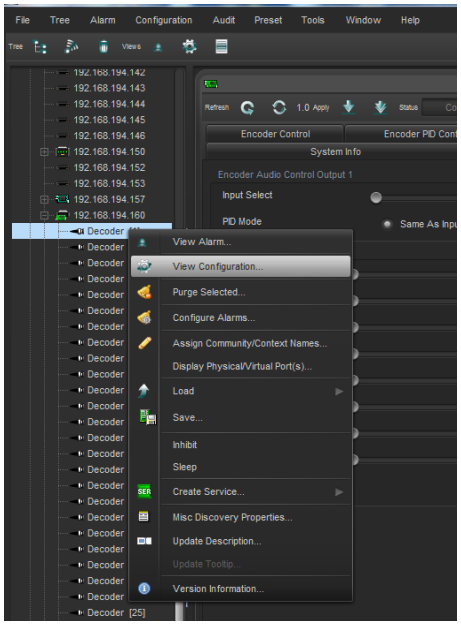

Figure 5-2: View Configuration Drop-down menu

5.1. DECODER INPUT CONTROL

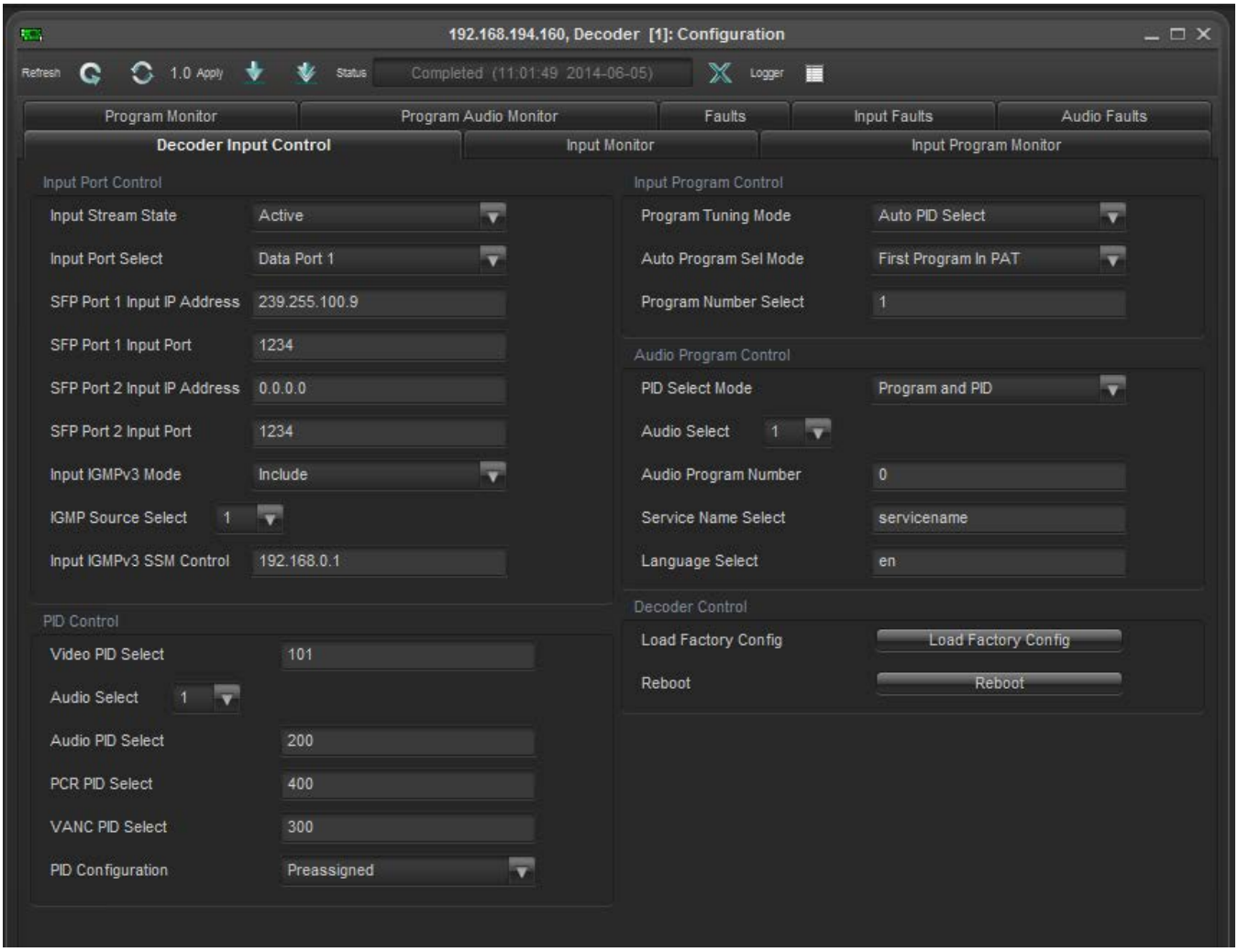

Figure 5-3: Decoder Input Control Tab

Input Stream State: This parameter displays the Input Stream State, by default all streams are inactive. Only after a stream has been activated traffic can run through it.

Input Port Select: This parameter allows the user to select the physical data port (1 or 2) from which to receive information.

SFP Port Input IP Address: This parameter allows the user to select the input IP address or Multicast address for both SFP ports 1 and 2.

SFP Port Input Port: This parameter allows the user to select the input UDP port numbers for both SFP ports 1 and 2. Range for these values can be from 1 to 65535.

Input IGMPv3 Mode: This control allows the specified source IP's to be excluded from IGMP or included. By default they will be excluded, which is recommended.

IGMP Source Select: This control allows the user to add an IGMP Source IP address from one of the six available slots.

Input IGMPv3 Source-Specific Multicast (SSM) Control: This control allows the user to specify a Source multicast address to include/exclude from IGMPv3. Up to 6 source addressed can be specified.

Video PID Select: This parameter allows the user to select which video PID will be embedded by the decoder into the video output, and can only be applied when ***Program Tuning Mode*** is set to PID Select. Range for this value can be from 2 to 8190. When this setting is applied, if any of the selected PIDS have been duplicated the user will be alerted with an 'error' message.

Note: 0, 1, and 8191 are reserved PIDS in MPEG so they are not included within the value range.

Audio Select: This drop down box allows the user to select the specific Audio PID from audio 1 through 8, being configured for AES settings on the MUX Control Output.

Audio PID Select for Output: This parameter allows the user to select which audio PID will be embedded by the decoder into the video output, and can only be applied when ***Program Tuning Mode*** is set to PID Select. Range for this value can be from 2 to 8190. When this setting is applied, if any of the selected PIDS have been duplicated the user will be alerted with an '***error***' message.

Note: 0, 1, and 8191 are reserved PIDS in MPEG so they are not included within the value range.

PCR PID: This parameter allows the user to set the PID for PCR data being sent on ENC J2K and ENC 10bit 4:2:2 H264. Range for this value can be from 16 to 8190.

VANC PID: This parameter allows the user to set the PID for VANC data being sent on ENC J2K and ENC 10bit 4:2:2 H264. Range for this value can be from 16 to 8190.

PID Configuration: This parameter sets the method to configure the PID. If it is pre-defined, then all PID controls will be greyed out. The second method allows the user to manually configure them.

Program Tuning Mode: This parameter allows the user to select the Program Tuning Mode for the decoder.

- **Auto PID Select:** automatically choose the PIDs for each audio stream, based on Auto Program Sel Mode.
- **Manual PID Select:** manually select PIDs for each audio stream.

Auto Program Sel Mode: This parameter allows the user to set how the decoder will select a program for decoding, when programTuningMode is set to auto.

- **First Program In PAT:** select audio PIDs from the first program will be chosen.
- **Lowest Program Num:** select audio PIDs from the lowest program will be used.
- **Specific Program Select:** will pick audio PIDs from specific program, specified by Program Number Select control for decoding.

Program Number Select: This parameter allows the user to select the program that is going to be decoded. This is only applicable when ***Program Tuning Mode*** is set to ***Auto PID Select***. Range for this value can be set from 0 to 65535.

PID Select Mode: This parameter allows the user to select which audio PID will be embedded by the decoder into the video output, and can only be applied when ***Program Tuning Mode*** is set to PID Select. Range for this value can be from 2 to 8190. When this setting is applied, if any of the selected PIDS have been duplicated the user will be alerted with an 'error' message.

Note: 0, 1, and 8191 are reserved PIDS in MPEG so they are not included within the value range.

Audio Select: This drop down box allows the user to select the specific Audio PID from audio 1 through 8, being configured for Audio Program Control.

Audio Program Number: This parameter allows the user to select the program that is going to be decoded. This is only applicable when ***Program Tuning Mode*** is set to ***Auto PID Select***. Range for this value can be set from 0 to 65535.

Service Name Select: This parameter allows the user to define the name the program for the audio service control.

Language: This parameter allows the user to specify the language that will be viewed on the program for the audio service control. By Default language is set to English.

Load Factory Config: This parameter allows the user to load the standard factory settings for the 3067VIP10G, without any user modifications.

Reboot: This parameter enables a soft reset of the system.

5.2. INPUT MONITOR

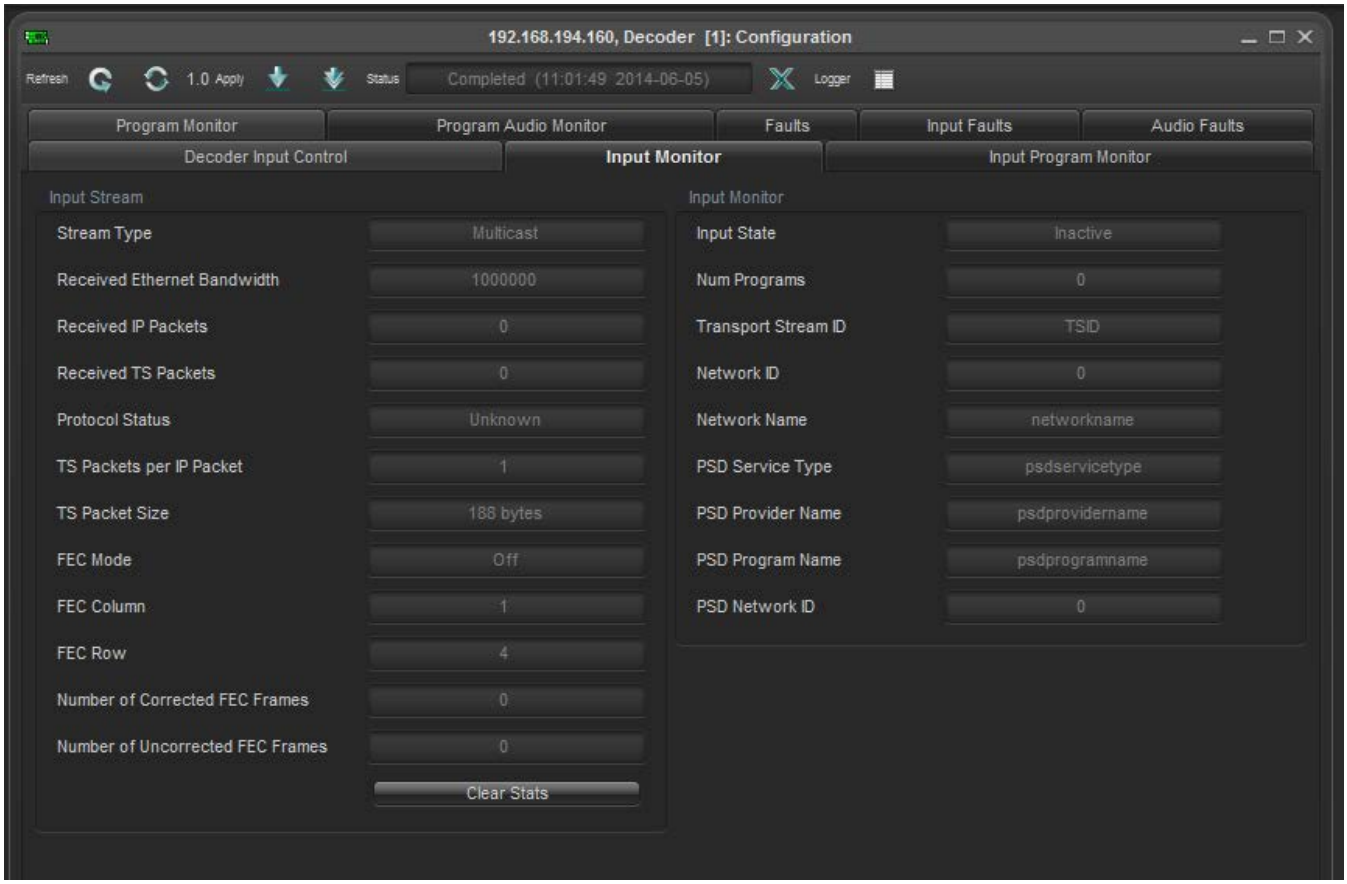

Figure 5-4: Input Monitor Tab

Stream Type: This parameter will display the input stream type as either ***Multicast*** or ***Unicast***.

Received Ethernet Bandwidth: This parameter displays the received Ethernet Bandwidth on the input stream in bits. Range for this value can be from 0 to 1000000.

Received IP Packets: This parameter displays the total received IP packets for the input stream. Range for this value can be from 0 to 2147483647.

Received TS Packets: This parameter displays the total received TS packets for the input stream. Range for this value can be from 0 to 2147483647.

TS Packet Per IP Packet: This parameter identifies the amount of TS packets per Ethernet frame. Range for this value can be from 1 to 7.

TS Packet Size: This parameter identifies the TS packet size as either 188bytes or 204bytes.

Forward Error Correction (FEC) Mode: This parameter allows the user to verify whether FEC mode is either 'On' or 'Off'.

FEC Column: This field displays the Forward Error Correction (FEC) column number.

FEC Row: This field displays the FEC row number.

Number of Corrected FEC Frames: This field displays the number of corrected FEC frames.

Number of Uncorrected FEC Frames: This field displays the number of uncorrected FEC frames.

Input State: This parameter displays the Input Stream State, by default all streams are inactive. Only after a stream has been activated traffic can run through it.

Num Programs: This parameter allows the user to select the program that is going to be decoded. This is only applicable when ***Program Tuning Mode*** is set to ***Auto PID Select***. Range for this value can be set from 0 to 65535.

Transport Stream ID: This field displays the transport stream ID.

Network ID: This field displays the Network ID for the current transport stream.

PSD Service Type: This field displays the PSD service type.

PSD Provider Name: This field displays the PSD provider name.

PSD Program Name: This field displays the PSD program name.

PSD Network ID: This field displays PSD Network ID.

Note: The preceeding values are user defined on the encoder end, the 3067VIP10G simply displays them.

5.3. INPUT PROGRAM MONITOR

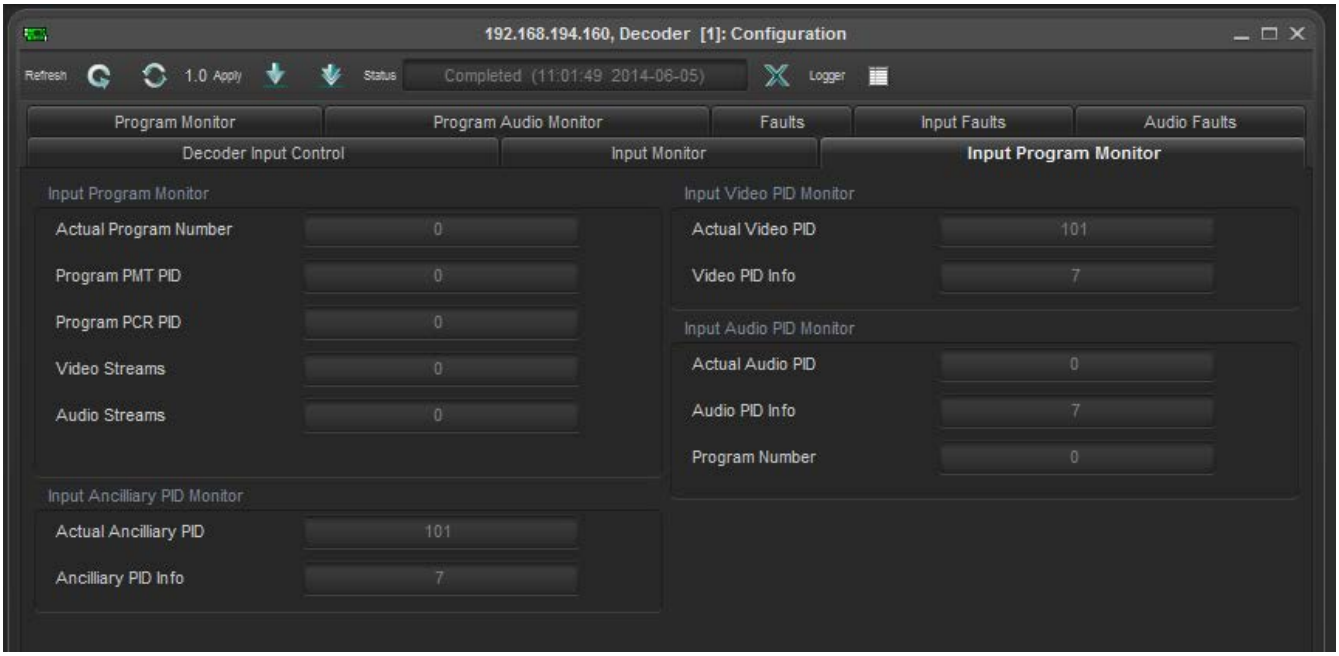

Figure 5-5: Input Program Monitor

Actual Program Number: This parameter allows the user to view the program that is going to be decoded. This is only applicable when ***Program Tuning Mode*** is set to ***Auto PID Select***. Range for this value can be from 0 to 65535.

Program PMT PID: This parameter allows the user to view the PMT PID for the output stream. Range for this value can be from 16 to 8190.

Program PCR PID: This parameter allows the user to view the PID for PCR data being sent on ENC J2K and ENC 10bit 4:2:2 H264. Range for this value can be from 16 to 8190.

Video Streams: This parameter allows the user to view the number of video streams received on the specified Program Input

Audio Streams: This parameter allows the user to view the number of audio streams received on the specified Program Input.

Actual Video PID: This parameter allows the user to view the PID which is carrying the PES for Video.

Video PID Info: This parameter allows the user to verify the PID ID being received on the input video.

Actual Audio PID: This parameter allows the user to view the PID which is carrying the PES for audio.

Audio PID Info: This parameter allows the user to verify the PID ID being received on the input audio.

Program Number: This parameter allows the user to view the program that is going to be decoded. This is only applicable when ***Program Tuning Mode*** is set to ***Auto PID Select***. Range for this value can be from 0 to 65535.

Actual Ancilliary PID: This Parameter allows the user to view the PID which is carrying Ancillary data packets

Ancilliary PID Info: This parameter allows the user to verify the PID ID being received for input ancillary data.

5.4. PROGRAM MONITOR

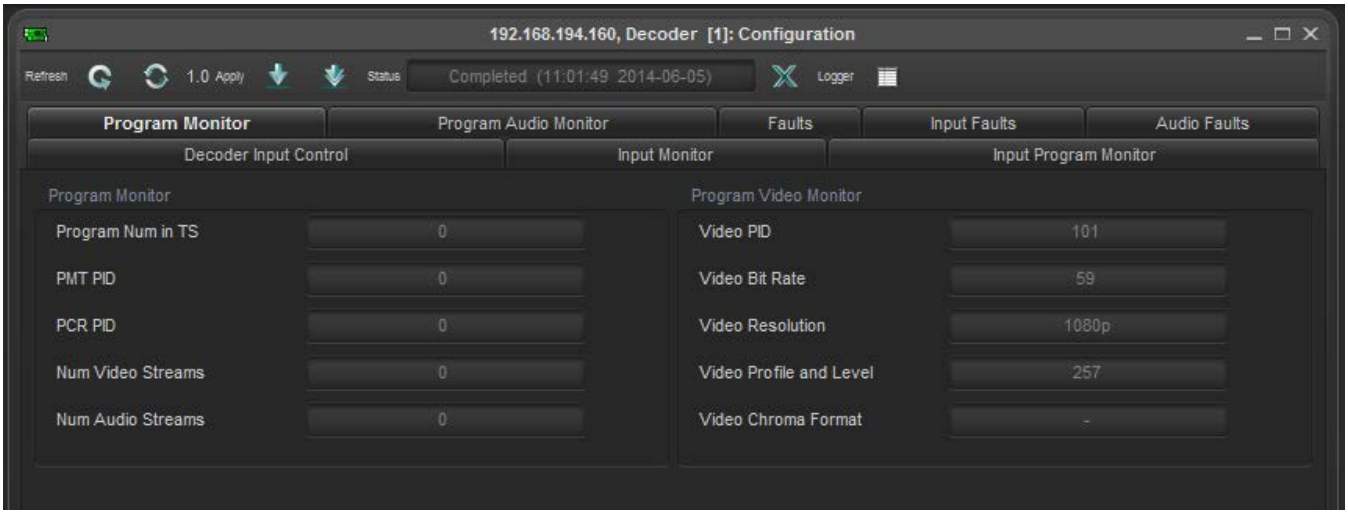

Figure 5-6: Program Monitor Tab

Program Num in TS: This parameters allows the user to view to program number in the transport stream.

PMT PID: This parameter allows the user to view the PMT PID for the output stream. Range for this value can be from 16 to 8190.

PCR PID: This parameter allows the user to view the PID for PCR data being sent on ENC J2K and ENC 10bit 4:2:2 H264. Range for this value can be from 16 to 8190.

Num Video Streams: This parameter allows the user to view the number of video streams received on the specified Program.

Num Audio Stream: This parameter allows the user to view the number of audio streams received on the specified Program.

Video PID: This parameter allows the user to view the PID which is carrying the PES for Video on the specified Program.

Video Bit Rate: This parameter allows the user to view the output TS Bitrate for video.

Video Resolution: This parameter allows the user to view the current video resolution setting.

Video Profile and Level: This parameter allows the user to view the current profile and level of the video read from the PID which is carrying the PES for Video on the specified Program.

Video Chroma Format: This control specifies the video stream chroma format.

5.5. PROGRAM AUDIO MONITOR

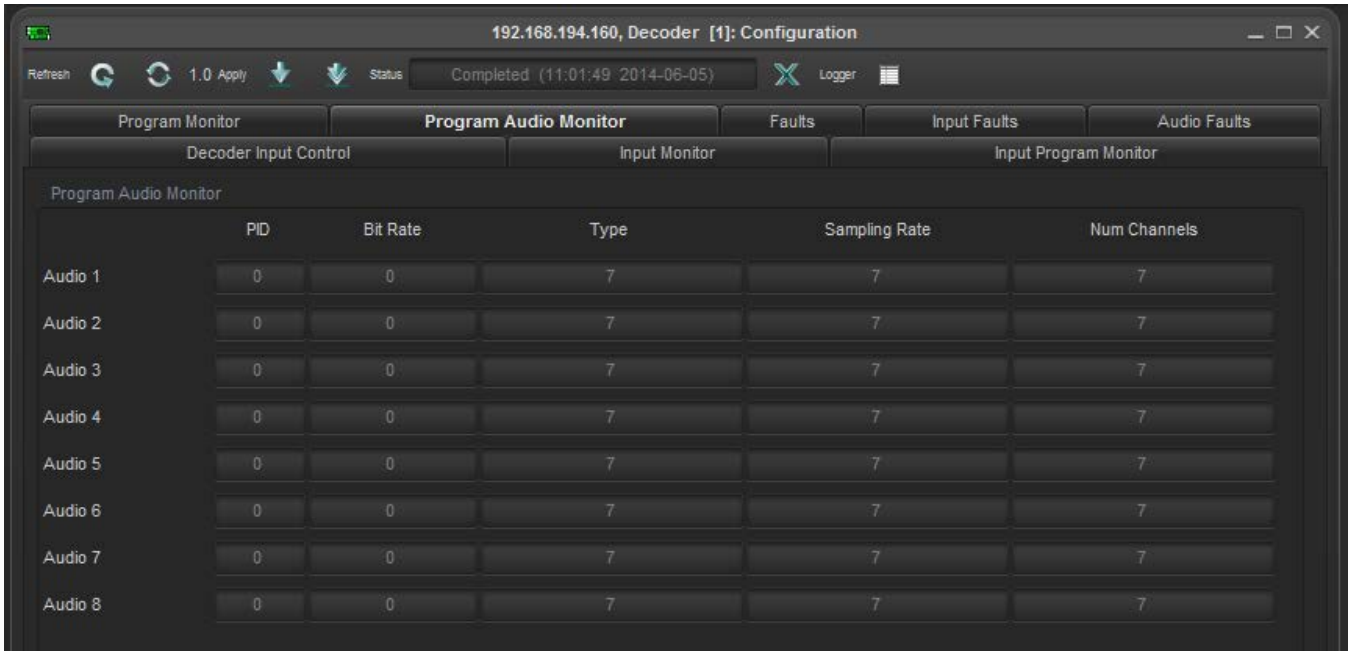

Figure 5-7: Program Audio Monitor Tab

5.6. FAULTS

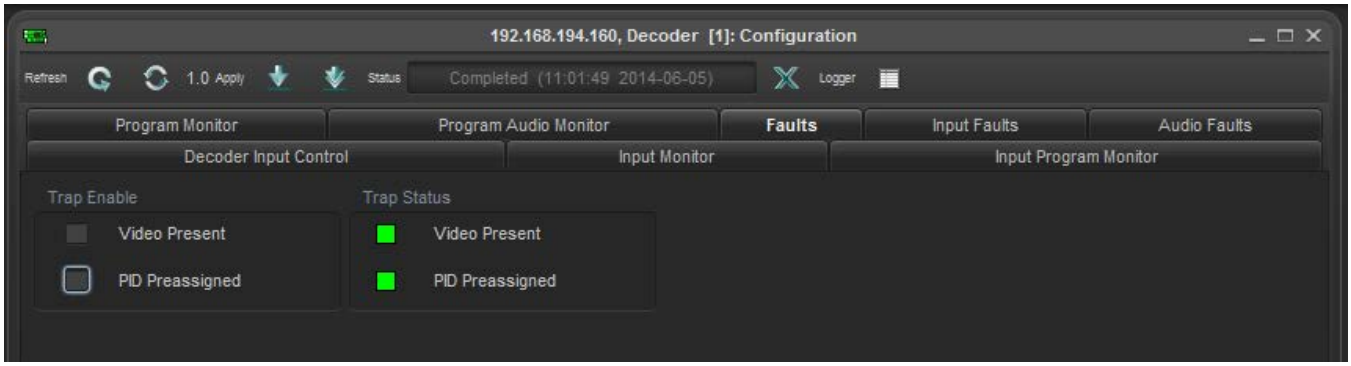

Figure 5-8: Fault Monitor Tab

5.7. INPUT FAULTS

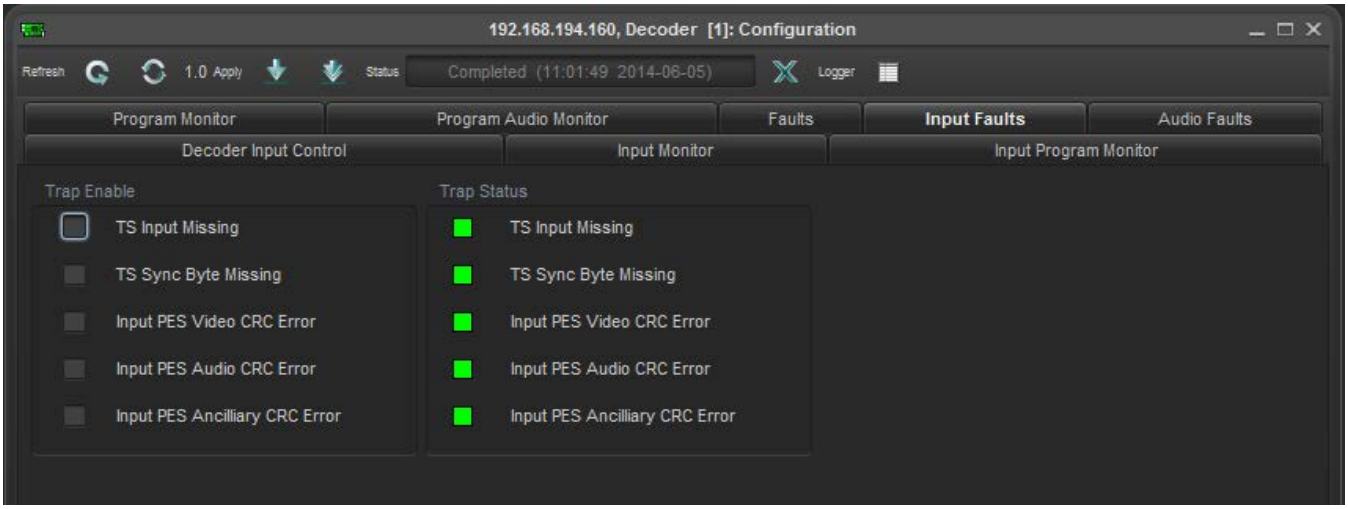

Figure 5-9: Input Fault Tab

5.8. AUDIO FAULTS

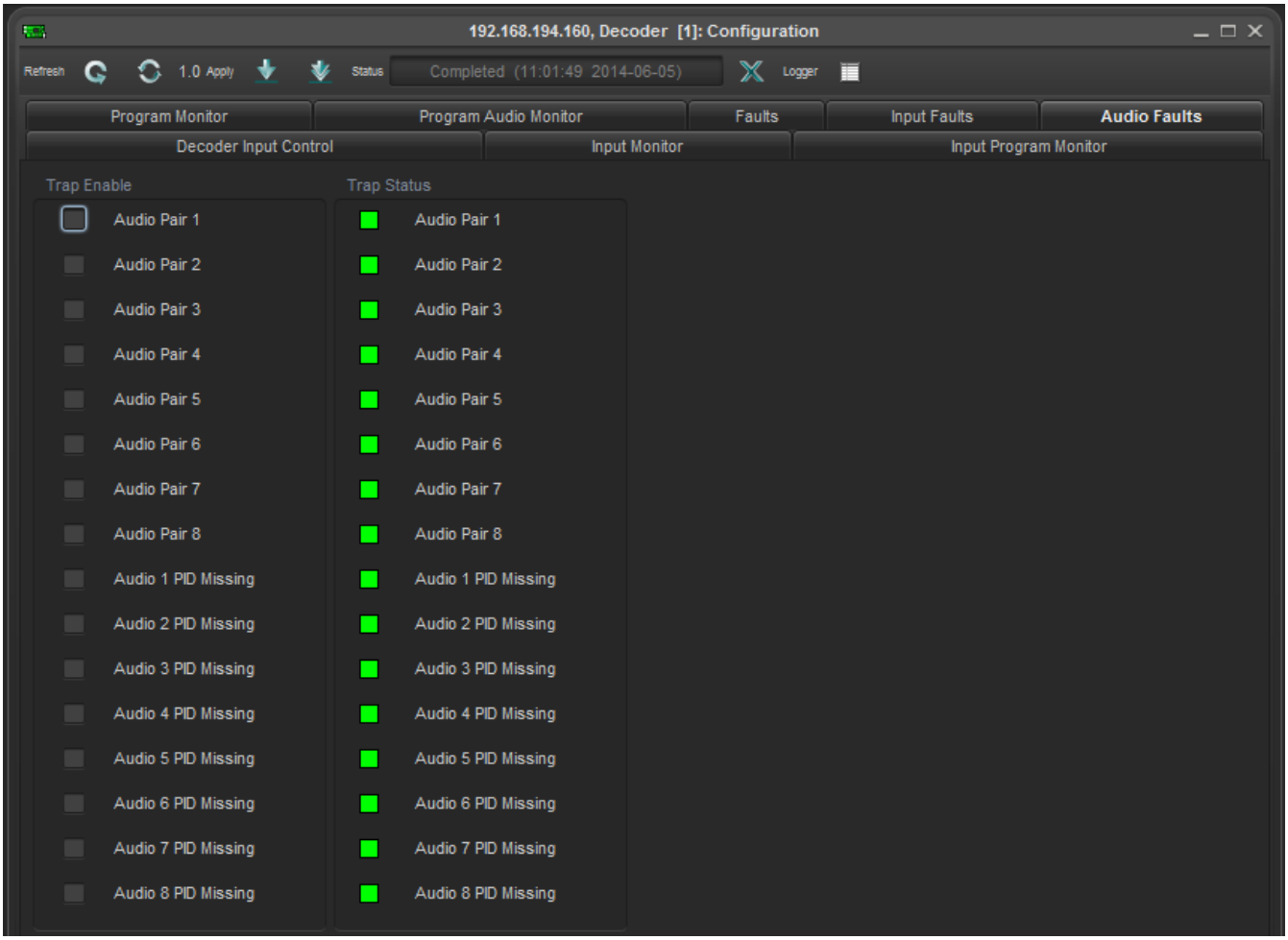

Figure 5-10: Audio Faults Tab

6. WEB INTERFACE

6.1. SYSTEM

Figure 6-1: Web GUI System Tab (1)

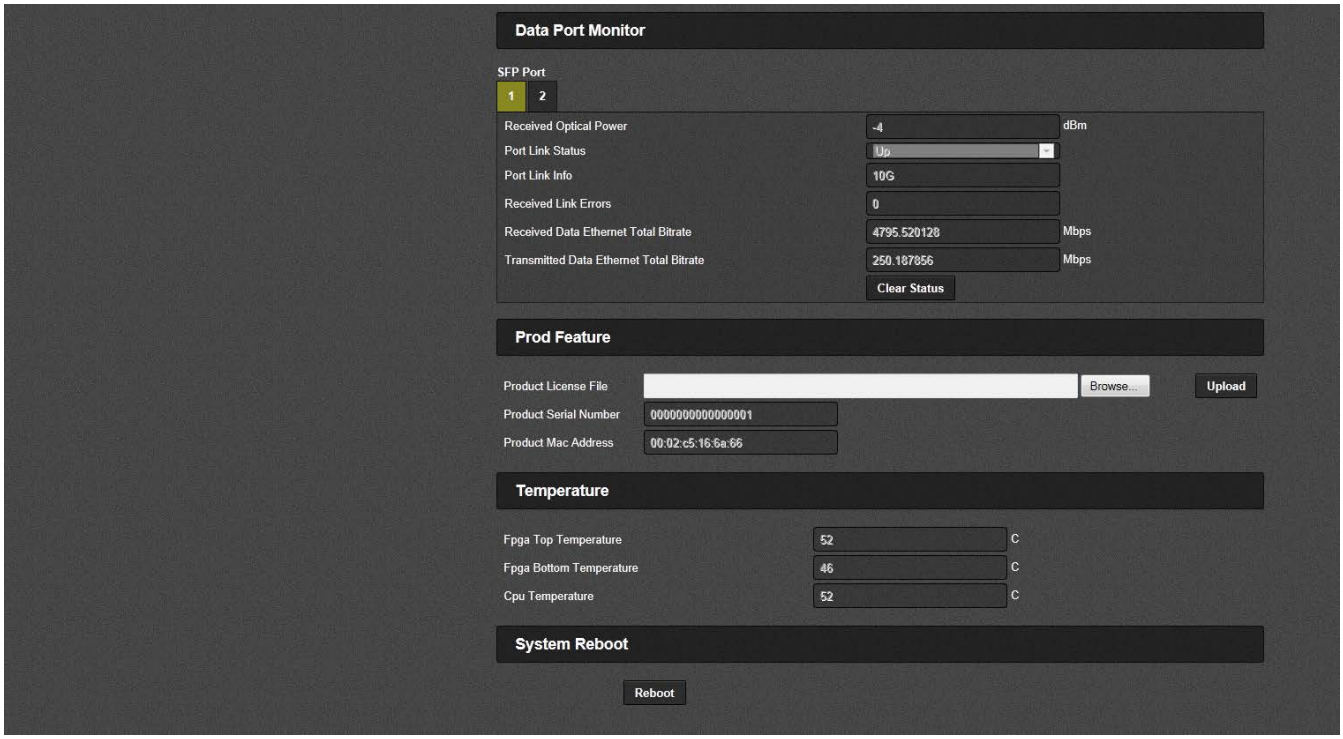

Figure 6-2: Web GUI System Tab (2)

Note: These configuration options are identical for both Ports 1 and 2.

6.1.1. Control Port

IP Address for Control Port : This parameter allows the user to set the IP Address for Control Port .

Netmask/Subnet Address for Control Port : This parameter allows the user to set the Netmask/Subnet for Control Port .

Gateway Address for Control Port : This parameter allows the user to set the Gateway Address for Control Port1.

6.1.2. Data Port Control for SFP Ports

IP Address for Data Port : This parameter allows the user to set the IP Address for Data Port .

Netmask/Subnet Address for Data Port : This parameter allows the user to set the Netmask/Subnet for DataPort .

Gateway Address for Data Port : This parameter allows the user to set the Gateway Address for Data Port .

Received Optical Power : This parameter indicates the received optical power status on the SFP-Rx and is measured in 1dBm units. Range for this value can be from -128dB to 128dBm.

Port Link Status: This parameter will indicate the status of the port link as either 'Up' or 'Down'.

Port Link Info: This parameter displays link status for Port Monitor (i.e. speed, duplex)

Received Link Errors: This parameter displays the link errors received

Received Data Ethernet Total Bitrate: This parameter indicates the bit rate received on Ethernet Port 1 in kbps. Range for this value can be from 0 to 1000000.

Transmitted Data Ethernet Total Bitrate: This parameter indicates the bit rate transmitted on the Ethernet Port in kbps. Range for this value can be from 0 to 1000000.

Clear Stats: This parameter allows the user to reset the Ethernet monitored statistics.

6.1.3. Temperature

FPGA Top Temperature: This parameter allows the user to verify the top of the FPGA module temperature. This value is represented in degrees Celsius.

FPGA Bottom Temperature: This parameter allows the user to verify the bottom of the FPGA module temperature. This value is represented in degrees Celsius.

CPU Temperature: This temperature allows the user to verify the current temperature of the CPU. This value is represented in degrees Celsius.

System Reboot: This parameter enable a soft system reset. To allow for a power cycle of the device a manual reboot must be performed.

6.2. INPUT CONTROL

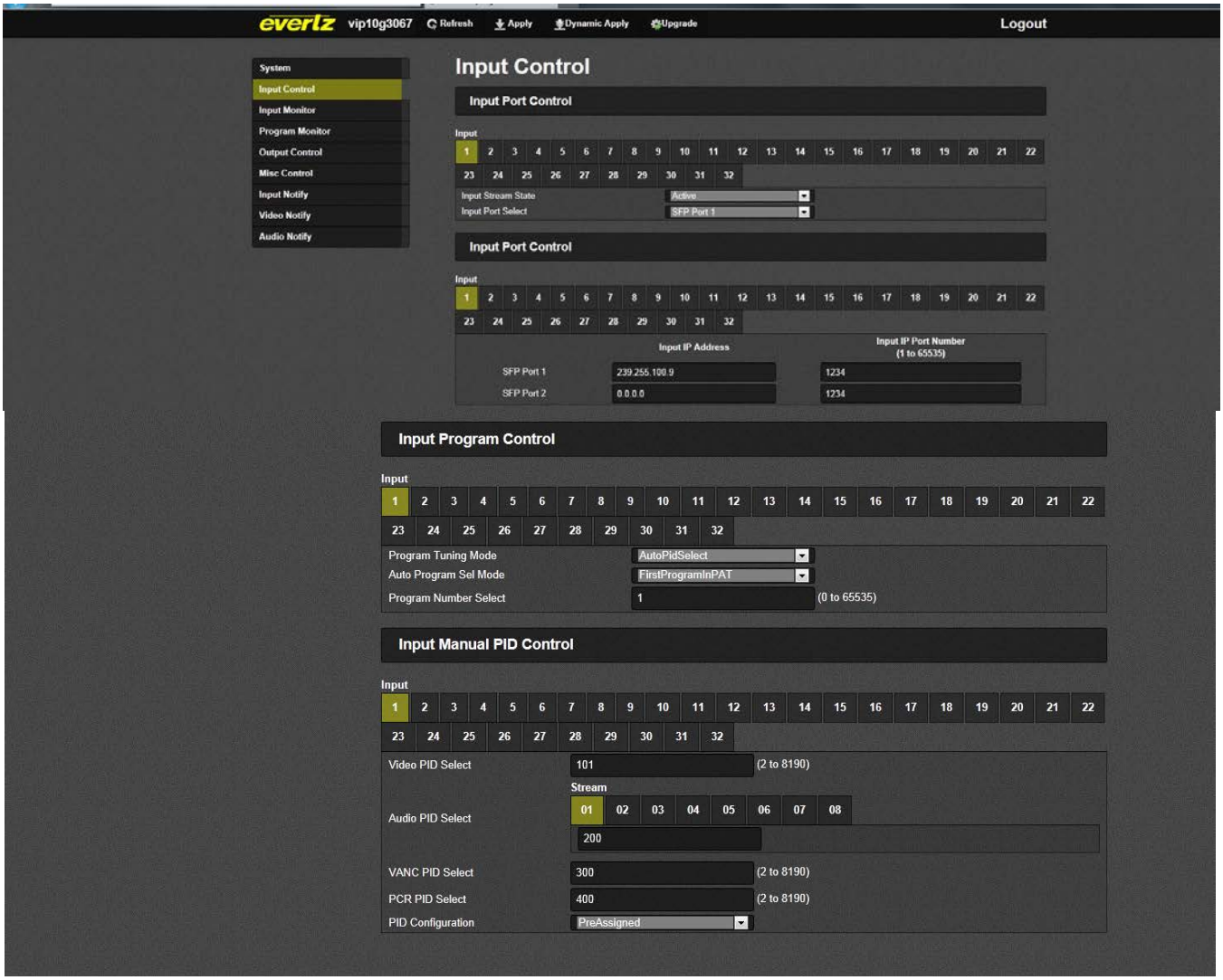

Figure 6-3: Input Control Tab

Input Stream State: This parameter displays the Input Stream State, by default all streams are inactive. Only after a stream has been activated traffic can run through it.

Input Port Select: This parameter allows the user to select the physical data port (1 or 2) from which to receive information.

SFP Port Input IP Address: This parameter allows the user to select the input IP address or Multicast address for both SFP ports 1 and 2.

SFP Port Input Port: This parameter allows the user to select the input UDP port numbers for both SFP ports 1 and 2. Range for these values can be from 1 to 65535.

Program Tuning Mode: This parameter allows the user to select the Program Tuning Mode for the decoder.

- **Auto PID Select:** automatically choose the PIDs for each audio stream, based on Auto Program Sel Mode.
- **Manual PID Select:** manually select PIDs for each audio stream.

Auto Program Sel Mode: This parameter allows the user to set how the decoder will select a program for decoding, when programTuningMode is set to auto.

- **First Program In PAT:** select audio PIDs from the first program will be chosen.
- **Lowest Program Num:** select audio PIDs from the lowest program will be used.
- **Specific Program Select:** will pick audio PIDs from specific program, specified by Program Number Select control for decoding.

Program Number Select: This parameter allows the user to select the program that is going to be decoded. This is only applicable when ***Program Tuning Mode*** is set to ***Auto PID Select***. Range for this value can be set from 0 to 65535.

Video PID Select: This parameter allows the user to select which video PID will be embedded by the decoder into the video input, and can only be applied when ***Program Tuning Mode*** is set to PID Select. Range for this value can be from 2 to 8190. When this setting is applied, if any of the selected PIDS have been duplicated the user will be alerted with an 'error' message.

Note: 0, 1, and 8191 are reserved PIDS in MPEG so they are not included within the value range.

Audio PID Select: This parameter allows the user to select which audio PID will be embedded by the decoder into the video input, and can only be applied when ***Program Tuning Mode*** is set to PID Select. Range for this value can be from 2 to 8190. When this setting is applied, if any of the selected PIDS have been duplicated the user will be alerted with an '***error***' message.

Note: 0, 1, and 8191 are reserved PIDS in MPEG so they are not included within the value range.

PCR PID: This parameter allows the user to set the PID for PCR data being sent on ENC J2K and ENC 10bit 4:2:2 H264. Range for this value can be from 16 to 8190.

VANC PID: This parameter allows the user to set the PID for VANC data being sent on ENC J2K and ENC 10bit 4:2:2 H264. Range for this value can be from 16 to 8190.

PID Configuration: This parameter sets the method to configure the PID. If it is pre-defined, then all PID controls will be greyed out. The second method allows the user to manually configure them.

6.3. INPUT MONITOR

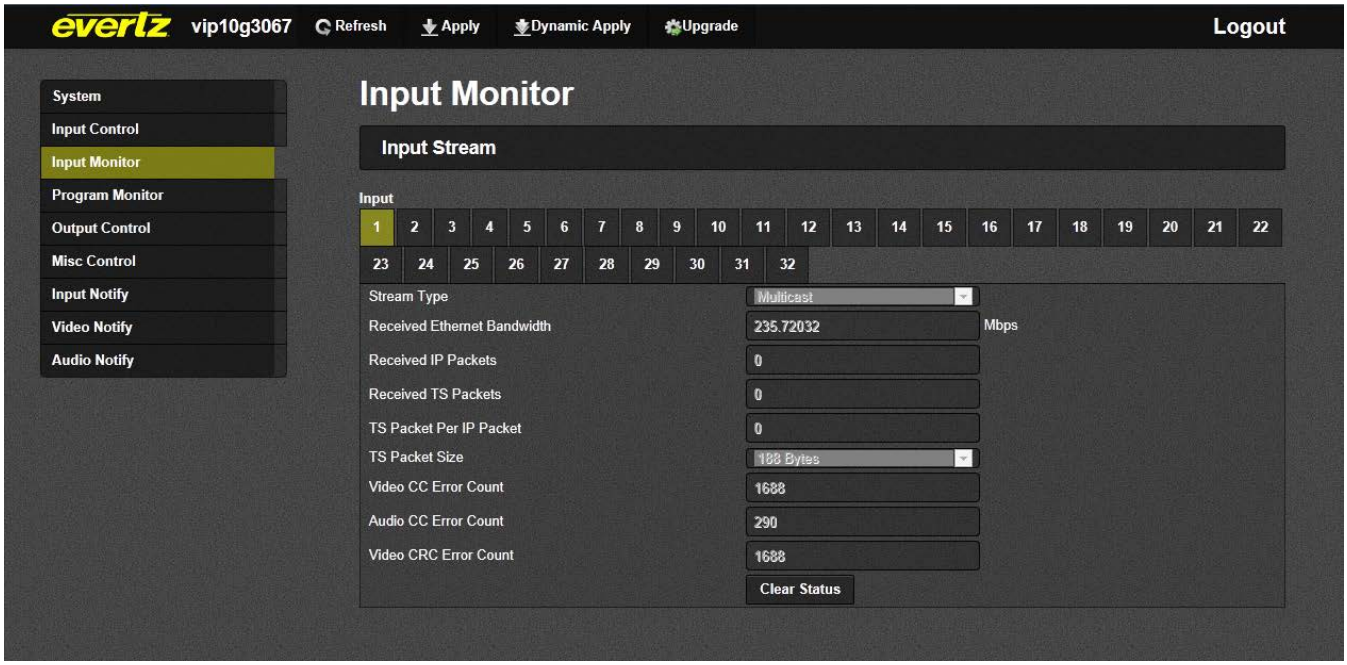

Figure 6-4: Input Monitor Tab

Stream Type: This parameter will display the input stream type as either ***Multicast*** or ***Unicast***.

Received Ethernet Bandwidth: This parameter displays the received Ethernet Bandwidth on the input stream in bits. Range for this value can be from 0 to 1000000.

Received IP Packets: This parameter displays the total received IP packets for the input stream. Range for this value can be from 0 to 2147483647.

Received TS Packets: This parameter displays the total received TS packets for the input stream. Range for this value can be from 0 to 2147483647.

TS Packet Per IP Packet: This parameter identifies the amount of TS packets per Ethernet frame. Range for this value can be from 1 to 7.

TS Packet Size: This parameter identifies the TS packet size as either 188bytes or 204bytes.

Video CC Error Count: This parameter displays the Continuity Count errors for the video input stream.

Audio CC Error Count: This parameter displays the Continuity Count errors for the current audio input stream.

Video CRC Error Count: This parameter displays the cyclic-redundancy check count for errors on the current video input stream

6.4. PROGRAM MONITOR

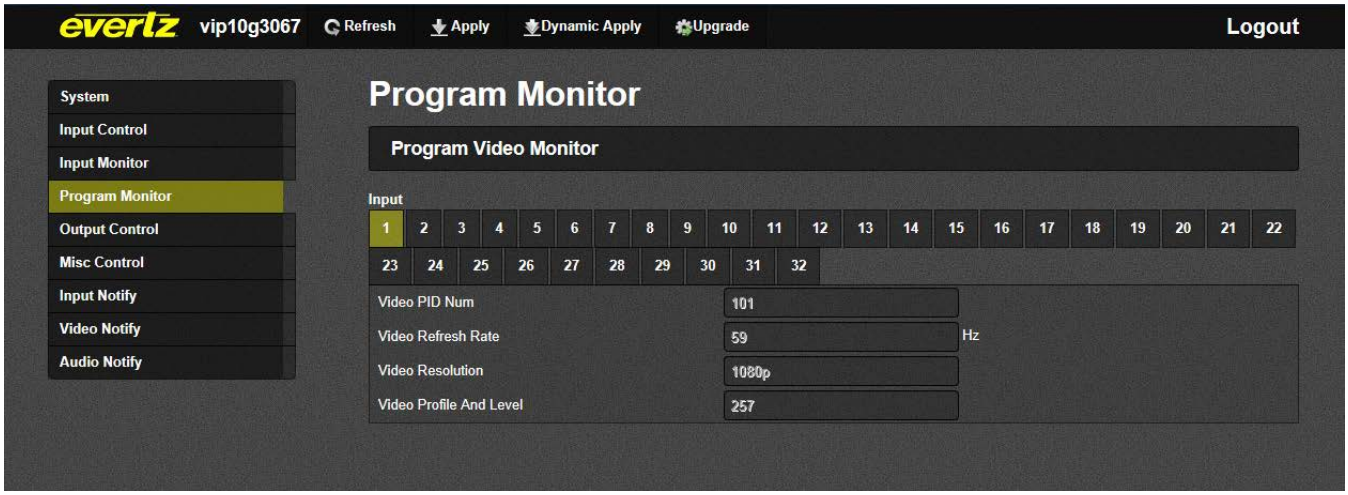

Figure 6-5: Program Monitor Tab

Video PID Num: This parameter allows the user to view the PID which is carrying the PES for Video on the specified Program.

Video Refresh Rate: This parameter sets the Bit rate for the video Elementary Stream.

Video Resolution: This parameter allows the user to view the current video resolution setting.

Video Profile and Level: This parameter allows the user to view the current profile and level of the video read from the PID which is carrying the PES for Video on the specified Program.

6.5. OUTPUT CONTROL

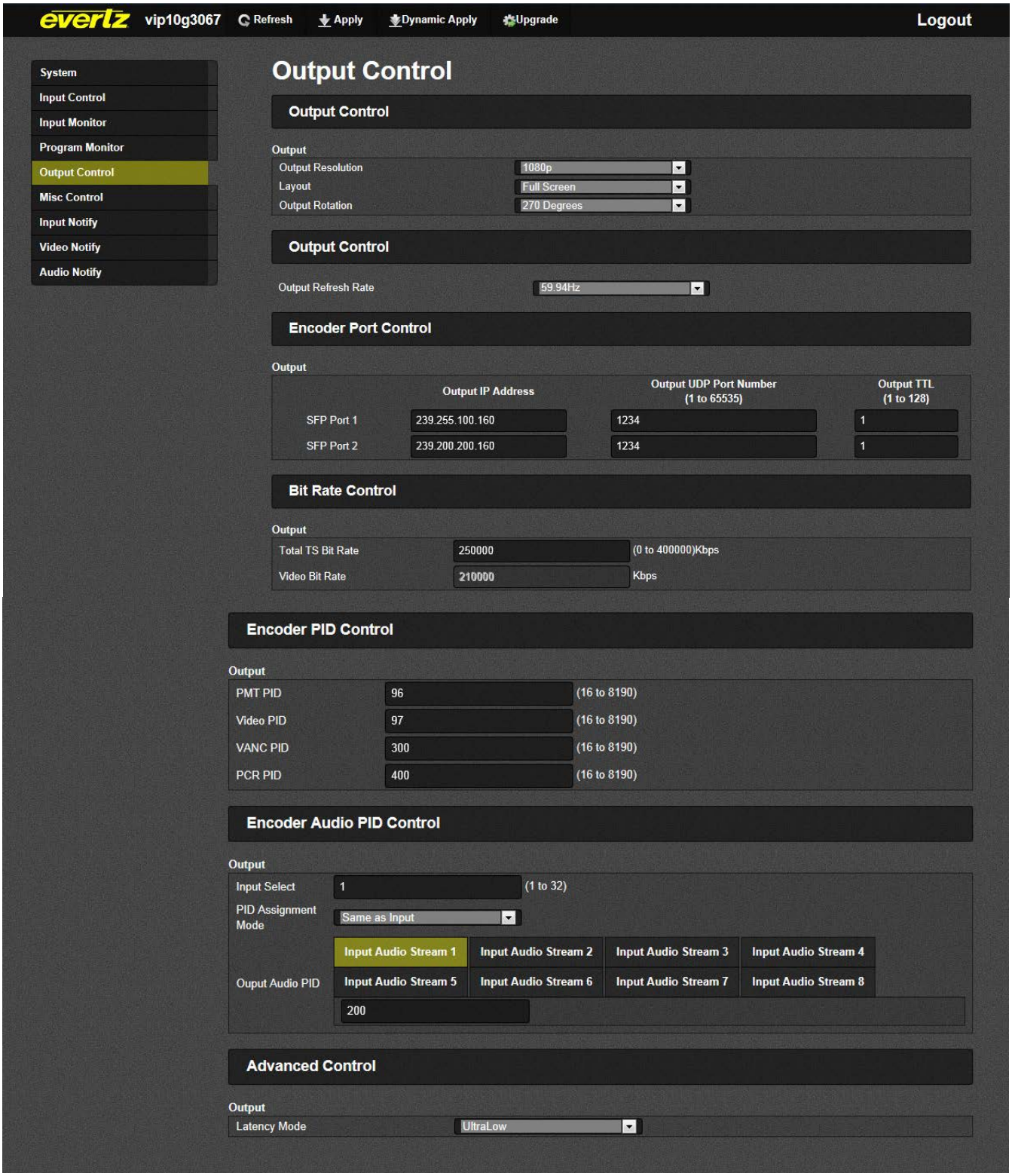

Figure 6-6: Output Control Tab

Output Resolution: This parameter sets the allows the user to set the resolution for the Output control to either v720p/59.94 or 1080p/59.94.

Layout: This parameter sets the layout information from the following options: Full Screen, Mode 2x2, Mode 3x3, Mode 4x4, or Advanced Mode for use with the Magnum Multiviewer Design tool.

Output Rotation: This parameter enables or disables portrait mode for Output Control. Rotation can be set to the following degrees; 0º, 90º, or 270º.

Output Refresh Rate: This parameter sets the Bit rate for the output video Elementary Stream.

SFP Port Output IP Address: This parameter allows the user to select the input IP address or Multicast address for both SFP ports 1 and 2.

SFP Port Output Port: This parameter allows the user to select the output UDP port numbers for both SFP ports 1 and 2. Range for these values can be from 1 to 65535.

Total Transport Stream (TS) Bit Rate (Kbps) This parameter allows the user to select the output TS Bitrate, which is expressed in kbps. The Card will adjust the bitrate for video and other PIDS based on this settings.

Note: 1.) For ENC10bit 4:2:2 H264 range is 0 to 100000
2.) For ENC 8bit 4:2:0 H264 range is 0 to 20000
3.) For ENC J2K range is 0 to 400000

Video Bitrate: This parameter allows the user to select the output TS Bitrate, which is expressed in kbps. The Card will adjust the bitrate for video and other PIDS based on this settings.

Note: 1.) For ENC10bit 4:2:2 H264 range is 0 to 100000
2.) For ENC 8bit 4:2:0 H264 range is 0 to 20000
3.) For ENC J2K range is 0 to 400000

PMT PID: This parameter allows the user to select the PMT PID for the output stream. Range for this value can be from 16 to 8190.

Video PID: This parameter allows the user to select the Video PID for the output stream. Range for this value can be from 16 to 8190.

VANC PID: This parameter allows the user to set the PID for VANC data being sent on ENC J2K and ENC 10bit 4:2:2 H264. Range for this value can be from 16 to 8190.

PCR PID: This parameter allows the user to set the PID for PCR data being sent on ENC J2K and ENC 10bit 4:2:2 H264. Range for this value can be from 16 to 8190.

Input Select: This parameter allows the user to select the audio inputs from 1 through 32.

PID Assignment: This parameter allows the user to either define the PID assignments based on Inputs, or Manually.

Output Audio PID: This parameter allows the user to select which audio PID will be embedded by the decoder into the video output, and can only be applied when ***Program Tuning Mode*** is set to PID Select. Range for this value can be from 2 to 8190. When this setting is applied, if any of the selected PIDS have been duplicated the user will be alerted with an '***error***' message.

Note: 0, 1, and 8191 are reserved PIDS in MPEG so they are not included within the value range.

Output Latency Mode: This parameter allows the user to set the latency on the Outputs to either Standard, Medium, Low or Ultra Low modes.

6.6. MISC CONTROL

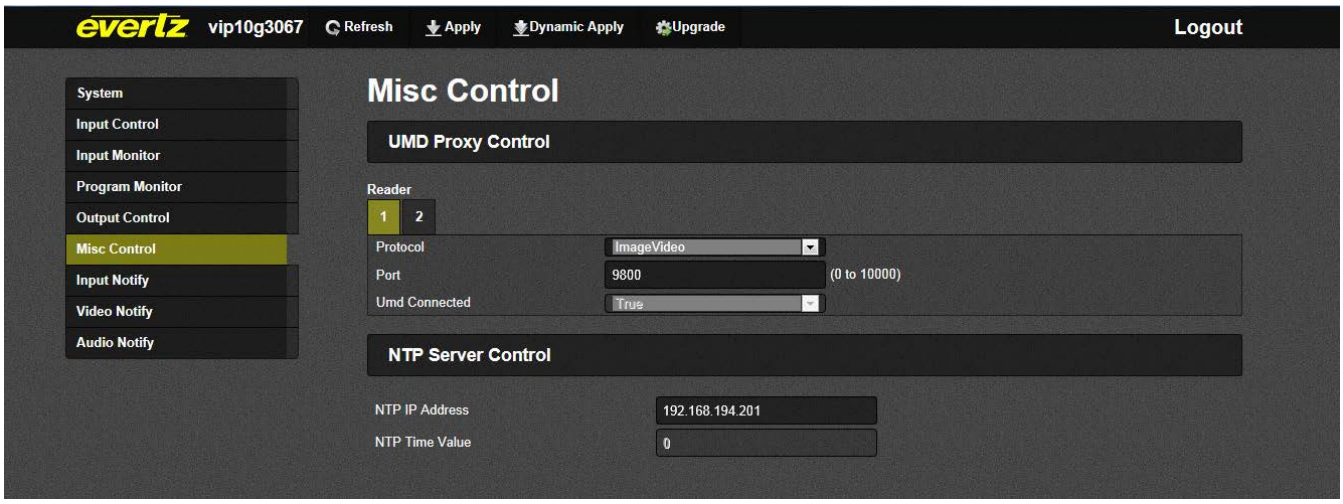

Figure 6-7: Misc Control

Protocol: This sets the UMD protocol to the following: Image Video, Philips ASCII, XY Integrator, tsl31. Tsl40, and Harris Image Video.

Port: This parameter sets the UMD protocol port and can be set from 0 to 10000.

UMD Connected: This parameter verify the connection status for the UMD as either true or false.

NTP IP Address: This parameter sets the NTP server IP address.

NTP Time Value: This parameter verifies the NTP time value.

6.7. INPUT NOTIFY

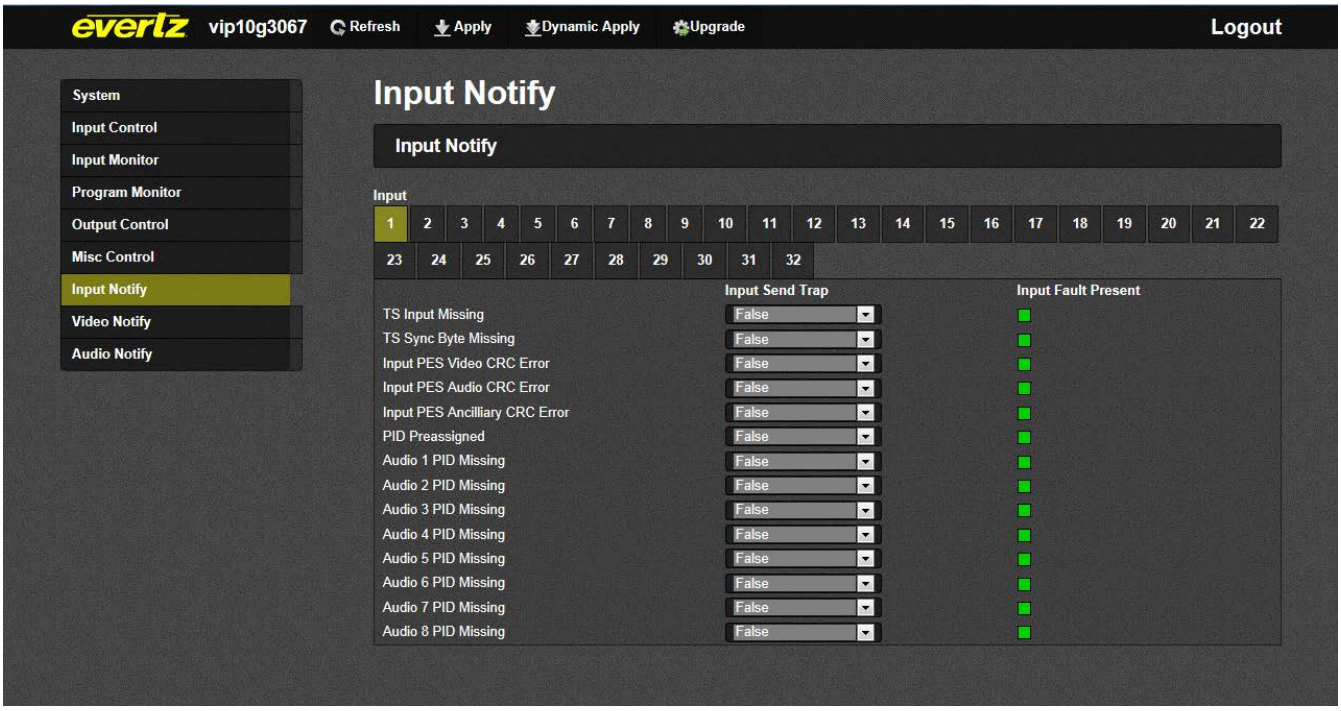

Figure 6-8: Input Notify Tab

Note: This parameter allows the user to enable or disable traps for input streams, and verify the current fault status for the traps currently enabled.

6.8. VIDEO NOTIFY

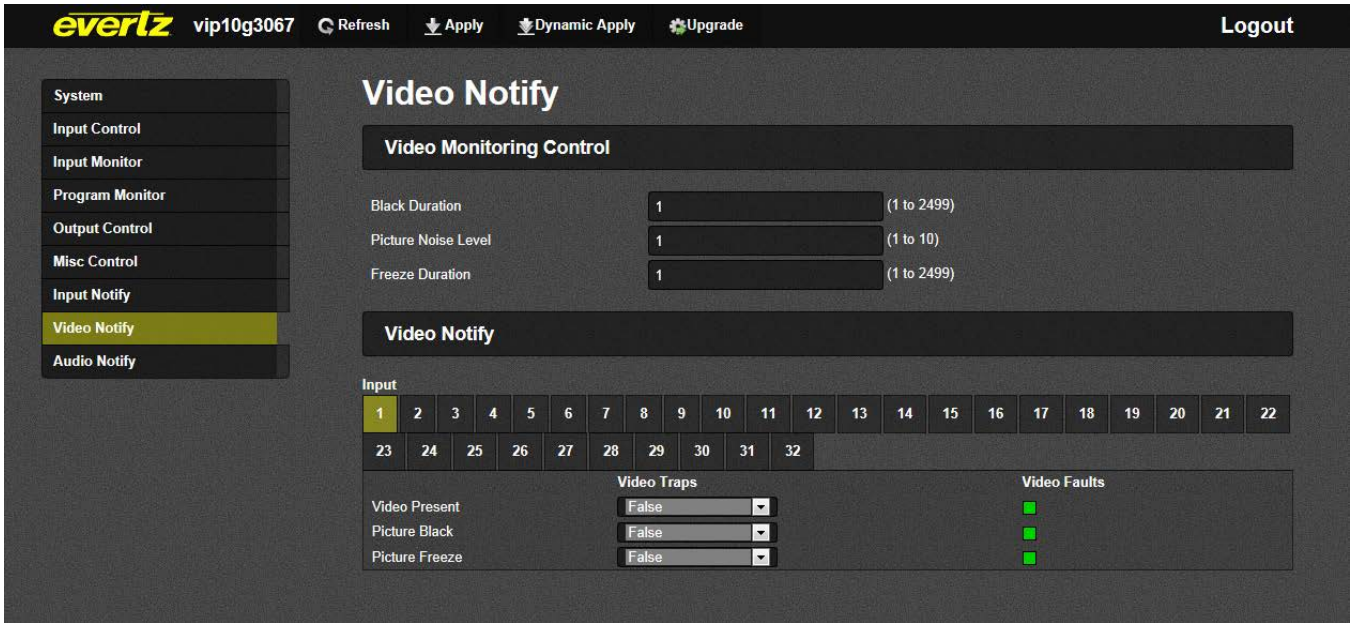

Figure 6-9: Video Notify Tab

Black Duration: This parameter allows the user to set the black duration in frames in active picture content below 7 IRE that are considered faults. Range for this value can be from 1 to 2499, where 1 is the equivalent of 4 frames.

Picture Noise Level: This parameter allows the user to set the approximate level of noise expected in a video signal feed. It is used by the freeze detect feature to distinguish motion from background noise on top of a video feed. Range for this value can be set from 1 to 10.

Freeze Duration: This parameter allows the user to set the duration in frames of video activity un the Picture Noise Level that is considered a fault. Range for this value can be from 1 to 2499, where 1 is the equivalent of 6 frames.

6.9. AUDIO NOTIFY

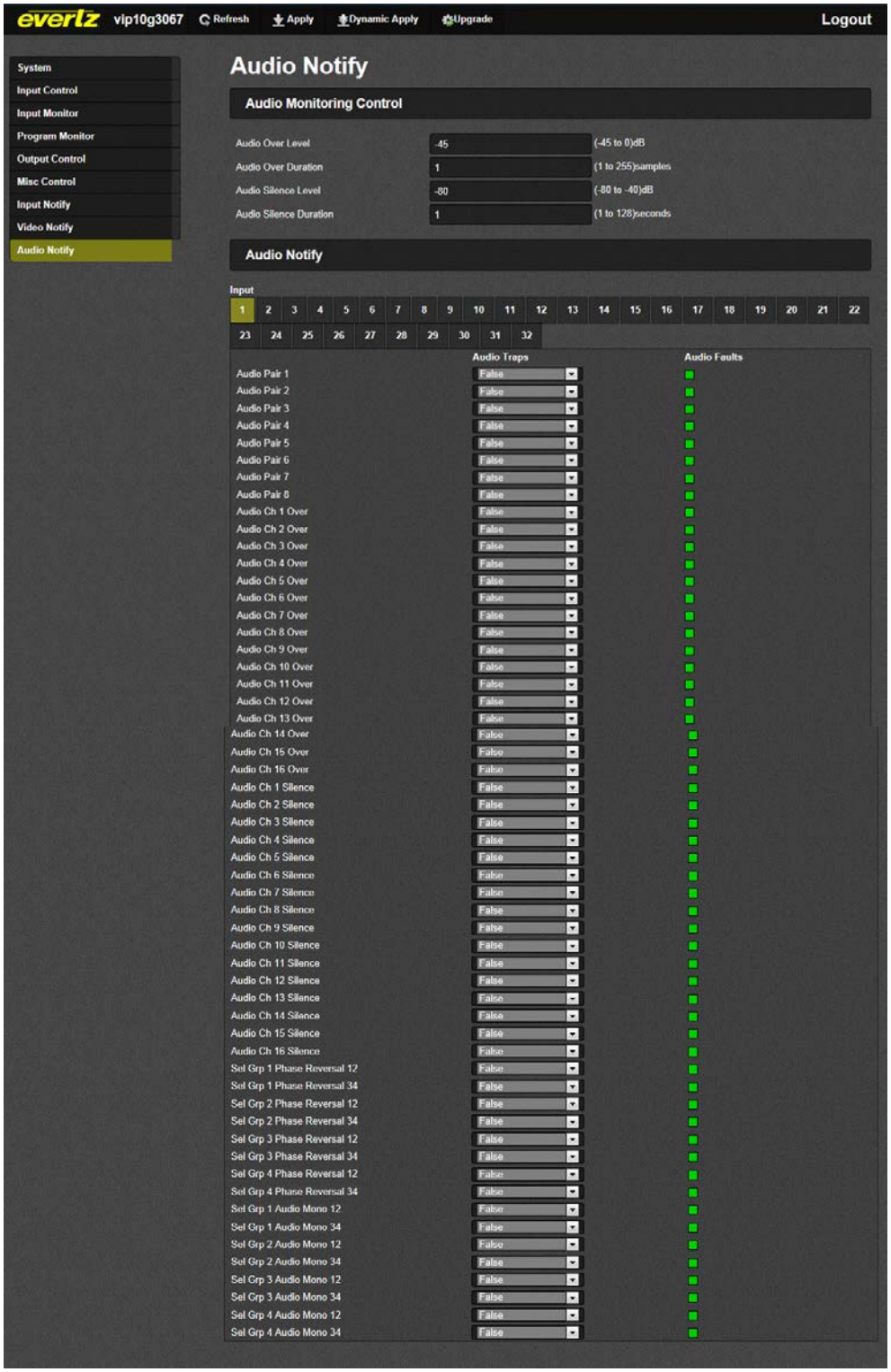

Figure 6-10: Audio Notify Tab

Note: This parameter allows the user to enable or disable traps for input streams, and verify the current fault status for the traps currently enabled.

7. FIRMWARE UPGRADE PROCEDURES

7.1. VISTALINKPRO UPGRADE PROCEDURE

Ensure that the 3067VIP10G is running the latest firmware, to check this simply right click on the cards address in VLPro Client and select ***Version Information***.

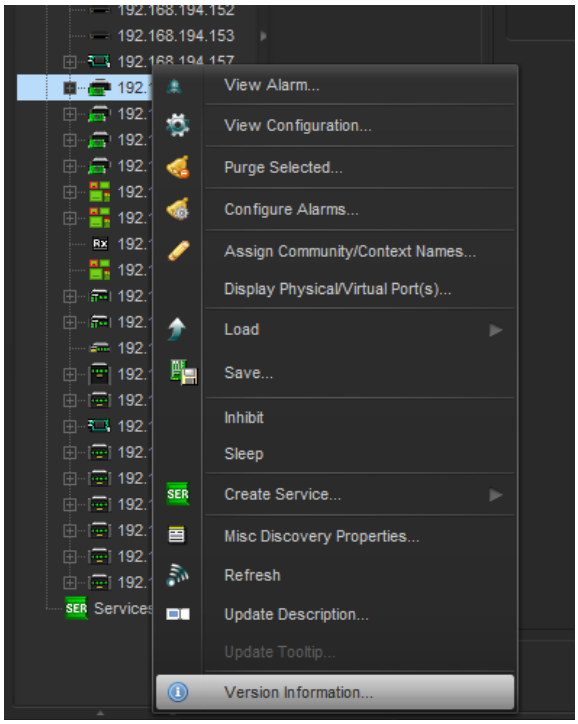

Figure 7-1: Version Information Drop-down menu

This will open a window that displays all of the current version information loaded onto the 3067VIP10G.

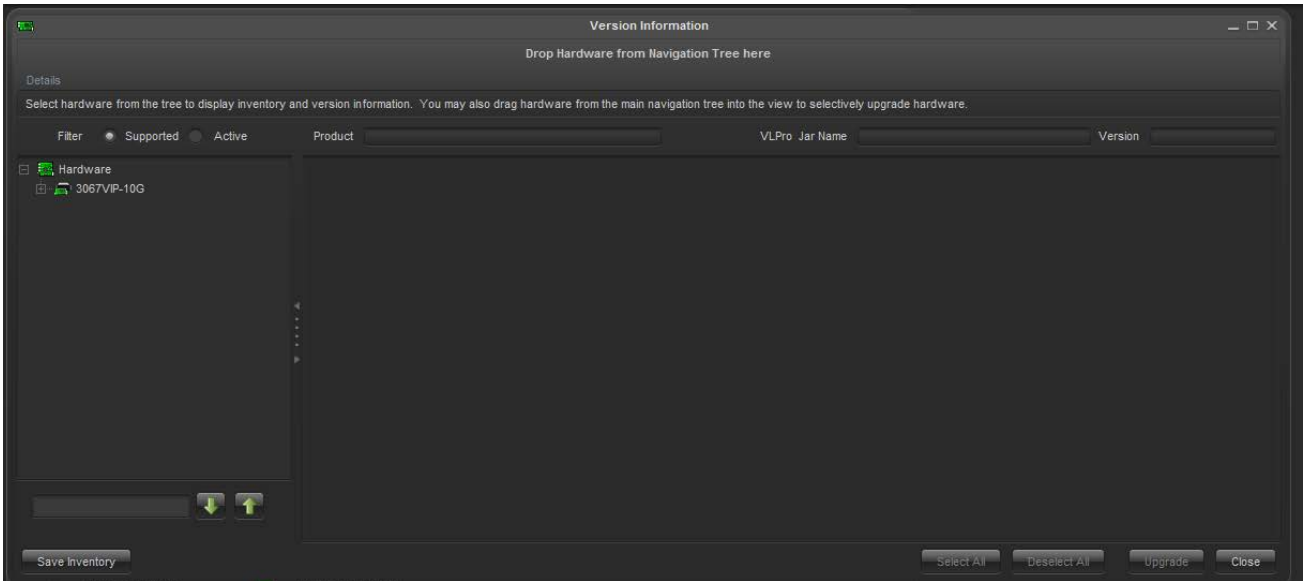

Figure 7-2: Version Information Tab

To upgrade the firmware, locate the latest .jar files which can be found on the Evertz website. Open VLPro Client and navigate to the top tool bar. Locate the ***Help*** drop down menu and select ***Apply Update***. Another drop down menu should appear at this point, select ***Product***. When the window opens you want to select the latest .jar file for the 3067VIP10G, from its saved location on the computer and select ***Open***.

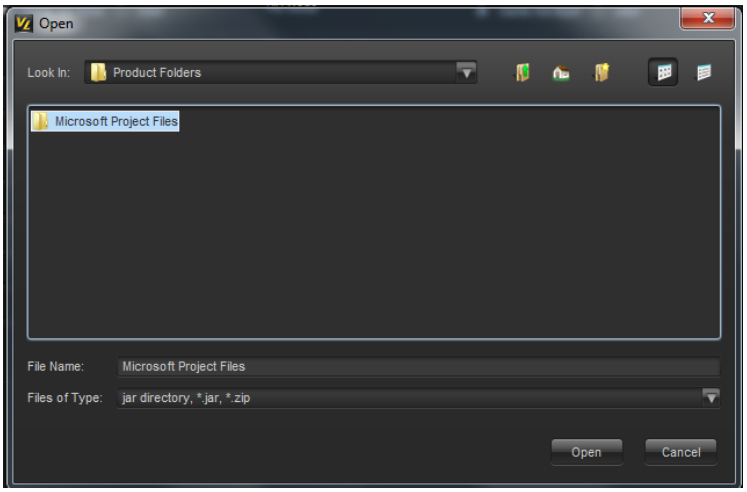

Figure 7-3: JAR File Selection

When the window opens you want to select the latest .jar file for the 3067VIP10G, from its saved location on the computer and select ***Open***.

At this point the VLPro Server will send a message asking to Restart, select ***Yes***. This will apply the update firmware to the 3067VIP10G.

7.2. WEB INTERFACE UPGRADE

On the top of the web page for the 3067VIP10G, there is a tab labeled **Upgrade**. Select this tab and ensure that the latest firmware is running on the 3067VIP10G card. If it is not upgrade the firmware using the latest .jar files which can be found on the Evertz website. Select ***Browse*** and locate the .jar file on the computer. Then select ***Upgrade***, when the upgrade is complete the 3067VIP10G will Reboot to apply the firmware upgrades.

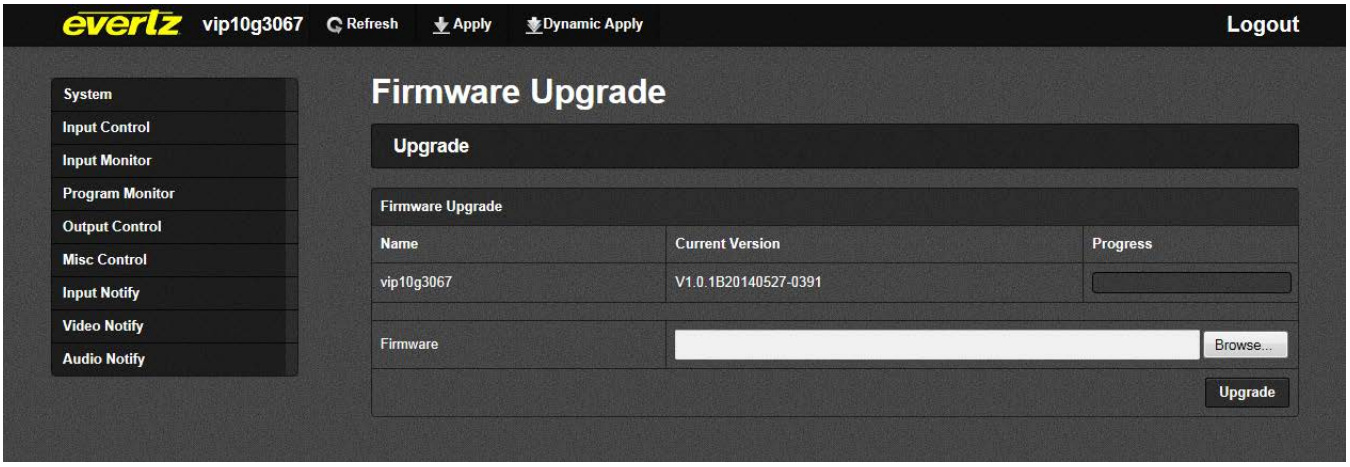

Figure 7-4: WEB GUI Upgrade Screen