2430RX-J2K-IP Series
JPEG2000 to HDMI Converter
User Manual

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Version 0.1, July 2014

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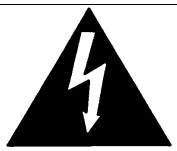
IMPORTANT SAFETY INSTRUCTIONS

	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

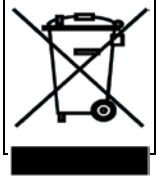
NOTE

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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Figures

REVISION HISTORY

REVISION	DESCRIPTION	DATE
0.1	Preliminary Release	July 2014

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1. OVERVIEW

The 2430RX-J2K-IP is a versatile JPEG2000 to HDMI/DVI/DisplayPort processing converter. The 2430RX-J2K-IP is used in applications where delivery of J2K encoded video is to be displayed on a DVI/HDMI monitor.

This self contained module accepts up to one JPEG2000 over IP streaming inputs. It decodes, processes and converts them on 1 output path to a DVI/ HDMI signal. With integrated auto scaling the 2430RX-J2K-IP device can drive resolutions up to WUXGA (1920x1200).

Features & Benefits

- Full 4:2:2 10-bit pixel input resolution
- Full 24-bit RGB output pixel resolution
- Colour correction (requires +VPGC option)
- Ideal for use with high resolution LCD, plasma and projection screens
- Auto-rescaling
- Superior digital data transmission
- Compact form factor with optional VESA mount brackets
- Analog audio outputs supported
- In band control supported

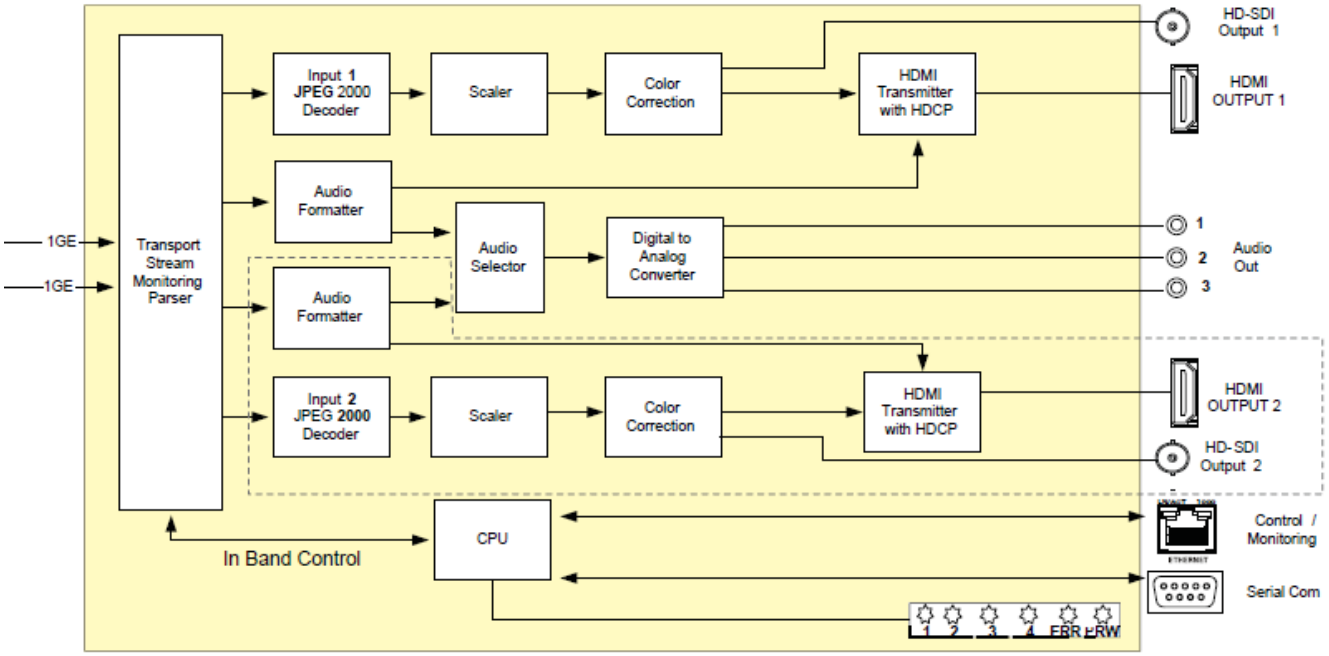

Figure 1-1: Block Diagram

2. GETTING STARTED

2.1. FRONT & REAR PLATE DESCRIPTION

Figure 2-1: Front Plate

POWER The 2430RX-J2K-IP comes with an auto-ranging DC voltage adapter that automatically senses the input voltage. Power should be applied by connecting a 3-wire grounding type power supply cord to the power entry module on the DC voltage adapter. The power cord should be minimum 18 AWG wire size; type SST marked VW-1, maximum 2.5m in length. The DC cable of the voltage adapter should be connected to the DC power jack on the rear panel. A green LED located beside the DIP switch connector will be illuminated when there is power applied to the 2430RX-J2K-IP.

SDI OUT: BNC per IEC 60169-8 Amendment 2

2.1.1. Video Connection

Figure 2-2: Rear Plate

COM: DVI, VGA and Component cable

Supported Resolution: VESA: VGA, SVGA, XGA, WXGA, SXGA, SXGA+, UXGA, WSXGA+, WUXGA, WQXGA (dual-link). CEA-861B: 480p, 576p, 720p, 1080i, 1080p

Color Resolution: 24 bits

CONTROL: Standard CAT5 cable (not included)

AUDIO OUT: 1/8" Stereo (3.5mm) Male Mini to 2-RCA Male Audio Y-Cable (not included)

HDMI OUT: Standard HDMI Cable (not included)

2.2. HARDWARE INSTALLATION

Note: *SFP's must be ordered separately*

To successfully install the 2430RX-J2K-IP the user will require the following:

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

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

Ensure that the device is powered up and the green LED is on. Connect the device via the COM port using a 9-pin Serial Cable., Connect the Female end of the serial cable to the serial port of your PC. Connect the the opposing Male end to the 9-Pin connector on rear of unit. 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.*

2.2.1. Inband Control Configuration

This sub-menu enables the user to configure the settings for unicast traffic forwarding. The user should be aware that once this has been enabled, the control port will not be active and all control will be made via Inband Data connection. The following steps should be followed to ensure proper confirguration:

1) Connect COM port to 2430RX-J2K-IP
2) Login when prompted: username *customer* password *customer*
3) Select Option (5) For inband control
3) Select (1) for Enable
4) Select (Y) to confirm
5) Select (X) to save and exit from the 2430RX-J2K-IP main menu

After the Inband control configurations have been enabled, wait for the unit to reboot.

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 2430RX-J2K-IP 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).

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. SPECIFICATIONS

3.1. TECHNICAL SPECIFICATIONS

3.1.1. Input

- 2 x Female LC/UPC connectors supporting JPEG2000

3.1.2. Output

- 1 x JPEG2000 to HDMI Converter
- 2 x HDMI Output (mirror)
- Supported resolutions: 525, 624, 720p, 59.94/5 Hz and VESA up to WUXGA (1920x1200)

3.1.3. Serial Video Output

- 2 x BNC per IEC60 169-8 Amendment 2 (mirror of HDMI out)
- Supported standards: 525, 625, 720p, 59.94/50 Hz, 1080p 59.94/50 Hz

3.1.4. Audio Output

- 2 x RCA stereo pairs

3.1.5. Electrical

- Voltage 12V DC, Auto ranging 100-240V AC 50/60 Hz adapter included
- Power: 11W
- Physical Dimensions: 8.13”L x 9.28”W x 1.75”H
- Compliance
    - Electrical Safety: Power supply UL listed complies with CE Low Voltage Directive
    - EMI/RFI: Complies with FCC Part 15, Class A EU EMC directive

4. VISTALINK® PRO INTERFACE

4.1. CONTROL PORT CONTROL

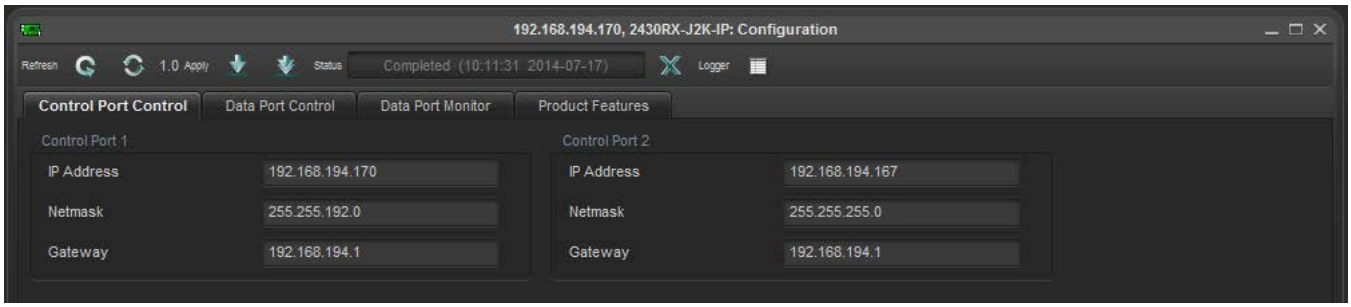

Figure 4-1: Control Port Tab

Note: There is only one physical control port on the unit, both IP's come from the same Network Interface Card (NIC). This allows the unit to be controlled via multiple subnets on this port.

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.

4.2. DATA PORT CONTROL

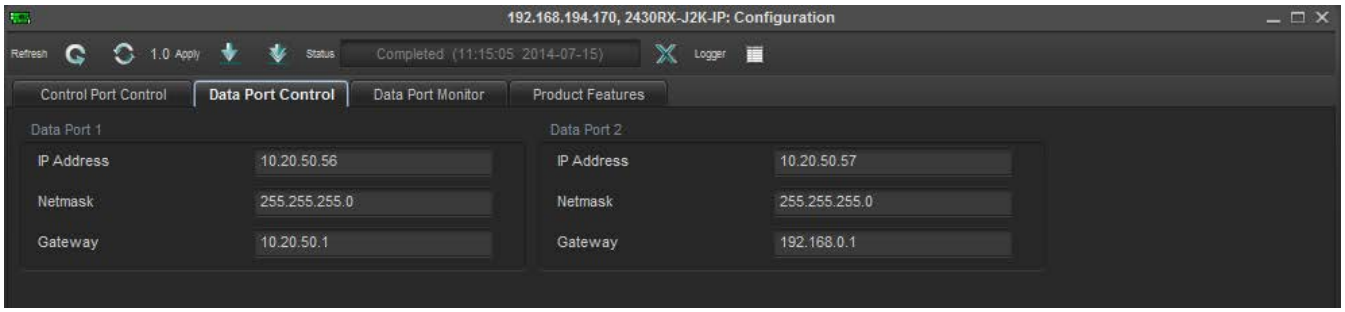

Figure 4-2: Data Port Tab

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

IP NetMask: This parameter allows the user to set the netmask (subnet).

IP Gateway: This parameter allows the user to set the gateway address.

4.3. DATA PORT MONITOR

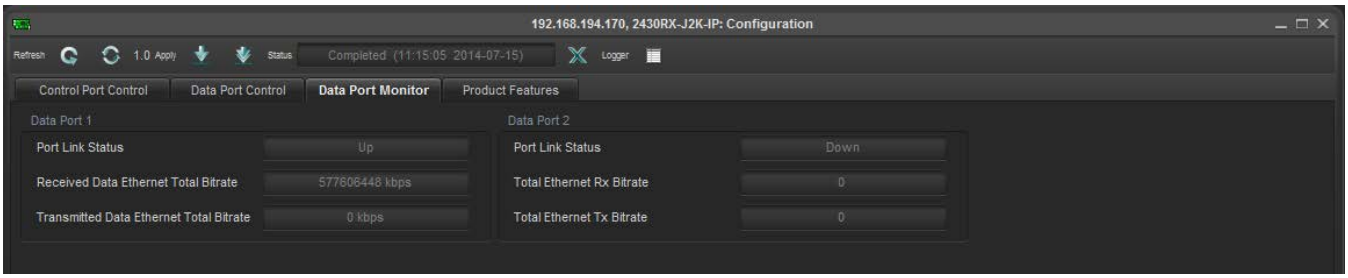

Figure 4-3: Data Port Monitor Tab

Port Link Status: This parameter returns the port status link, in either an 'UP' or 'DOWN' state.

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

Received Data Ethernet Total Bitrate: This field displays the bitrate received on this Ethernet port and is represented in kbps.

Transmitted Data Ethernet Total Bitrate: This field displays the bitrate transmitted on this output Ethernet port and is represented in kbps.

Total Ethernet Rx Bit Rate: This parameter displays the bit rate received on this Ethernet port is represented in kbps, and the value can range from 0 to 1000000000.

Total Ethernet Tx Bit Rate: This parameter displays the bit rate transmitted on this output Ethernet port is represented in kbps, and the value can range from 0 to 1000000000.

4.4. PRODUCT FEATURES

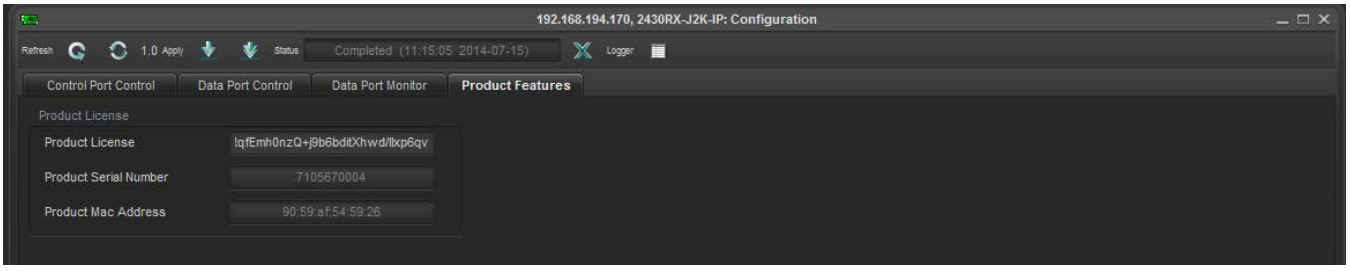

Figure 4-4: Product Features Tab

Product License

Product License: This field displays the product license key.

Product Serial Number: This field displays the card serial number.

Product MAC Address: This field displays the card MAC address.

5. DECODER CONFIGURATION

5.1. DECODER INPUT CONTROL

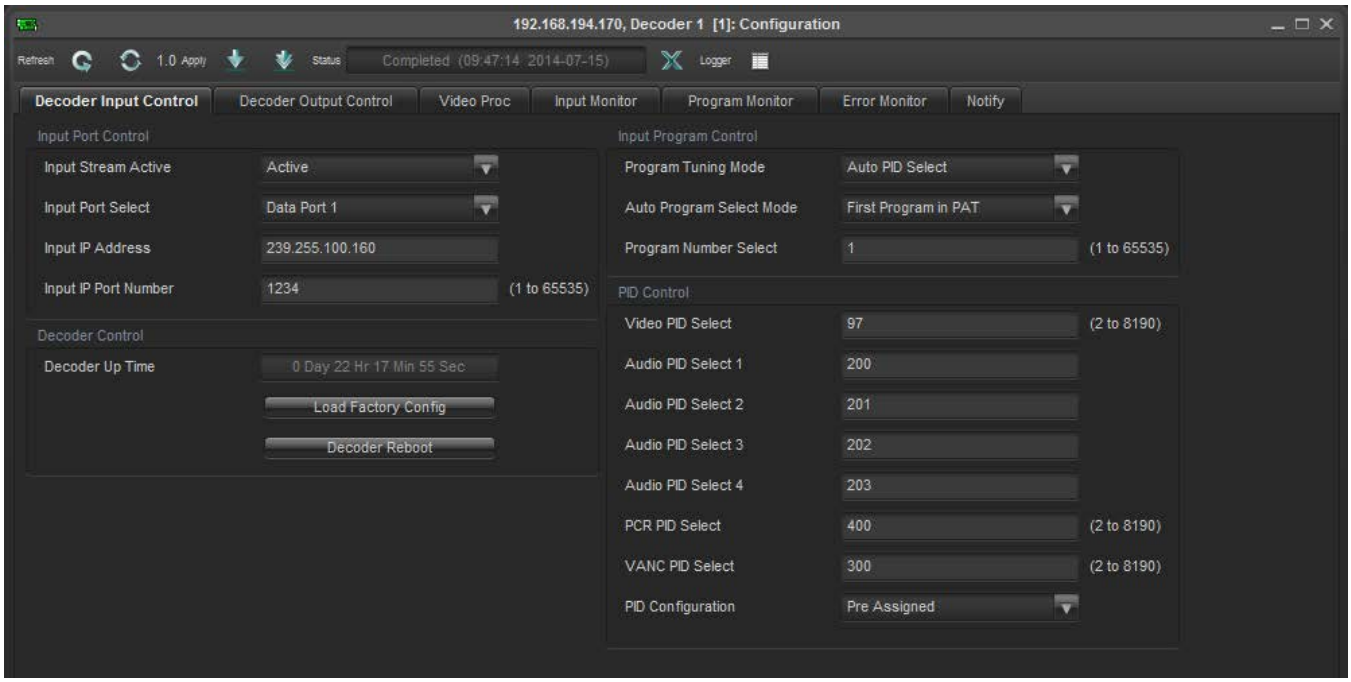

Figure 5-1: Decoder Input Control Tab

Input Stream Active

Input Stream State: This parameter will activate or deactivate this stream. By default, all streams are inactive. Once this parameter is set to active, traffic can run through it.

Input Port Select: This parameter allows the user to set the physical interface to receive data from either data port 1 or data port 2.

Input IP Address: This parameter allows the user to define the IP address/ Multicast address from which data will be received.

Input IP Port Number: This parameter allows the user to select the input UDP/RTP port number, which can range from 1 to 65535.

Input Program Control

Program Tuning Mode: This parameter allows the user to select the program Tuning mode of the decoder. The user can select from two options:

- **AutoPidSelect:** automatically choose the PIDs for each audio stream, based on Auto Program Select Mode.
- **ManualPidSelect**: Manually select PIDs for each audio stream.

Auto Program Select Mode: This control allows the user to set how the decoder will select a program for decoding when Program Tuning Mode is set to auto.

- **First Program in PAT:** select audio PIDs from first program will be chosen.
- **Lowest Program Num:** select audio PIDs from 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 which will be decoded. This control is applicable only when the ***Program Tuning Mode*** is set to ***Auto PID Select,*** value for this range can be set from 0 to 65535.

PID Control

Note: 0, 1 and 8191 are reserved PID's in MPEG, so these values are not included.

Video PID Select: This control allows the user to select the Video PID that will be decoded. This control is only applicable when the ***Program Tuning Mode*** is set to ***Manual PID Select***. Range for these values can be set from 2 to 8190.

Audio PID Select 1 – 4: This control allows the user to select up to four Audio PID's which the decoder will decode and embed into the output video. This control is only applicable when the Program Tuning Mode is set to manual PID select.

PCR PID Select: This parameter allows the user to select the PID for incoming PCR clock. This control is only applicable when the Program Tuning Mode is set to Manual PID Select. Range for these values can be set from 2 to 8190.

VANC PID Select: This control allows the user to select the VANC PID which will be decoded. This control is only applicable when the ***Program Tuning Mode*** is set to ***Manual PID Select***. Range for these values can be set from 2 to 8190.

PID Configuration: This parameter configures the method in which PIDs are set. It can be user defined or pre-assigned, in which case all the PID controls will be greyed out.

Decoder Control

Decoder Up Time: This controls returns a string representation of the time the decoder was last restarted. It is represented similar to '***xxxx*** days ***yy*** hrs ***zz*** min ***aa*** sec'. Internally, it is a 31 bit unsigned integer, reflecting seconds which will provide for up to 3100 days of operation before it wraps around.

Load Factory Config: Part of the Input Control table, this variable allows the SNMP Manager to revert the decoder configuration to a known factory recommended setting. The manager should read the variable prior to setting, to ensure it is in the 'ready' state. Writing the 'load' command will cause the decoder to cease current operations and sources and load the factory default configuration settings. This will NOT include IP interface settings, to ensure network contact is maintained. When the variable returns to the 'ready' state, the operation is complete. The operator can then manually refresh configuration displays.

Reboot: Part of the decoder Output table, this variable allows the SNMP Manager to perform a remote reboot of the decoder. This is useful when the IP interface (and other) changes have been made, and a reset is needed to make them take affect. The manager should read the variable prior to resetting, to ensure it is in the 'ready' state. Writing the 'reboot' command will cause the decoder to perform a software restart of the decoder. VLPro will communicate with the operator to confirm the desire to reboot. If the decoder card is working with a companion card (IP-ASI), VLPro will also issue a coordinated reset command to that card as well.

This is done by issuing the following: commandEntryEntry: commandIndex = adminCommand, commandString = 'reset'.

Note: The decoder will react immediately to reboot command, and will not respond to the SNMP set command.

5.2. DECODER OUTPUT CONTROL

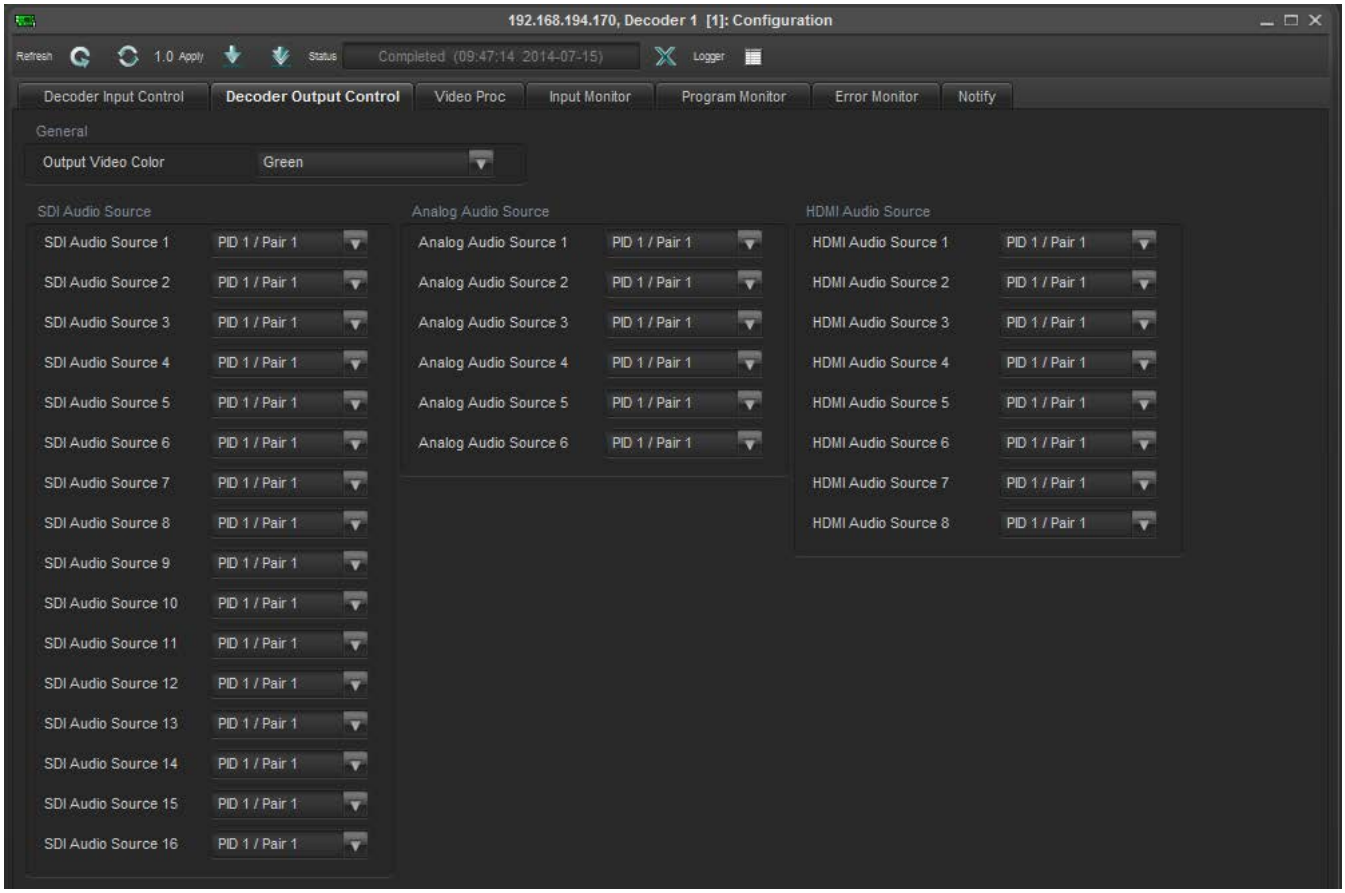

Figure 5-2: Decoder Output Control Tab

General

Output Video Color: This control allows the user to select the output video color that will sent on the output when input ASI is missing and the Output Video Mode is set to continuous. The user can set this to *black, green,* and *freeze.*

SDI Audio Source

This control allows the user to enable or disable which audio service will be embedded into the audio group for SDI/HDSDI output. **NOTE:** This configuration is the same for SDI Audio Sources 1 through 16.

Analog Audio Source

This control allows the user to enable or disable the audio service which will be embedded into the audio group for Analog output. **NOTE:** This configuration is the same for Analog Audio Sources 1 through 6.

HDMI Audio Source

This control allows the user to enable or disable the audio service that will be embedded in to the audio group for HDMI output. **NOTE:** This configuration is the same for HDMI Audio Sources 1 through 8.

5.3. VIDEO PROC IF +VGPC OPTION IS LICENSED

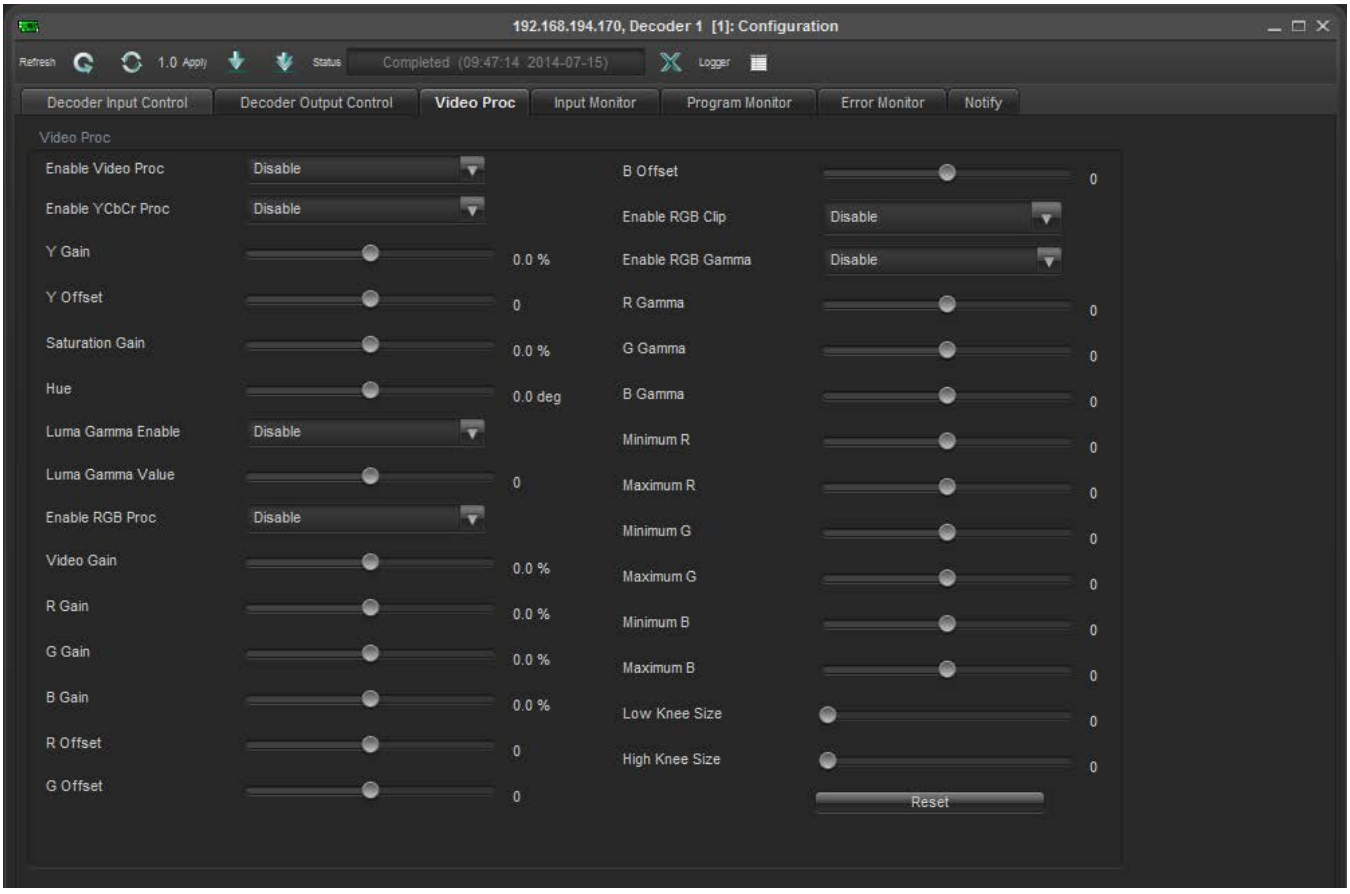

Figure 5-3: Video Processor Tab

Enable Video Proc: This control will *Enable* or *Disable* the video processor module.

Enable YCbCr Proc: This control will *Enable* or *Disable* the YCbCr processor block.

Y Gain: This control allows the user to adjust the gain for the Y component in the YCrCb domain. Range for this value can be set from -100% to 100%.

Y Offset: This control allows the user to adjust the DC offset of the Y component in =/- 200 quantization increments.

Saturation Gain: This control allows the user to set the saturation gain from -100% to 100%.
Hue: This control allows the user to adjust the hue. Range for this value can be set from -180º to 180º.

Luma Gamma Enable: This control allows the user to *Enable* or *Disable* the luma gamma.

Luma Gamma Value: This control allows the user to adjust the gamma correction factor. Range for this value can be set from -100 to 100.

Enable RGB Proc: This control allows the user to *Enable* or *Disable* bypasses on the RGB processor block.

Video Gain: This control allows the user to adjust the gain of the RGB component in the RGB Domain. Range for this value can be set from -100% to 100%.

Gamma R/G/B

This control allows the user to adjust the gamma correction factor for the Red, Green, and Blue gamma levels. Range for this value can be set from -100 to 100.

Minimum R/G/B

This control allows the user to adjust the Red, Green, and Blue minimum levels. Range for this value can be set from -100 to 100.

Maximum R/G/B

This control allows the user to adjust the Red, Green, and Blue maximum levels. Range for this value can be set from -100 to 100.

Low Knee Size: This control allows the user to set the lowest knee size. Range for this value can be set from 0 to 31.

High Knee Size: This control allows the user to set the lowest knee size. Range for this value can be set from 0 to 31.

Video Processor Reset: This control resets the video processor.

5.4. INPUT MONITOR

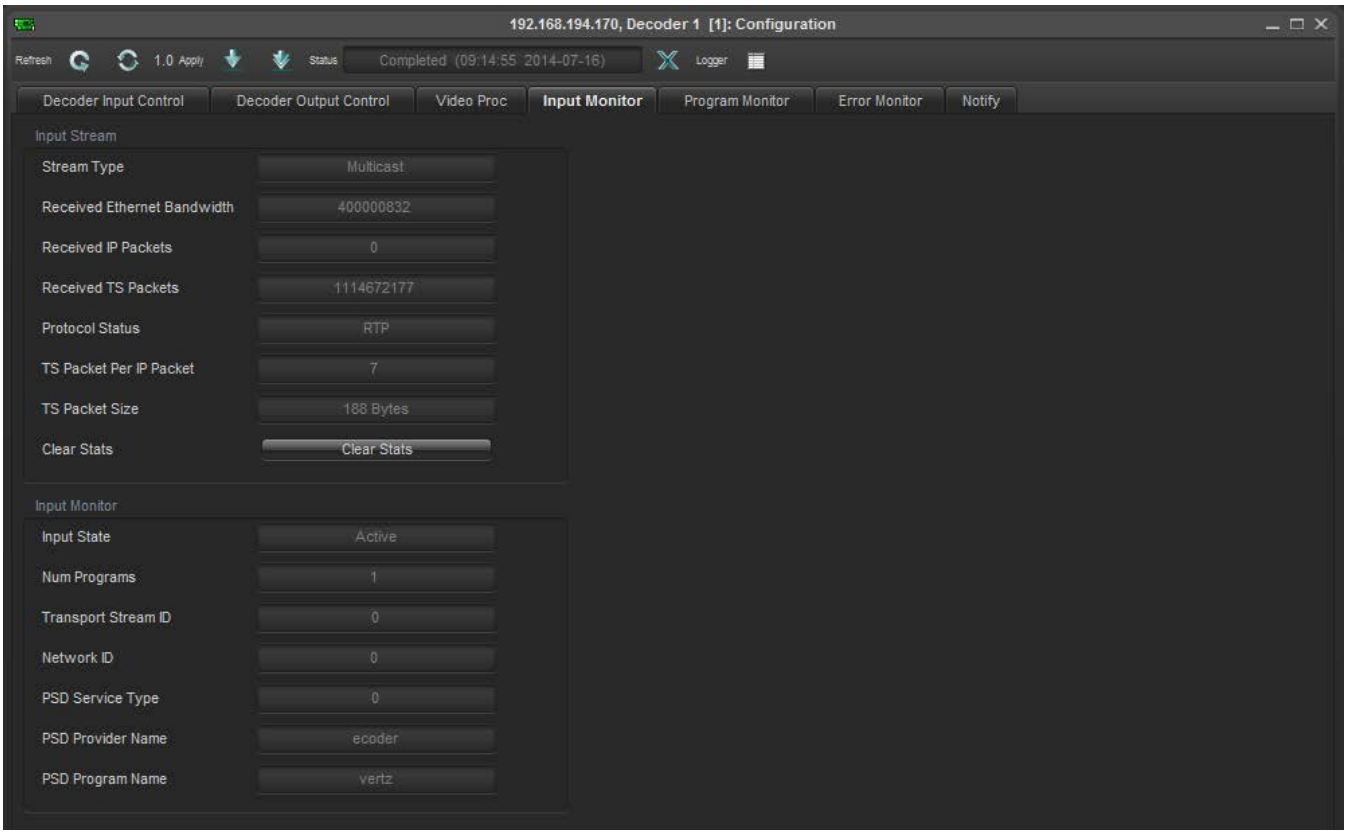

Figure 5-4: Input Monitor Tab

Input Stream

Stream Type: This field displays the type of input stream as either *Multicast* or *Unicast*.

Received Ethernet Bandwidth: This parameter displays the Ethernet bandwidth for the input stream, and can range from 0 to 1000000000 bits.

Received IP Packets: This parameter displays the amount of IP packets that have been received on the input stream. Range for this value can be from 0 to 2147483647.

Received Transport Stream (TS) Packets: This parameter displays the amount of TS packets that have been received on the input stream. Range for this value can be from 0 to 2147483647.

Protocol Status: This parameter will verify if the stream is running on RTP, and if it is not the following values will be displayed:

TS Packet Per IP Packet: This field displays the amount os TS packets are within an IP packet. Range for this value can be from 1 to 7.

TS Packet Size: This field displays the TS packet size as either 188 bytes or 204 bytes per packet.

Clear Status: This control resets the stream monitor statistics.

Input Monitor

Input State: This field displays whether the card is currently receiving a feed on the input.

Num Programs: This field displays the number of programs detected within the input stream.

Transport Stream ID: This parameter control returns the transport stream ID that is being read from the PAT Table.

Network ID: This parameter returns the value of the network ID read from the transport stream, and can range from 0 to 65535.

PSD Service Type: This parameter returns the service type read from the Evertz private service descriptor (79) from the PMT. It provides an enumerated string as follows:

1 - Digital Tv
2 - Digital Radio
3 – Teletext
4 - NOVD Reference
5 - NVOD Timeshifted
6 - Mosaic
7 - PAL Signal
8 - SECAM Signal
9 - DMAC
10 - FM Radio
11 - NTSC Signal
12 - Data Broadcast
N/A -a valid service Type was not found, or there is no private descriptor.

PSD Provider: This parameter returns the provider name read from the Evertz Private service descriptor (79) from the PMT.

PSD Program Name: This parameter returns the program name read from the Evertz private service descriptor (79) from the PMT.

5.5. PROGRAM MONITOR

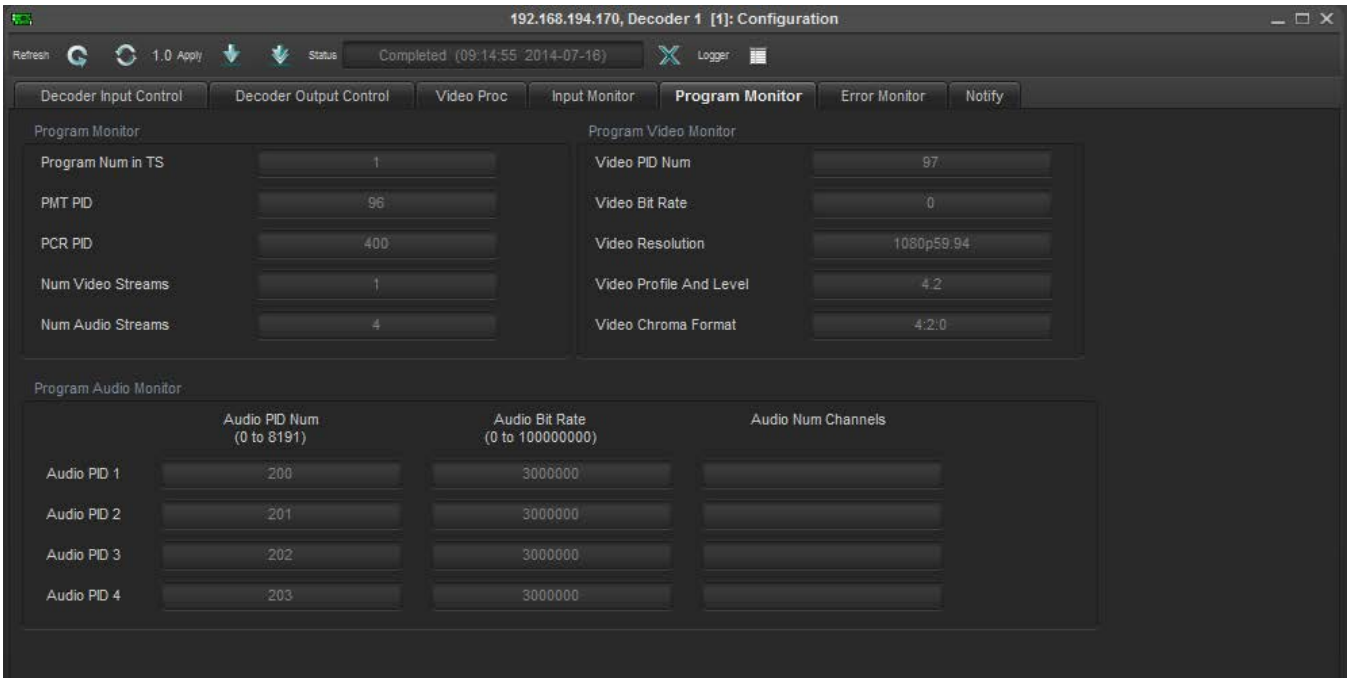

Figure 5-5: Program Monitor Tab

Program Monitor

Program Num in TS: This field displays the current program being decoded by the decoder. Range for this value can be from 0 to 65535.

PMT PID: This parameter returns the PID for the PMT, for the program being decoded. Range for this value can be from 0 to 8191. When in Manual PID Selection Mode no value will be displayed.

PCR PID: This parameter returns the PID which has the PCR information for the program being decoded. Range for this value can be from 0 to 8191. When in Manual PID Selection Mode no value will be displayed.

Num Video Streams: This parameter returns the number of Video Streams in the program which are being decoded. Range for this value can be from 0 to 100. When in Manual PID Selection Mode no value will be displayed. Also, it is assumed there is only one video stream in one program.

Num Audio Streams: This parameter returns the number of Audio Streams in the program which are being decoded. Range for this value can be from 0 to 100. When in Manual PID Selection Mode no value will be displayed.

Program Video Monitor

Video PID Num: This field displays the PID which carries the PES for Video. Range for this value can be from 0 to 8191.

Video Bit Rate: This field displays the bit rate for the video elementary stream.

Video Resolution: This field displays the current video resolution.

Video Profile and Level: This field displays the current profile and level of the video stream.

Video Chroma Format: This field displays the chroma format of video.

Program Audio Monitor

Audio PID Number

This field displays the current PID which is carrying the PES for this audio stream. Range for this value can be from 0 to 8191.

Audio Bit Rate

This field displays the bit rate for the audio elementary stream.

Audio Number Channels

This field displays the number of current channels in the audio stream.

5.6. ERROR MONITOR

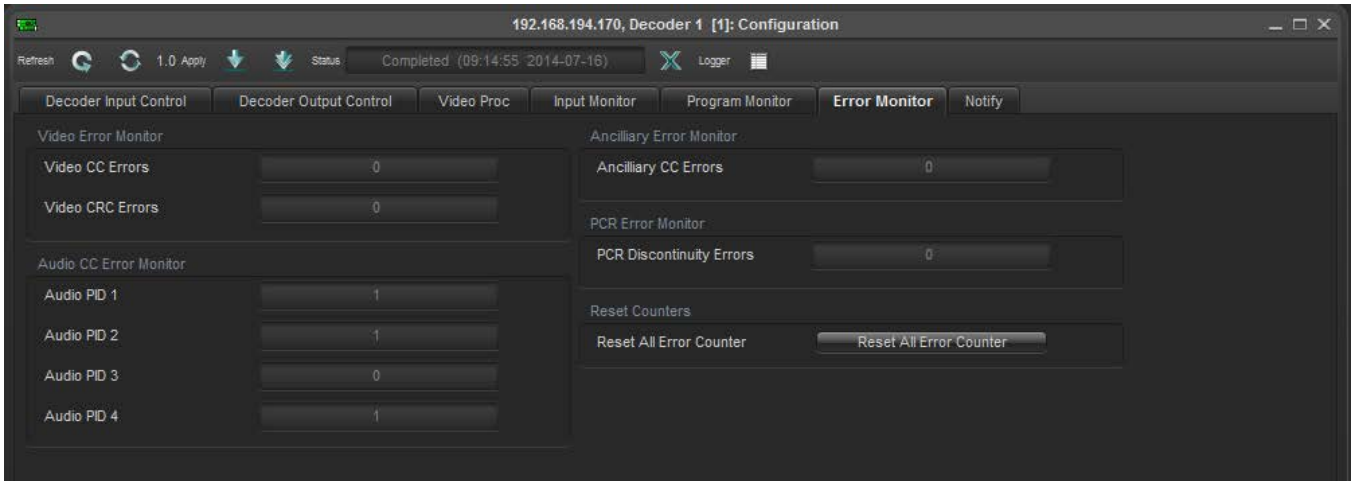

Figure 5-6: Error Monitor Tab

Video Error Monitor

Video CC Errors: This field displays the number of Continuity Counter error incidents for Video PID. Range for this value can be from 0 to 65535.

Video CRC Errors: This field displays the number of CRC error incidents for Video. Range for this value can be from 0 to 65535.

Audio CC Error Monitor

This field displays the number of Continuity Counter error incidents for Audio PIDs 1 through 4.

Ancillary Error Monitor

This field displays the number of Continuity Counter error incidents for Ancillary PIDs.

PCR Error Monitor

This field displays the number of Discontinuity Error incidents for PCR PIDs.

Reset Counters

This control will reset all the error counters.

5.7. NOTIFY

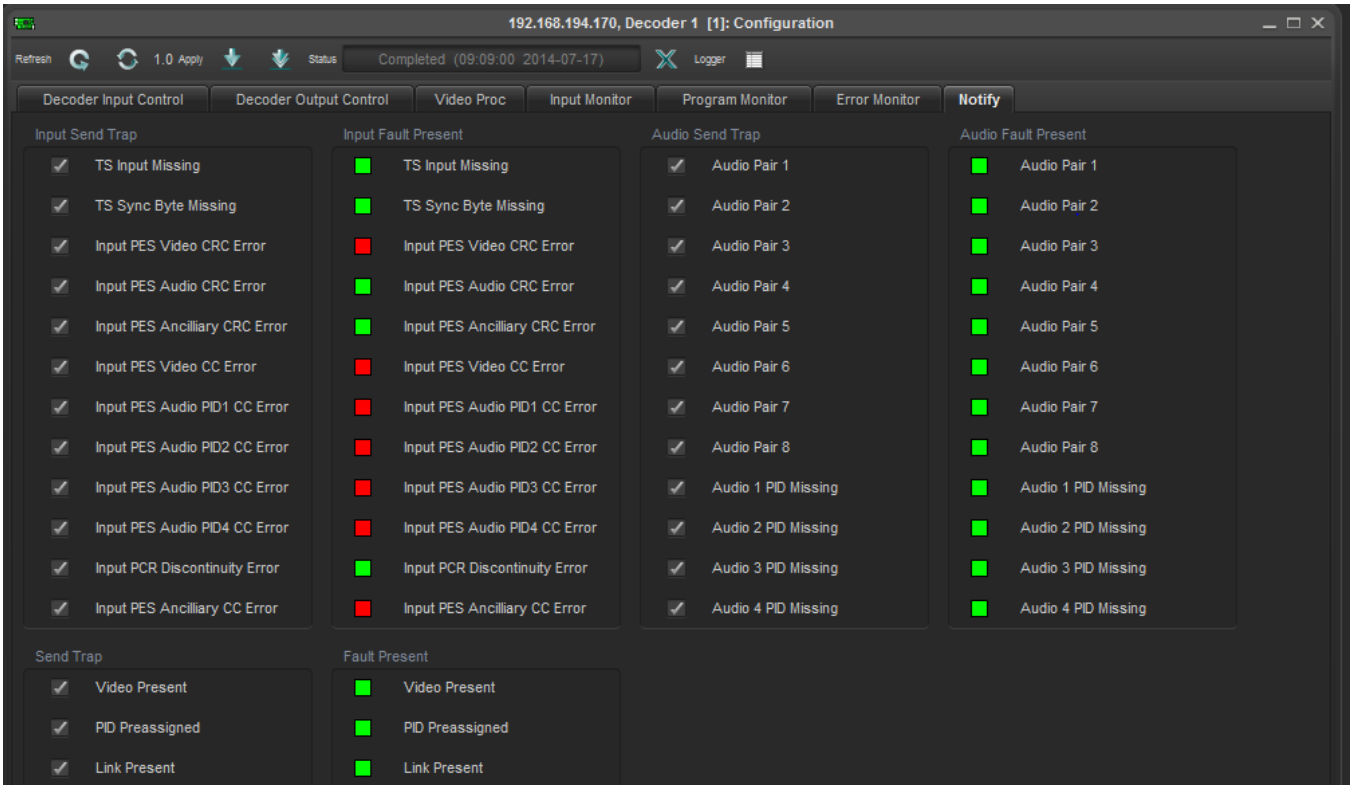

Figure 5-7: Notify Tab

The *Notify* tab allows the user to turn traps on or off, as well as the current status for all faults present.

6. WEB INTERFACE

6.1. SYSTEM

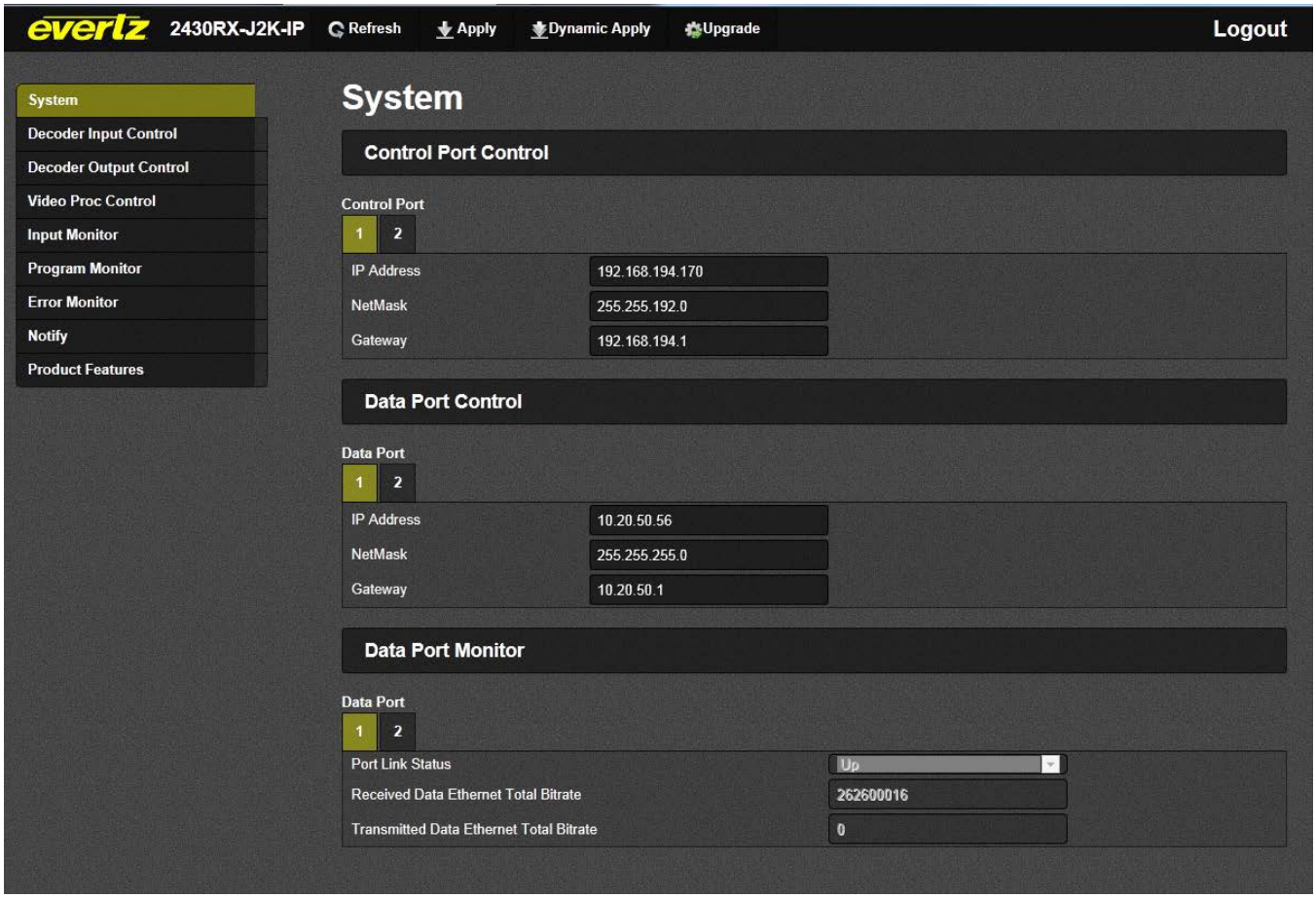

Figure 6-1: Web GUI System Tab

NOTE: Configuration options are identical for both Ports 1 & 2

Control Port IP Address: This parameter allows the user define the IP address for the control port

Control Port NetMask/Subnet: This parameter allows the user to define the Netmask/Subnet for the control port

Control Port Gateway: This parameter allows the user to define the gateway address for the control port

Data Port IP Address: This parameter allows the user define the IP address for the data port

Data Port NetMask/Subnet: This parameter allows the user to define the Netmask/Subnet for the data port

Data Port Gateway: This parameter allows the user to define the gateway address for the data port

Port Link Status: This parameter returns the status link for data port 1, in either an 'UP' or 'DOWN' state.

Received Data Ethernet Total Bitrate: This parameter displays the bit rate received on this Ethernet port is represented in kbps, and the value can range from 0 to 1000000000.

Transmitted Data Ethernet Total Bitrate: This parameter displays the bit rate transmitted on this Ethernet port is represented in kbps, and the value can range from 0 to 1000000000.

6.2. DECODER INPUT CONTROL

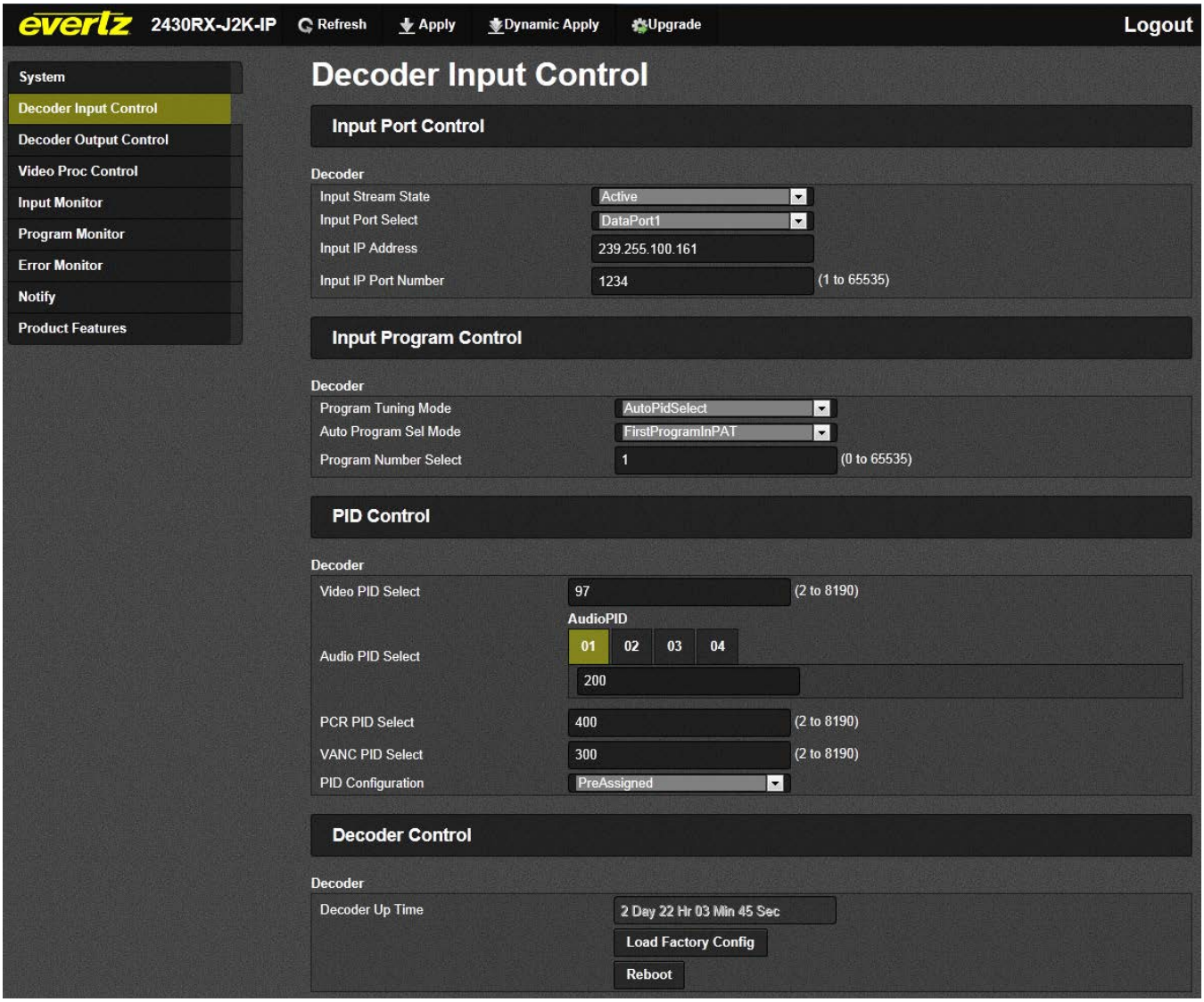

Figure 6-2: Web GUI Decoder Input Control Tab

Input Stream State: This parameter will display whether or not the card is currently receiving anything on the input. The input stat of the card will be either Active or Inactive.

Input Port Select: This parameter allows the user to set the physical interface to receive data from either data port 1 or data port 2.

Input IP Address: This parameter allows the user to define the IP address/ Multicast address from which data will be received.

Input IP Port Number: This parameter allows the user to select the input UDP port number, which can range from 1 to 65535.

Program Tuning Mode: This parameter allows the user to select the program Tuning mode of the decoder. The user can select from two options:

- **AutoPidSelect:** automatically choose the PIDs for each audio stream, based on Auto Program Select Mode.
- **ManualPidSelect**: Manually select PIDs for each audio stream.

Auto Program Select Mode: This control allows the user to set how the decoder will select a program for decoding when Program Tuning Mode is set to auto.

- **First Program in PAT:** select audio PIDs from first program will be chosen.
- **Lowest Program Num:** select audio PIDs from 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 which will be decoded. This control is applicable only when the ***Program Tuning Mode*** is set to ***Auto PID Select,*** value for this range can be set from 0 to 65535.

Video PID Select: This parameter allows the user to select the Video PID that will be decoded. This control is only applicable when the ***Program Tuning Mode*** is set to ***Manual PID Select***. Range for these values can be set from 2 to 8190.

Note: 0, 1 and 8191 are reserved PID's in MPEG, so these values are not included.

Audio PID Select: This parameter allows the user to select the Audio PID which will be decoded. This control is only applicable when the Program Tuning Mode is set to ***Auto/Manual*** PID Select. Range for these values can be set from 2 to 8190.

Note: 0, 1 and 8191 are reserved PID's in MPEG, so these values are not included.

PCR PID Select: This parameter allows the user to select the PCR PID the decoder will use this PID for PCR clock reference. This control is only applicable when the Program Tuning Mode is set to ***Auto/Manual*** PID Select. Range for these values can be set from 2 to 8190.

Note: 0, 1 and 8191 are reserved PID's in MPEG, so these values are not included.

VANC PID Select: This control allows the user to select the VANC PID which will be decoded. This control is only applicable when the ***Program Tuning Mode*** is set to ***Manual PID Select***. Range for these values can be set from 2 to 8190.

Note: 0, 1 and 8191 are reserved PID's in MPEG, so these values are not included.

PID Configuration: This parameter configures the method in which PIDs are set. It can be user defined or pre-assigned, in which case all the PID controls will be greyed out.

Decoder Up Time: This controls returns a string representation of the time the decoder was last restarted. It is represented similar to '***xxxx*** days ***yy*** hrs ***zz*** min ***aa*** sec'. Internally, it is a 31 bit unsigned integer, reflecting seconds which will provide for up to 3100 days of operation before it wraps around.

6.3. DECODER OUTPUT CONTROL

Figure 6-3: Web GUI Decoder Output Control Tab

Output Video Color: This parameter allows the user to select the output video color that will be sent when J2K input is missing and the output VideoMode is set to continuous. Options can be set to ether Black, Green, Blue or Freeze.

SDI Audio Source: This parameter allows the user to enable or disable the audio service which will be embedded into the audio group of the SDI/HDSDI output.

HDMI Audio Source: This parameter allows the user to enable or disable the audio service which will be embedded into the audio group of the HDMI output.

6.4. VIDEO PROC CONTROL WHEN +VPGC OPTION IS LICENSED

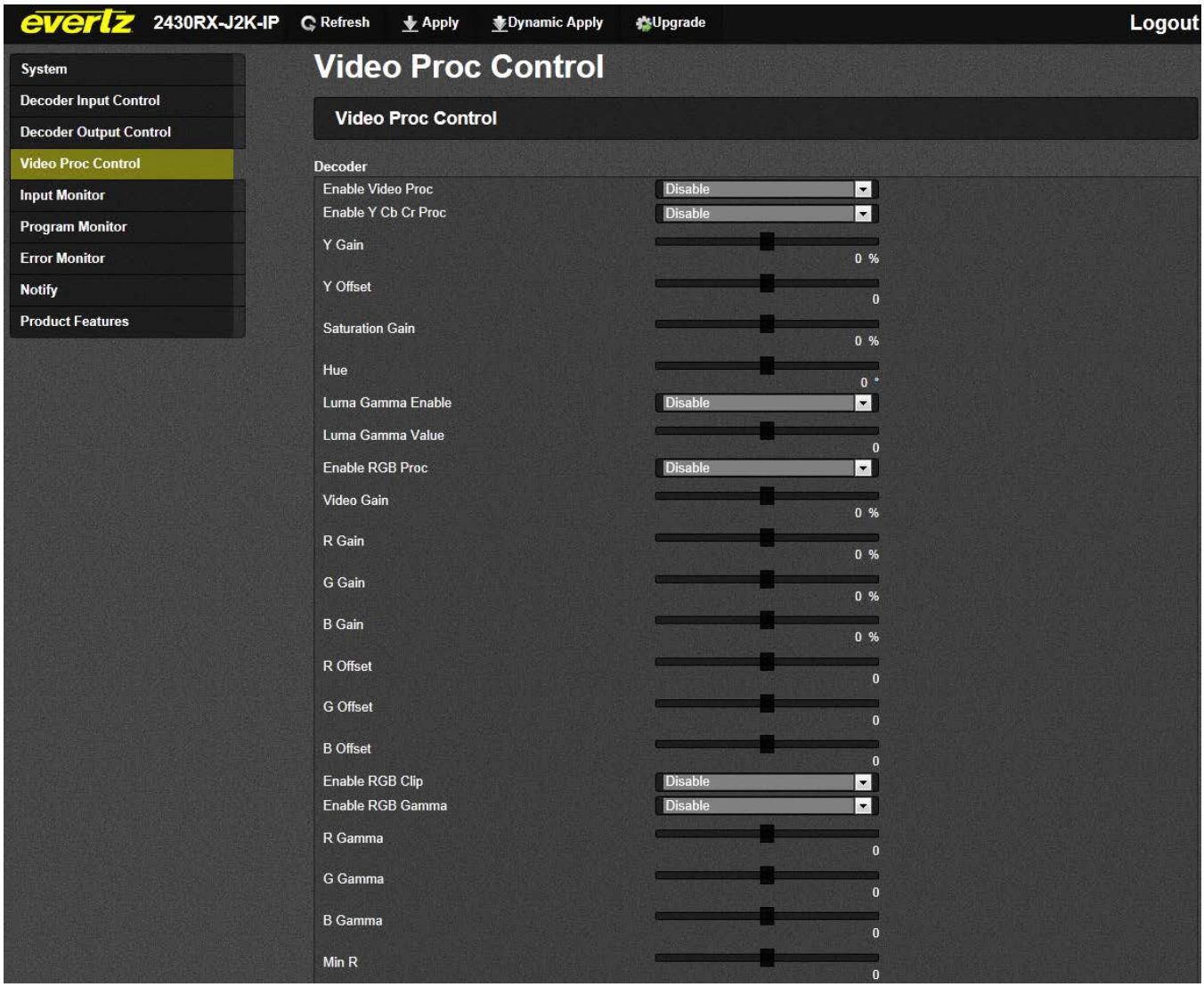

Figure 6-4: Web GUI Video Proc Control (1)

Figure 6-5: Web GUI Video Proc Control (2)

Enable Video Proc: This control will *Enable* or *Disable* the video processor module.

Enable YCbCr Proc: This control will *Enable* or *Disable* the YCbCr processor block.

Y Gain: This control allows the user to adjust the gain for the Y component in the YCrCb domain. Range for this value can be set from -100% to 100%.

Y Offset: This control allows the user to adjust the DC offset of the Y component in =/- 200 quantization increments.

Saturation Gain: This control allows the user to set the saturation gain from -100% to 100%.

Hue: This control allows the user to adjust the hue. Range for this value can be set from -180º to 180º.

Luma Gamma Enable: This control allows the user to *Enable* or *Disable* the luma gamma.

Luma Gamma Value: This control allows the user to adjust the gamma correction factor. Range for this value can be set from -100 to 100.

Enable RGB Proc: This control allows the user to *Enable* or *Disable* bypasses on the RGB processor block.

Video Gain: This control allows the user to adjust the gain of the RGB component in the RGB Domain. Range for this value can be set from -100% to 100%.

Gamma R/G/B: This control allows the user to adjust the gamma correction factor for the Red, Green, and Blue gamma levels. Range for this value can be set from -100 to 100.

Minimum R/G/B: This control allows the user to adjust the Red, Green, and Blue minimum levels. Range for this value can be set from -100 to 100.

Maximum R/G/B: This control allows the user to adjust the Red, Green, and Blue maximum levels. Range for this value can be set from -100 to 100.

Low Knee Size: This control allows the user to set the lowest knee size. Range for this value can be set from 0 to 31.

High Knee Size: This control allows the user to set the lowest knee size. Range for this value can be set from 0 to 31.

Video Processor Reset: This control resets the video processor.

6.5. INPUT MONITOR

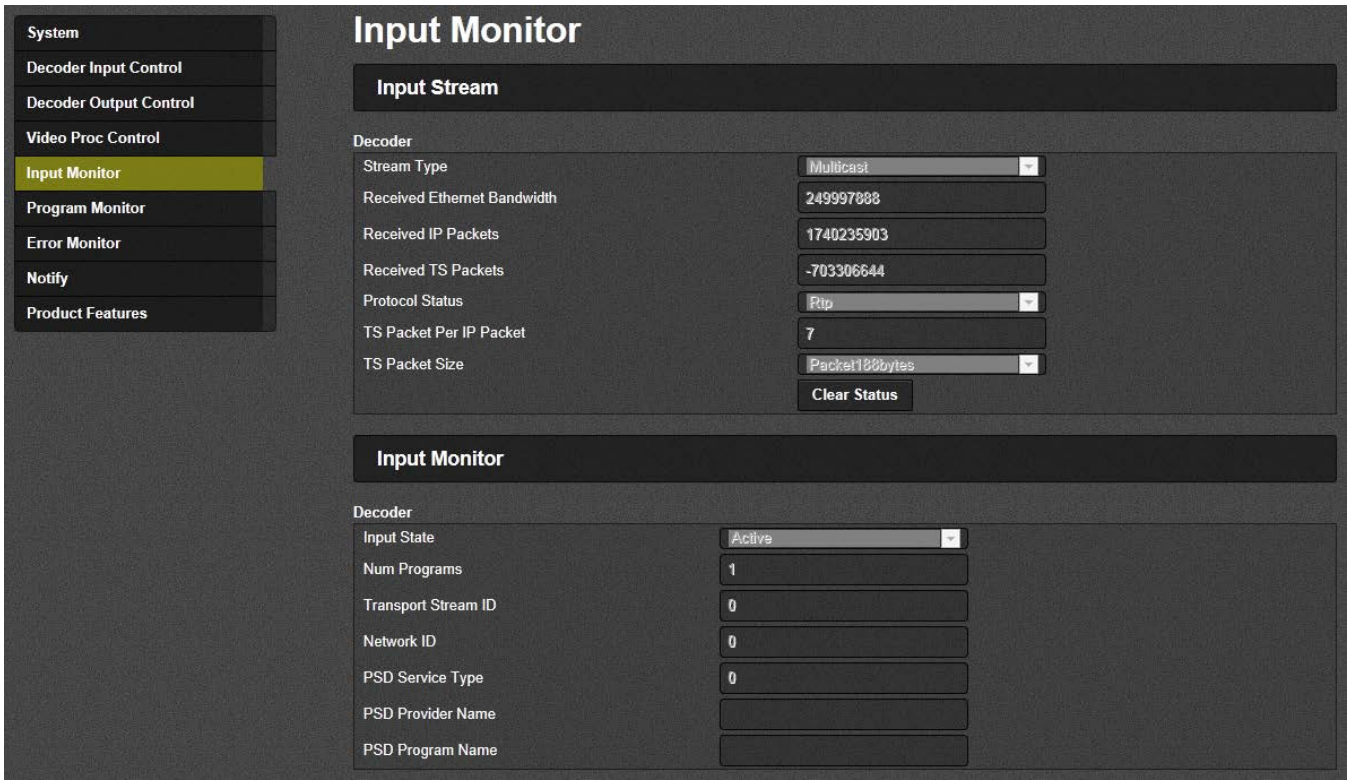

Figure 6-6: Input Monitor Tab

Stream Type: This parameter will display whether or not the current input stream is multicast or unicast.

Received Ethernet Bandwidth: This parameter displays the Ethernet bandwidth for the input stream, and can range from 0 to 1000000000 bits.

Received IP Packets: This parameter displays the amount of IP packets that have been received on the input stream. Range for this value can be from 0 to 2147483647.

Received Transport Stream (TS) Packets: This parameter displays the amount of TS packets that have been received on the input stream. Range for this value can be from 0 to 2147483647.

Protocol Status: This parameter will verify if the stream is running on RTP, and if it is not the following values will be displayed: UDPor Unknown.

TS Packet Per IP Packet: This parameter displays how many TS packets are contained within each IP Packet/Ethernet frame. Range for this value can be from 1 to 7.

TS Packet Size: This parameter diplays the current TS packet size in bytes. The packet size will be either 188 bytes or 204 bytes.

Input State: This parameter will display whether or not the card is currently receiving anything on the input. The input stat of the card will be either Active or Inactive.

Num Programs: This parameter returns the number of programs detected in the input stream, and can range from 0 to 100.

Transport Stream ID: This parameter control returns the transport stream ID that is being read from the PAT Table.

Network ID: This parameter returns the value of the network ID read from the transport stream, and can range from 0 to 65535.

Network Name: This parameter returns the network name read from the transport stream.

PSD Service Type: This parameter returns the service type read from the Evertz private service descriptor (79) from the PMT. It provides an enumerated string as follows:

1 - Digital Tv
2 - Digital Radio
3 – Teletext
4 - NOVD Reference
5 - NVOD Timeshifted
6 - Mosaic
7 - PAL Signal
8 - SECAM Signal
9 - DMAC
10 - FM Radio
11 - NTSC Signal
12 - Data Broadcast
N/A -a valid service Type was not found, or there is no private descriptor.

PSD Provider: This parameter returns the provider name read from the Evertz Private service descriptor (79) from the PMT.

PSD Program Name: This parameter returns the program name read from the Evertz private service descriptor (79) from the PMT.

6.6. PROGRAM MONITOR

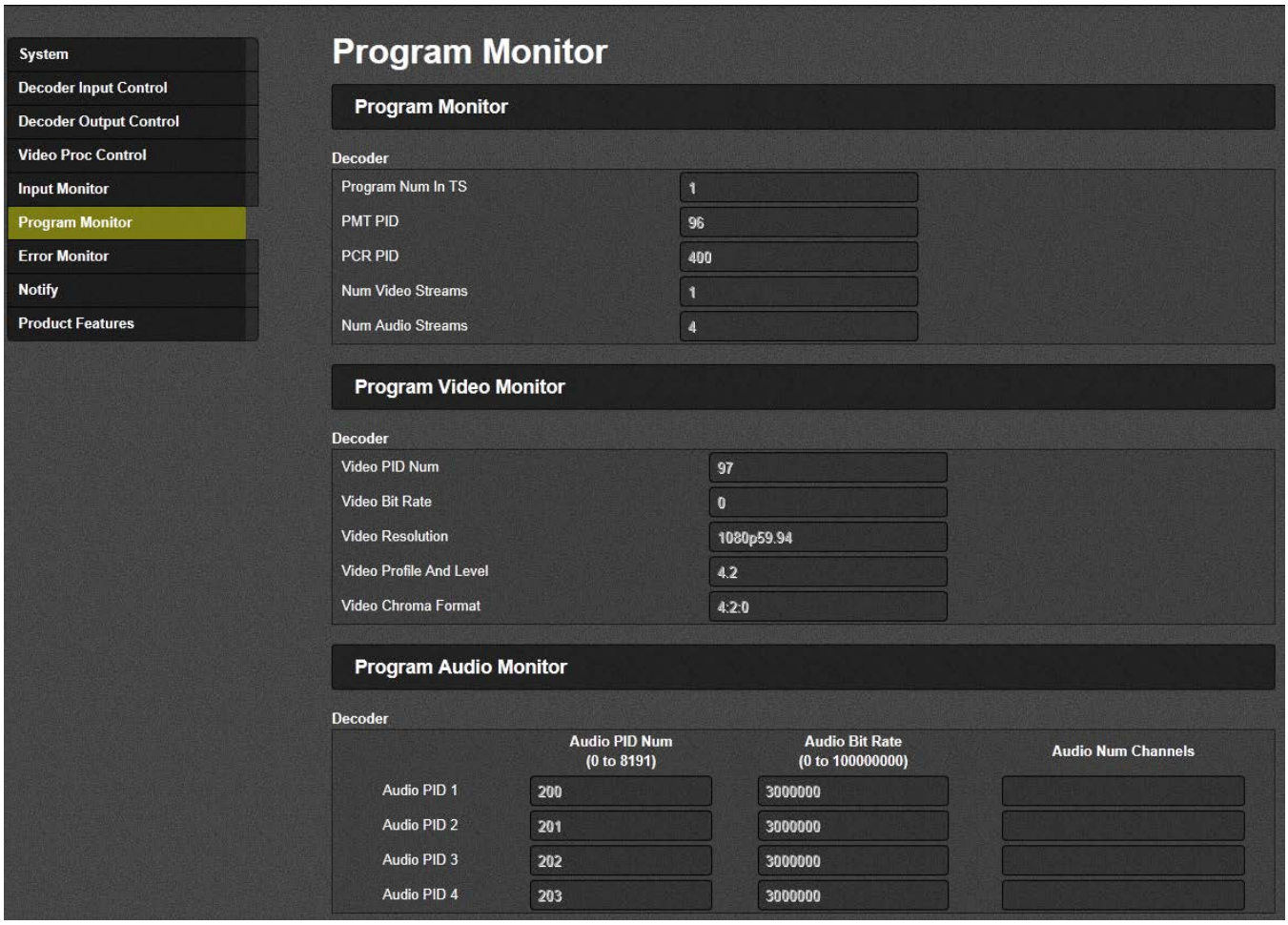

Figure 6-7: Program Monitor Tab

Program Num In TS: This parameter returns the actual program number that is being decoded. Range for this value can be from 0 to 65535. When in *Manual PID Selection Mode* no value will be displayed.

PM TPID: This parameter returns the PID for the PMT, for the program being decoded. Range for this value can be from 0 to 8191. When in *Manual PID Selection Mode* no value will be displayed.

PCR PID: This parameter returns the PID which has the PCR information for the program being decoded. Range for this value can be from 0 to 8191. When in *Manual PID Selection Mode* no value will be displayed.

Num Video Streams: This parameter returns the number of Video Streams in the program which are being decoded. Range for this value can be from 0 to 100. When in *Manual PID Selection Mode* no value will be displayed. Also, it is assumed there is only one video stream in one program.

Num Audio Streams: This parameter returns the number of Audio Streams in the program which are being decoded. Range for this value can be from 0 to 100. When in *Manual PID Selection Mode* no value will be displayed.

Video PID Num: This parameter displays the PID which carries the PES for Video. Range for this value can be from 0 to 8191.

Video Bit Rate: This parameter displays the bit rate for the video elementary stream. Range for this value can be from 0 to 270000000.

Video Resolution: This parameter displays the current video resolution setting.

Video Profile and Level: This parameter displays the current video profile and level setting.

Video Chroma Format: This parameter displays the PID which carries the PES for this audio. Range for this value can be from 0 to 8191.

Audio PID Num for Audio: This parameter displays the PID which carries the PES for this Audio stream. Range for this value can be from 0 to 8191.

Audio Bit Rate for Audio: This parameter displays the audio elementary stream. Range for this value can be from 0 to 100000000.

Audio Num Channels for Audio: This parameter displays the number of channels in Audio.

6.7. ERROR MONITOR

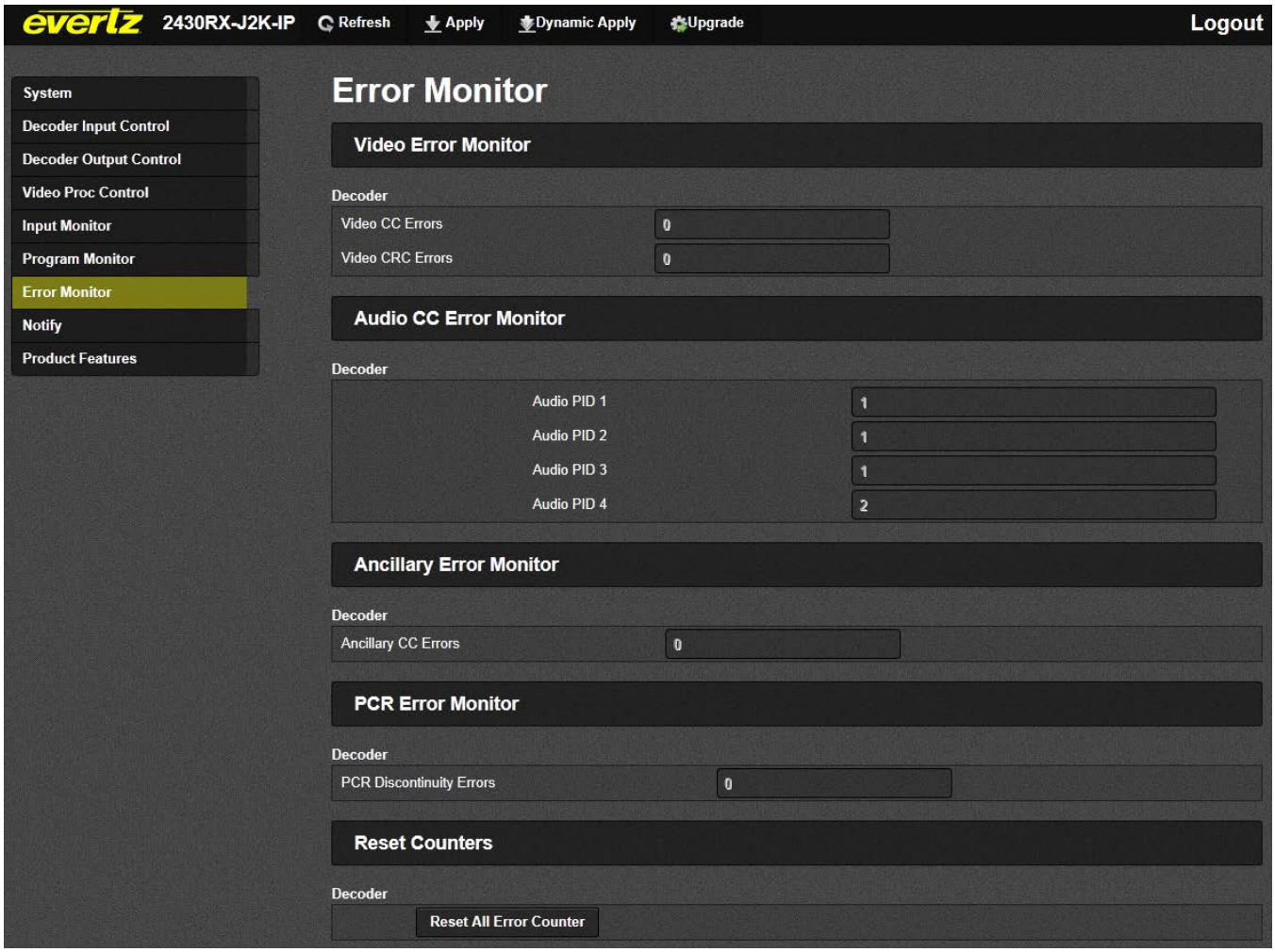

Figure 6-8: Error Monitor Tab

Video Error Monitor

Video CC Errors: This field displays the number of Continuity Counter error incidents for Video PID. Range for this value can be from 0 to 65535.

Video CRC Errors: This field displays the number of CRC error incidents for Video. Range for this value can be from 0 to 65535.

Audio CC Error Monitor: This field displays the number of Continuity Counter error incidents for Audio PIDs 1 through 4.

Ancillary Error Monitor: This field displays the number of Continuity Counter error incidents for Ancillary PIDs

PCR Error Monitor: This field displays the number of Discontinuity Error incidents for PCR PIDs.

Reset Counters: This control will reset all the error counters.

6.8. NOTIFY

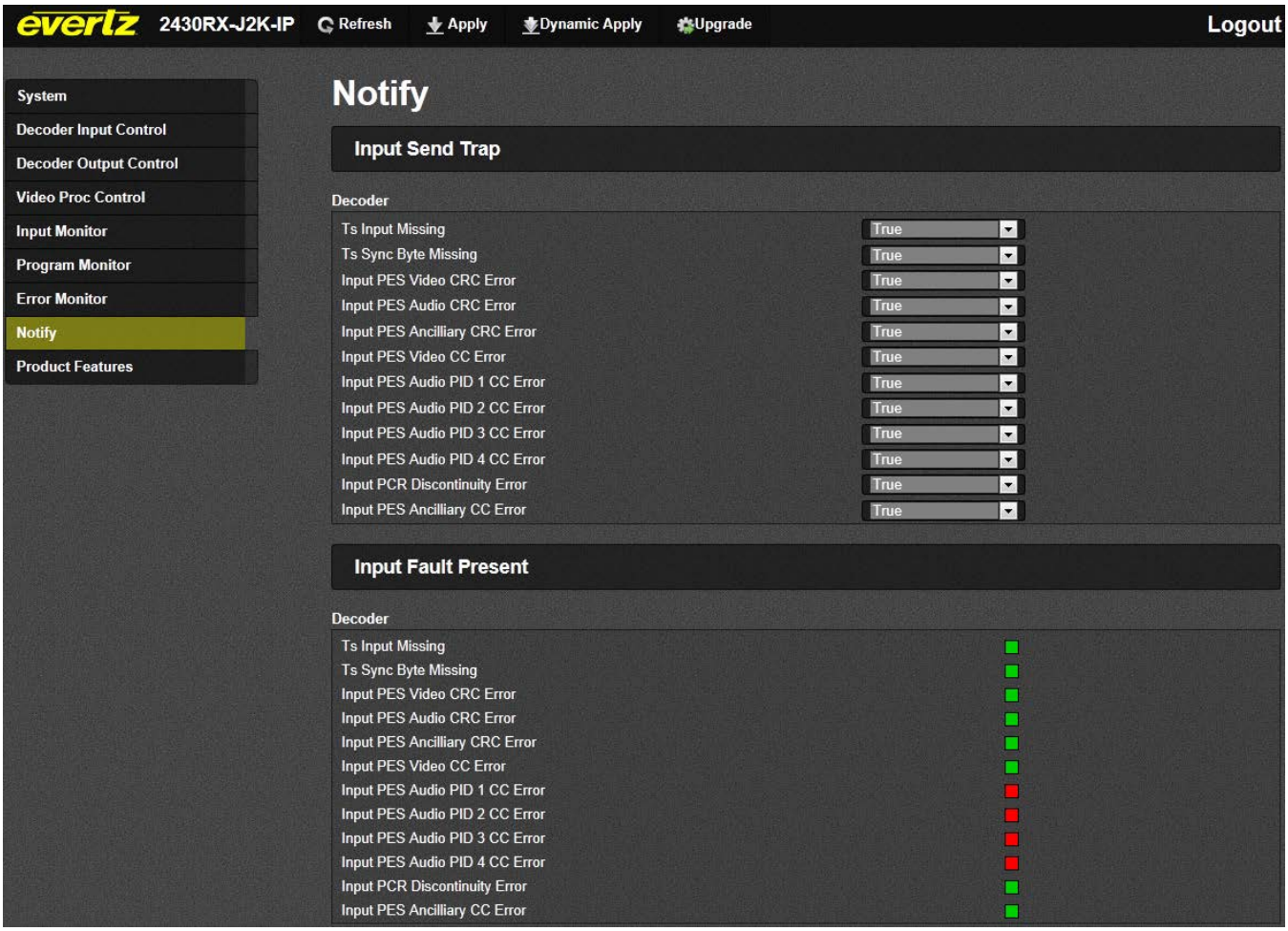

Figure 6-9: Notify Tab (1)

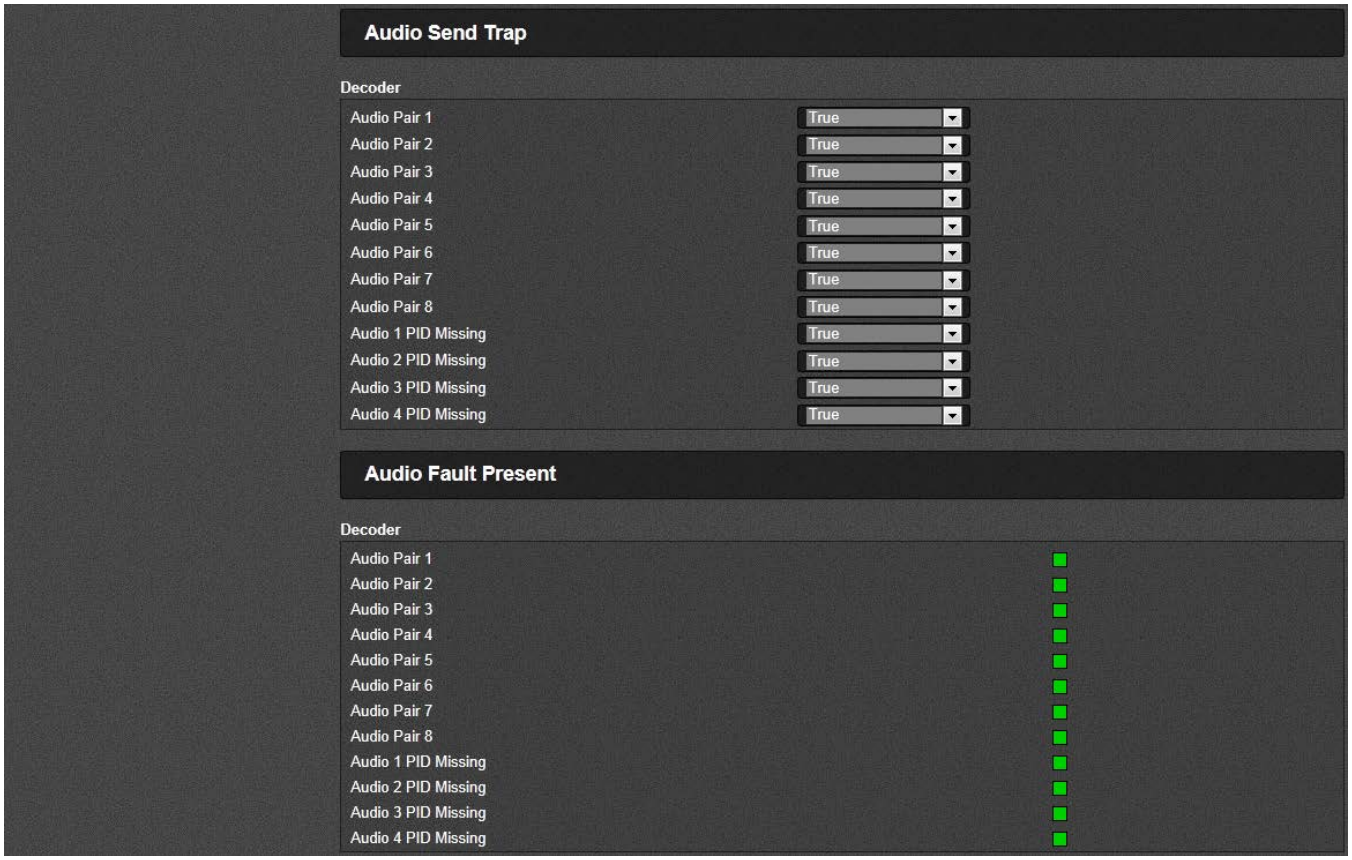

Figure 6-10: Notify Tab (2)

Figure 6-11: Notify Tab (3)

The *Notify* tab allows the user to turn traps on or off, as well as the current status for all faults present.

6.9. PRODUCT FEATURES

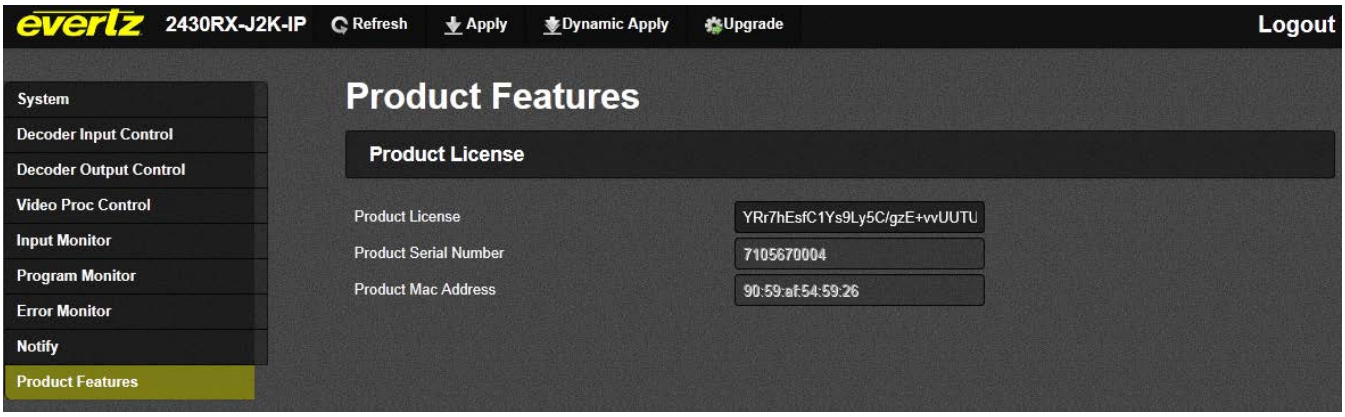

Figure 6-12: Product Features Tab

Product License: This parameter will display the product licence key.

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

Product MAC Address: This value displays the MAC address for this specific device.

7. FIRMWARE UPGRADE PROCEDURES

7.1. VISTALINK PRO UPGRADE

Ensure that the 2430RX-J2K-IP is running the latest firmware, to check this simply right click on the cards address in VLPro Client and select ***Version Information***.

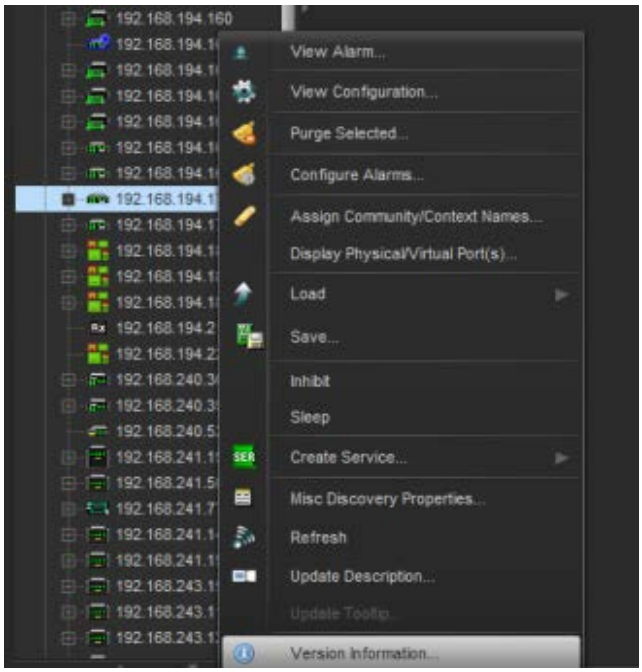

Figure 7-1: Version Information Drop-down menu

This will open a window that displays all of the current version information loaded onto the 2430RX-J2K-IP.

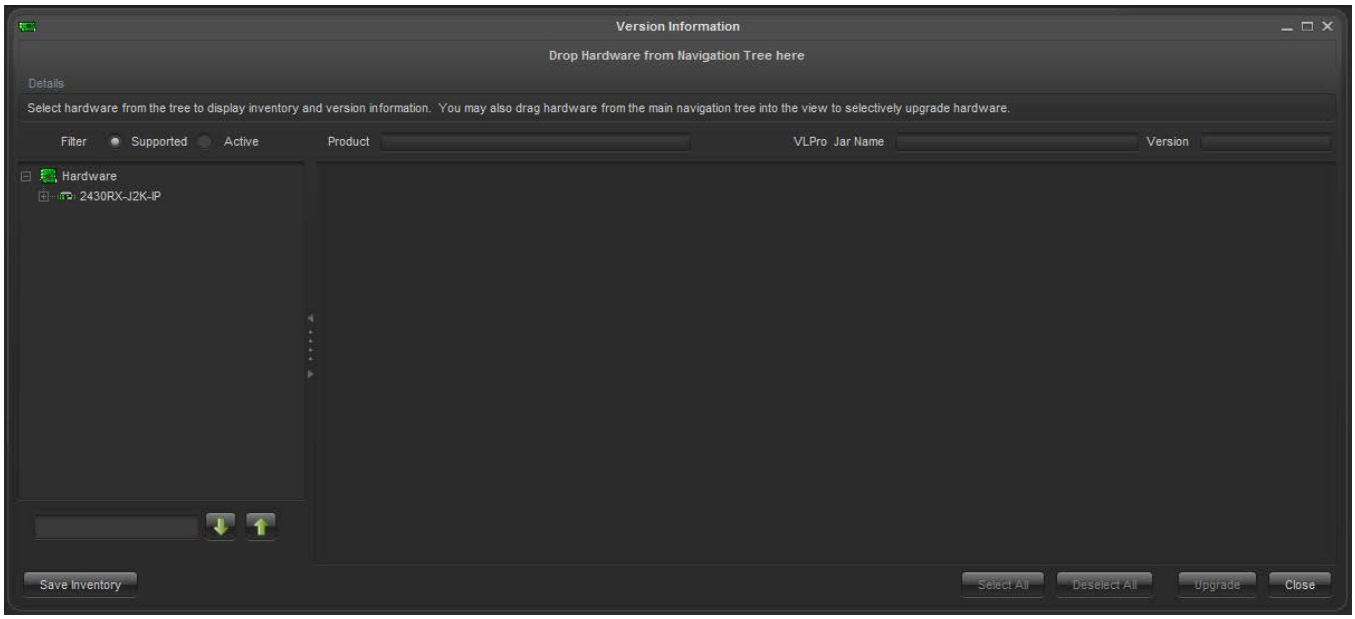

Figure 7-2: Version Information Menu

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 2430RX-J2K-IP, from its saved location on the computer and select ***Open***.

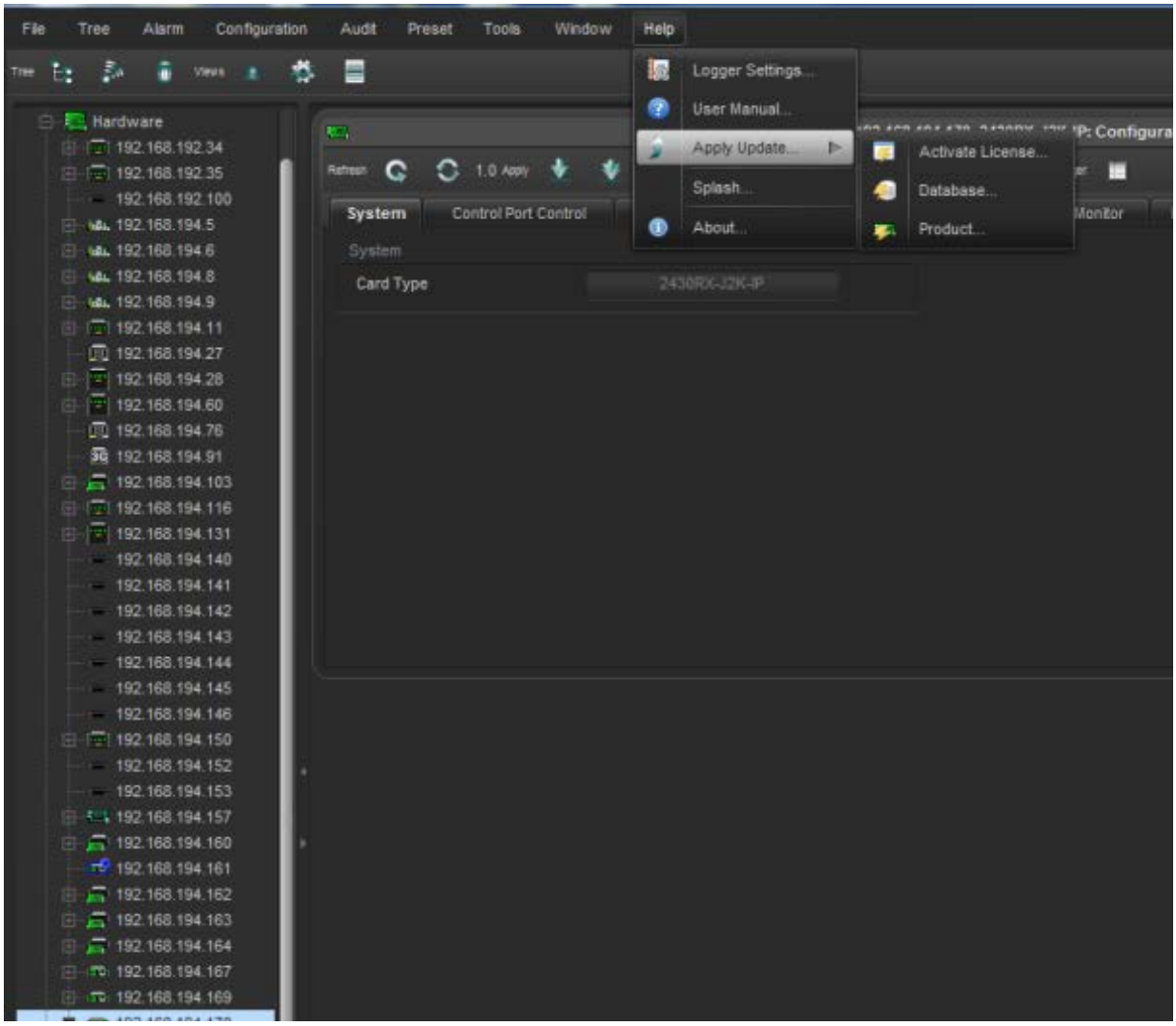

Figure 7-3: Apply Update Drop-down Menu

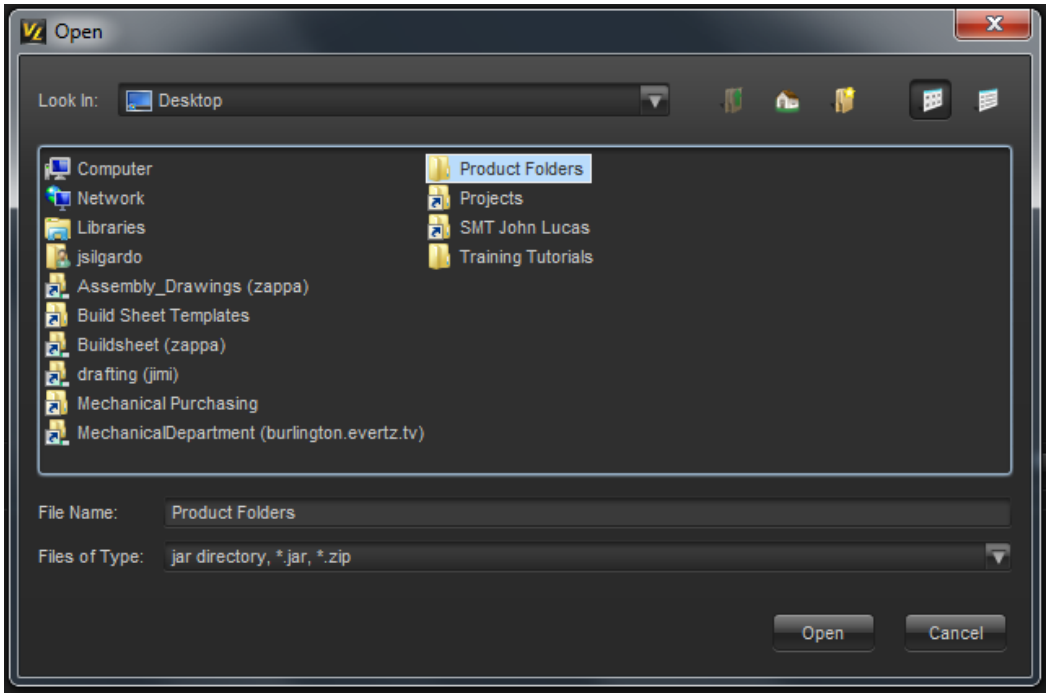

Figure 7-4: JAR File Selection

When the window opens you want to select the latest .jar file for the 2430RX-J2K-IP, 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 2430RX-J2K-IP.

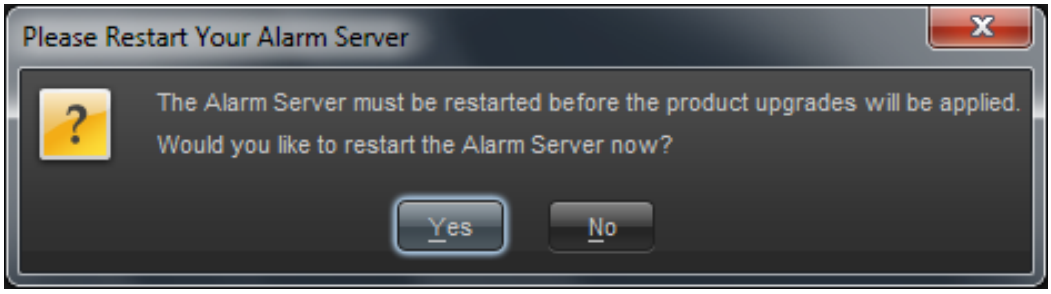

Figure 7-5: Alarm Server Restart

7.2. WEB INTERFACE UPGRADE

On the top of the web page for the 2430RX-J2K-IP, there is a tab labeled **Upgrade**. Select this tab and ensure that the latest firmware is running on the 2430RX-J2K-IP 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 2430RX-J2K-IP will Reboot to apply the firmware upgrades.

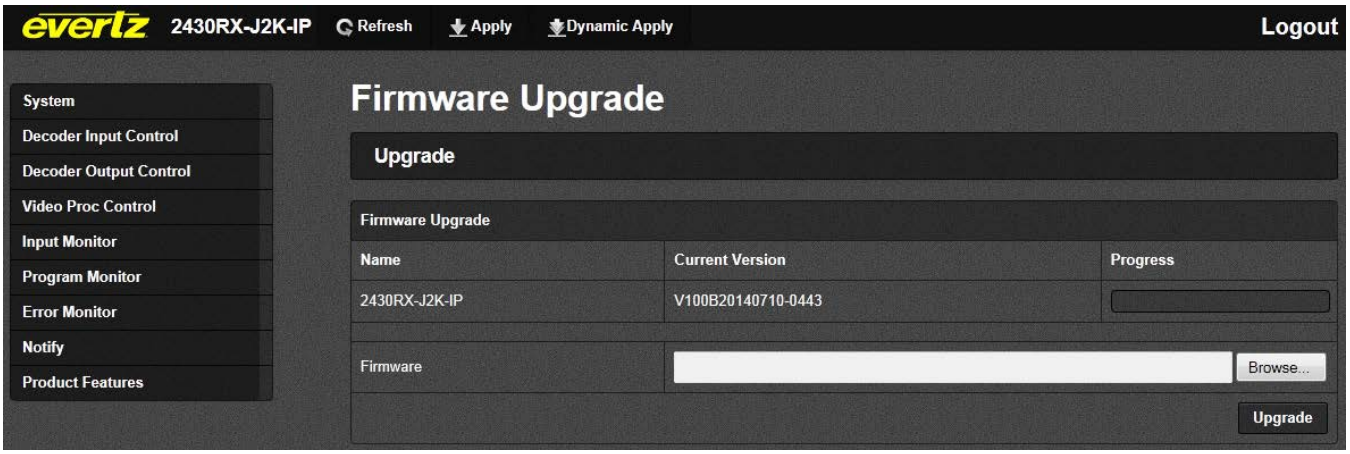

Figure 7-6: WEB GUI Upgrade