

# **5782ENC-H264HD-IPASI**

## **Professional Contribution H.264 and MPEG-2 Encoder**

### **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**

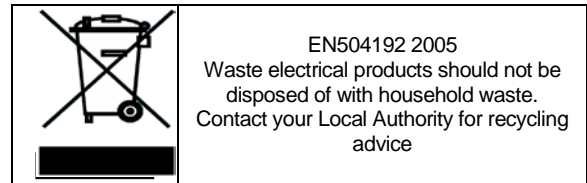
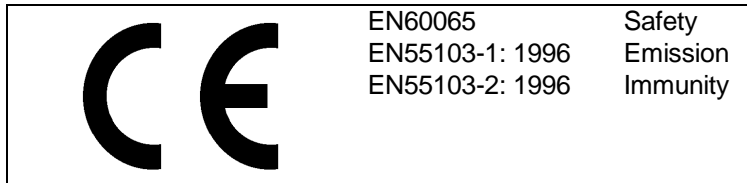
THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE

## 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.



## 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

<u>REVISION</u>	<u>DESCRIPTION</u>	<u>DATE</u>
1.0	First Release	Oct 2015

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## **1. OVERVIEW**

The 5782ENC-H264HD-IPASI has been designed to deliver “best in breed” video and audio compression technology to lead the contribution market space, offering the very best video quality, latency and bandwidth utilization.

This flexible architecture offers both MPEG-2 and H.264 (MPEG-4 Part 10) user configurable video compression at up to 10-Bit 4:2:2 resolution. Concurrently, with latencies as low as 250 ms end to end, the 5782ENC becomes an ideal compression solution for low latency contribution requirements.

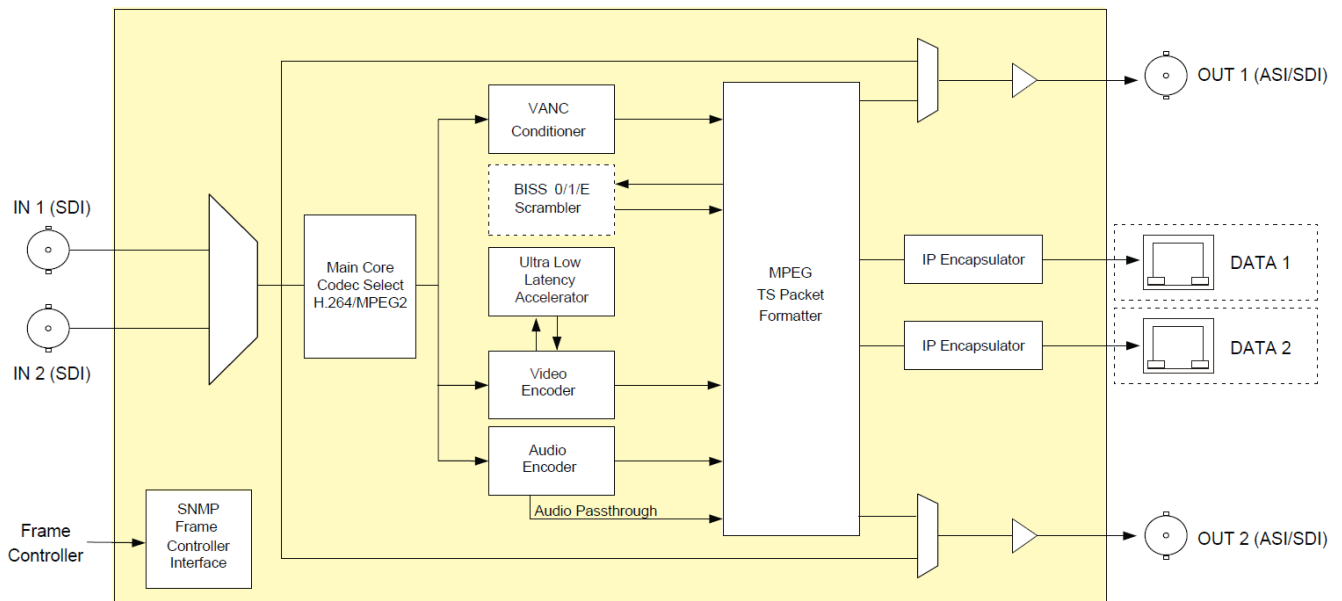
The 5782ENC-H264HD-IPASI supports audio encoding of up to 16 embedded channels using a wide variety of audio compression cores including, but not limited to MPEG1L2, Dolby-E/AC-3, AAC and audio pass-through.

The 5782ENC-H264HD-IPASI offers a built-in web server for quick and easy configuration, including true SNMP control from the award winning VistaLINK® NMS when paired with a frame controller for multiple control options. For those mission critical applications, the 5782ENC-H264HD-IPASI can be intelligently managed using the Evertz Compression Systems Manager (CSM) software which offers complete provisioning, monitoring and redundancy management of the contribution compression head end.

The 5782ENC-H264HD-IPASI is fully feature upgradable in the field, allowing for a cost-effective migration from a base platform capable of 420, H.264 or MPEG-2 ASI, up to a fully optioned platform capable of 422 10b, H.264 or MPEG-2, ASI and/or IP. The 5782ENC-H264HD-IPASI offers the best performance and versatility available from a world class contribution encoder.

### **Features & Benefits**

- 1X High quality H.264 or MPEG-2 encoder up to 4:2:2 10-bit
- 2x HD/SD-SDI inputs
- Support for multiple audio codecs including AAC and Dolby
- Fully integrated with the industry leading VistaLINK® PRO System
- Compact one slot design compatible within any Evertz 3RU 570FR chassis
- Control and/or integrated HTTP interfaces via 570FC frame controller



**Figure 1-1: 5782ENC-H264HD-IPASI Block Diagram**

## **2. SPECIFICATIONS**

### **2.1. SERIAL VIDEO INPUT SPECIFICATIONS**

Standard:	HD-SDI (SMPTE ST 292-1) SD-SDI (SMPTE ST 259-C)
Video Resolution:	1920x1080 @ 25, 29.97 1280x720 @ 50, 59.94 720x576 @ 25Hz (ITU-R BT.656-4) 720x480 @ 29.97Hz (SMPTE 125M)
Number of Inputs:	2
Connectors:	BNC IEC 61169-8 Annex A
Embedded Audio:	SMPTE ST 272-A, ST 299-1

### **2.2. VIDEO ASI OUTPUT STANDARDS**

Standard:	ASI per DVB TR 101 891 (Max 80Mb/s)
Number of Outputs:	2
Connectors:	BNC IEC 61169-8 Annex A

### **2.3. ETHERNET:**

Data Ports:	2x GbE Data Ports (SFP Type)
-------------	------------------------------

### **2.4. COMPRESSION AND ENCAPSULATION SPECIFICATIONS**

Encapsulation:	UDP or RTP FEC SMPTE-2022 (Optional) SPTS
Video Compression:	H.264 / MPEG-2 4:2:0 (Optional) H.264 / MPEG-2 4:2:2 8bit (Optional) H.264 / 4:2:2 10bit (Optional) Profile/Level: MP@ML up to Hi422P@4.1

### **2.5. AUDIO SPECIFICATIONS**

Number of Channels:	8x PIDs of audio processing across 16x Channels of Embedded PCM
Compression Formats:	MPEG-1 Layer 2 Passthrough PCM Dolby Digital Dolby-E
Optional:	Dolby Digital AC-3 up to 3/2L Dolby Digital Plus Dolby-E Encode AAC (LC, HE, v1, v2)

## **2.6. ANCILLARY SPECIFICATIONS**

Embedding of:	Audio Pass Through
	Closed Caption / Teletext
	AFD / WSS
	Timecode
	SMPTE 2038 (Optional)

## **2.7. CONFIGURATION & MGMT**

Web Server:	Integrated HTTP with full control using a 570FR via 570FC Frame Controller
SNMP:	VistaLINK remote control and monitoring via Frame Controller

## **2.8. ELECTRICAL**

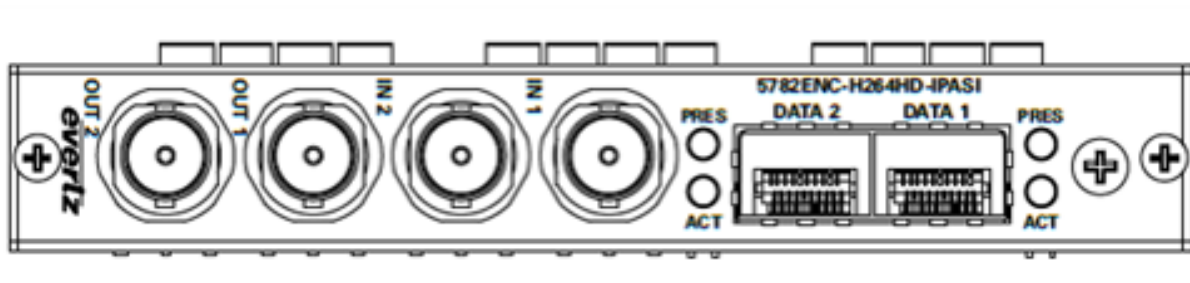
Input Voltage:	Auto ranging 100 – 240VAC
Power:	<48W
EMI/RFI:	Complies with FCC regulations for class-A devices
	Complies with EU EMC directive

## **2.9. PHYSICAL (NUMBER OF SLOTS)**

570FR:	1
--------	---

### 3. GETTING STARTED

The 5782ENC-H264HD-IPASI module comes with a companion rear plate that occupies one slot in the frame. The module can be installed in a 570FR chassis.



**Figure 3-1: 5782ENC-H264HD Rear Plate**

- IN 1, 2:** BNC connectors used to input HD/SD SDI with embedded audio.
- OUTPUT 1:** Selectable as Contribution encoder ASI output or HD/SD SDI input bypass.
- OUTPUT 2:** Selectable as Contribution encoder ASI output or HD/SD SDI input bypass.
- DATA 1,2:** There are two SFP cages for streaming output. RJ-45 SFPs can be provided for Ethernet connection. Contribution and IPTV encoder can be output from both ports.

#### 3.1. CONNECTING TO AN ETHERNET NETWORK

The 5782ENC-H264HD-IPASI is made possible using the 570FC frame controller. Please refer to the 570FR manual for making your network connections.

#### 3.2. CARE AND HANDLING OF OPTICAL FIBER WHEN USING SFP MODULES

##### 3.2.1. Handling and Connecting Fibers



**Never touch the end face of an optical fiber. Always keep dust caps on optical fiber connectors when not connected and always remember to properly clean the optical end face of a connector before making a connection.**

The transmission characteristics of the fiber are dependent on the shape of the optical core and therefore care must be taken to prevent fiber damage due to heavy objects or abrupt fiber bending. Evertz recommends that the user maintains a minimum bending radius of 5 cm to avoid fiber-bending loss that will decrease the maximum attainable distance of the fiber cable. The Evertz fiber optic modules come with cable lockout devices, to prevent the user from damaging the fiber by installing a module into a slot in the frame that does not have a suitable I/O module.

### 3.3. HARDWARE INSTALLATION

#### 3.3.1. Three Different Ways to Control and Configure the 5782ENC-H264HD-IPASI

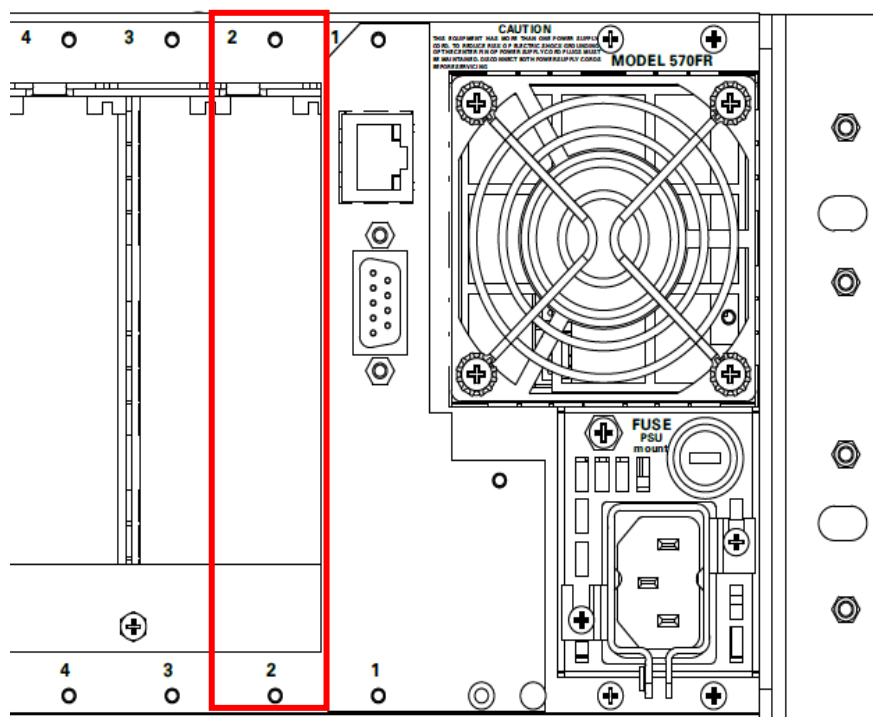
There are two different ways that 5782ENC can be controlled and configured:

1. WebEASY® using the 570FC frame controller with 5782ENC-H264HD-IPASI installed in frame.
2. VistaLINK® using the 570FC frame controller with 5782ENC-H264HD-IPASI installed in frame.

#### 3.3.2. Module Installation

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

Locate on the 570FR frame chassis one adjacent vacant slot. Unpack the 5782ENC-H264HD-IPASI and separate the rear plate module from the main card. Locate on the rear of the rack the one slot and remove the blanking panel. Insert the rear plate module into the back of the chassis and secure using the two screws provided.



**Figure 3-2: 570FR Chassis**

Insert the 5782ENC-H264HD-IPASI 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 into the slot ensuring that when it mates with the rear card that it has been firmly pushed into a seated position. Use the thumb screw to properly secure the module. **Do not over tighten thumb screws.**

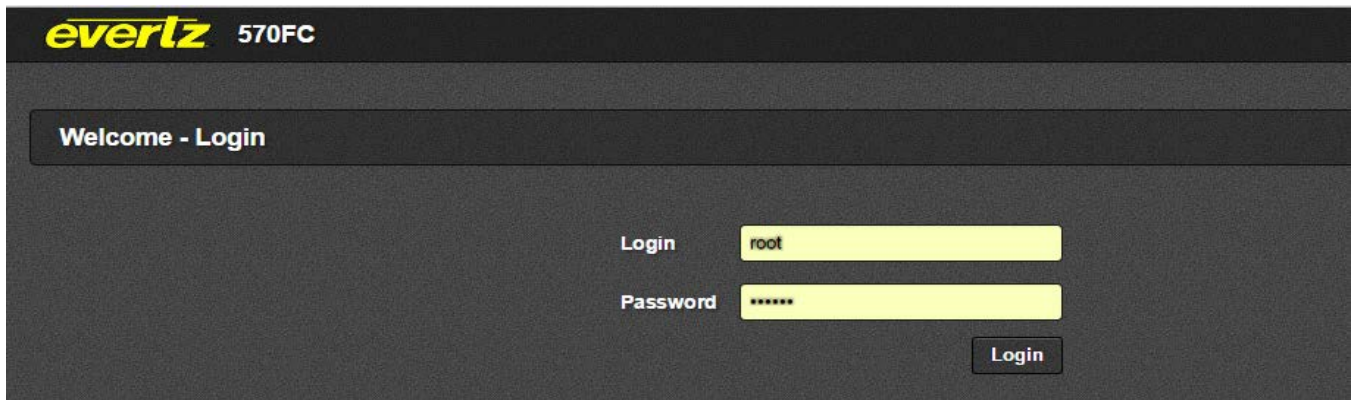


## 4. WEB INTERFACE

After the 5782ENC and 570FC have been installed, the 5782ENC can be completely configured using VLPro or the 570FC web interface. The web interface will be discussed below. Simply type in the IP address of the 570FC module in the web browser.

For Login and Password, type in “**root**” and “**evertz**”.

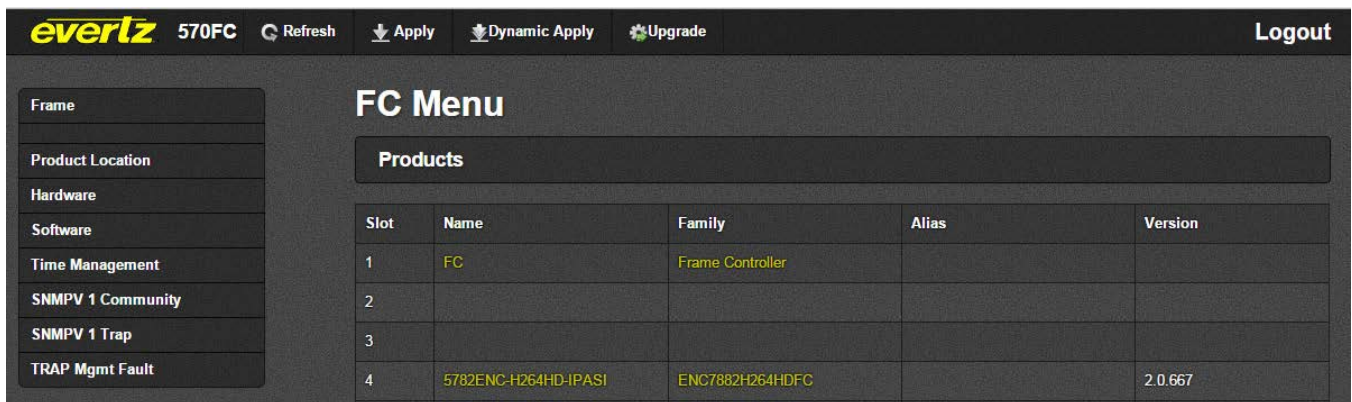
**Note:** Computer must be on the same network in order to have communication with 570FC Frame controller. For quick setup confirmation, try connecting back to back from your computer to the 570FC and confirm the IP addresses are in the same subnet.



The image shows the WebEASY login interface for the 570FC. It features a dark grey background with the 'evertz 570FC' logo at the top left. Below the logo, there is a 'Welcome - Login' section. In the center, there are two input fields: 'Login' with the text 'root' and 'Password' with masked characters '\*\*\*\*\*'. A 'Login' button is located to the right of the password field.

Figure 4-1: WebEASY – Login Prompt

Once logged in, the 570FC main menu will appear. Select the 5782ENC-H264HD-IPASI for configuring.



The image shows the WebEASY main menu after login. At the top, there is a navigation bar with the 'evertz 570FC' logo, 'Refresh', 'Apply', 'Dynamic Apply', 'Upgrade', and 'Logout' buttons. On the left, there is a sidebar menu with options: 'Frame', 'Product Location', 'Hardware', 'Software', 'Time Management', 'SNMPV 1 Community', 'SNMPV 1 Trap', and 'TRAP Mgmt Fault'. The main area is titled 'FC Menu' and contains a 'Products' table.

Slot	Name	Family	Alias	Version
1	FC	Frame Controller		
2				
3				
4	5782ENC-H264HD-IPASI	ENC7882H264HDFC		2.0.667

Figure 4-2: WebEASY – Login Menu



Due to the size of the certain menu tabs, we will be breaking up screen tab images into multiple images. Some of the screen shots will also require the user to zoom in to see the image more clearly.

## 4.1. SYSTEM TAB

Figure 4-3: WebEASY<sup>®</sup> – System Tab - Part 1



**Note:** For IP address settings on Control and Data ports, after applying any changes, the device must be rebooted for the changes to take. Reboot can be pressed at the bottom of this System tab after all changes are made.

### Firmware Version

**Firmware Version:** This monitor displays the current firmware version.

### Control Port (*for future implementation*)

### Data Port Control (*must reboot in order for settings new to take effect*)

For Port 1 and Port 2

**IP Address:** This control allows the user to set the IP address on the Data Port. This control will also display the currently set IP address.

**Netmask:** This control allows the user to set the Netmask for the Data Port IP address. This control will also display the currently set Netmask.

**Gateway:** This control allows the user to set the Gateway for the Data Port. This control will also display the currently set Gateway address.

**Syslog Configuration:**

Syslog is a valuable tool for debugging the device operation. It is essentially serial readouts over IP, sent to a dedicated server. If issues are present, Evertz can help install and setup a syslog server for constant monitoring of the device activity.

**External Syslog:** This parameter allows the user to enable or disable sending syslog information to the configured external server.

**Syslog Server IP:** This parameter allows the user to assign the external syslog server IP address. This will be the address of a PC with the syslog server software installed (ex Kiwi Syslog Server).

**Data Port Monitor**

For Data Port 1 and Data Port 2

**SFP Part Number:** This parameter returns the part number of the SFP located in the Data Port.

**Link Status:** This parameter returns the link status for the Data Port. The status could be either Up or Down.

**Link Info:** When the link is Up, this parameter returns link speed & duplex mode information for Data Port.

**Receive Bandwidth:** When the link is Up, this parameter returns the receive bandwidth currently being read on the Data Port. Reading is in kbps.

**Transmit Bandwidth:** When the link is Up, this parameter returns the transmit bandwidth currently being sent on the Data Port. Reading is kbps.

### Output Port Mux Select

BNC Output 2

V-Proc HD / SD-SDI Loopout

BNC Output 4

V-Proc HD / SD-SDI Loopout

### Encoders Control

Encoder SDI Input

SDI 1

### Temperature

Temperature Monitor 1

73

Celsius

TRAP Temperature Threshold

85

(60 to 85) Celsius

### System Control

Default Set

Reboot

Figure 4-4: WebEASY® – System Tab Part 2

## Output Port Mux Select

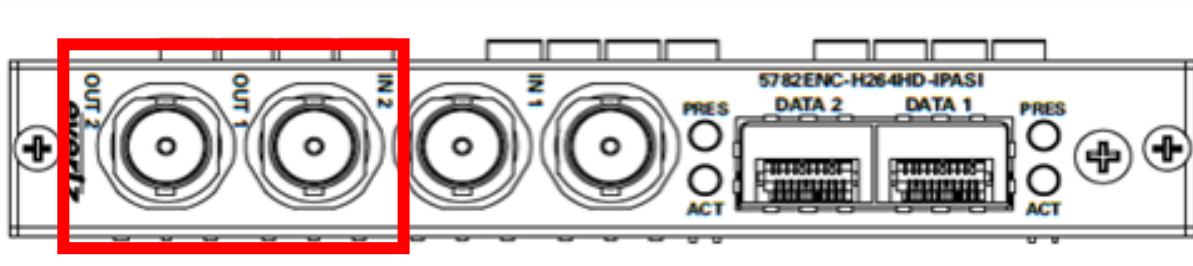


Figure 4-5: Illustration of BNC Outputs 1 and 2

**BNC 2 Output (OUT 1) and BNC 4 Output (OUT 2):** This parameter allows the user to select the BNC output type. Options are:

- Contribution encoder ASI
- V-Proc (video processor) HD/SD-SDI Loopout  
(HD/SDI-Loopout will forward the currently selected input).

## Encoders Control

**Encoder SDI Input:** 5782ENC-H264HD-IPASI has two HD/SD SDI input interfaces. This parameter is used to select the SDI input for the video encoder and all audio encoders.

**Note:** *Only one input is used for the main feed.*

## Temperature

**Temperature Monitor 1:** This displays the temperature of the module.



**TRAP Temperature Threshold:** This control allows the user to set a temperature threshold to trigger a fault or trap.

### System Control

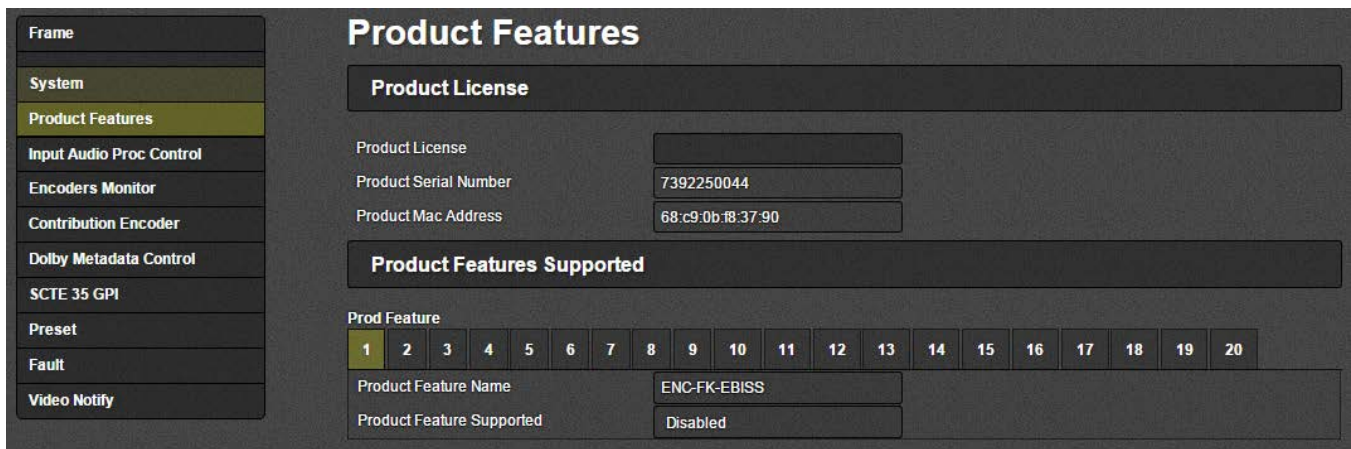
**Default Set:** This parameter can be used to reset most of the device's parameters to factory default values. All parameters except the below will be reset to Factory defaults:

- Control Port IP address, Netmask and Gateway will be preserved.
- Syslog Configuration will be preserved.
- Presets will be preserved.
- SNMP Trap destinations, Faults and Video Notify status will be preserved.

**Reboot:** This control can be used to soft reboot the device. It will cycle the power relay and cause an effective power cycle.

## 4.2. PRODUCT FEATURES

The 5782ENC-H264HD-IPASI has the ability to enable features by adding/updating applicable licenses. Please contact Evertz Microsystems Ltd for any additional License generation along with Product Serial Number and Product MAC address.



**Figure 4-6: WebEASY – Product Features**

### System

**Product License:** This parameter allows the user to apply new License key provided by Evertz Microsystems Ltd. A license key will be a long string generated by Evertz, specific to the card being upgraded. When this string is obtained the current Product License can be erased and the new key can be copy/pasted into the section. When applied the new license will take and the new functionality will change to enabled under the Prod Feature section.

**Product Serial Number:** This parameter displays the card serial number. This is required by Evertz when generating or updating license files on the 5782ENC-H264HD-IPASI.

**Product MAC Address:** This parameter displays the card MAC address. This is required by Evertz when generating or updating license files on the 5782ENC-H264HD-IPASI.

## Prod Feature

**Product Feature Name:** This parameter displays the possible product features supported on the 5782ENC-H264HD-IPASI if it is available on the platform.

**Product Feature Supported:** This parameter displays the status of features currently supported. Enabled means the license key is installed and disabled means the license key is not installed.

## 4.3. INPUT AUDIO PROC CONTROL

Figure 4-7: WebEASY – Input Audio Proc Control

### Input Audio Proc Control

**Enable Audio Proc (audio processor):** If this is disabled, Audio will follow the standard convention on the input. Input Audio Channels 1-16 go to Encoder Source Channels 1-16 respectively. If this parameter is enabled it allows the user to select which incoming embedded audio channel goes to which Encoder source channel. Effectively enabling or disabling an audio router at the source of the encoder.

**Encoder Audio Source Select:** The drop down menu allows the user to select any embedded audio channel 1-16 or Mute. When Audio Proc is enabled, the respected input channel will be routed to the Encoder audio source channel as defined by the user.

## 4.4. ENCODERS MONITOR

Figure 4-8: WebEASY<sup>®</sup> – Encoders Monitor

## Video Monitor

**Video Status:** This parameter displays the detected video resolution on the selected SDI input used for encoding (SDI IN 1 or SDI IN 2).

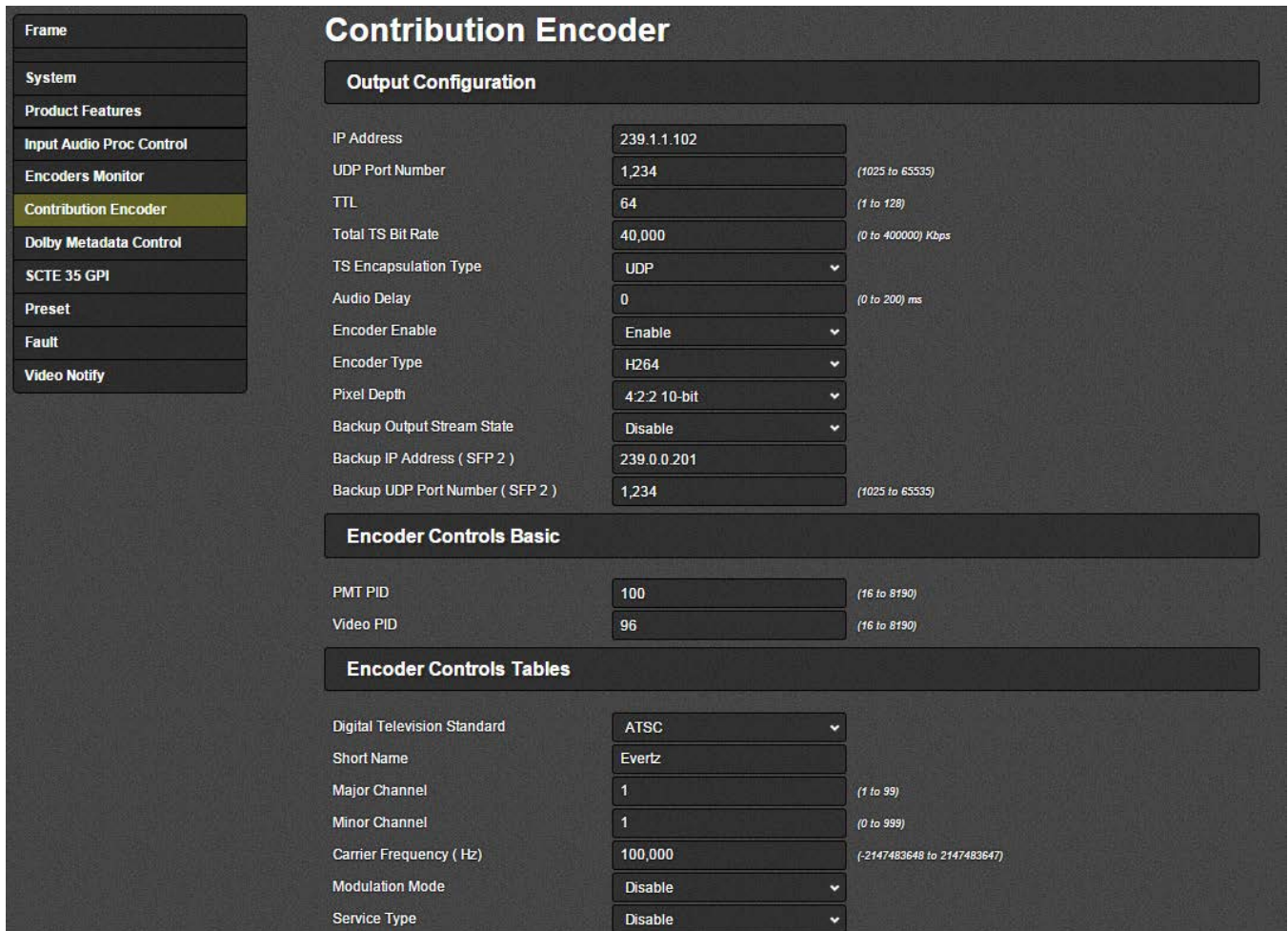
## Audio Monitor

**Audio Status:** This parameter displays audio channel pairs that are present at the input (AES presence).

## VANC Monitor

**Timecode:** This parameter displays the VITC timecode value read from the SDI input.

## 4.5. CONTRIBUTION ENCODER



Contribution Encoder		
<b>Output Configuration</b>		
IP Address	239.1.1.102	
UDP Port Number	1,234	(1025 to 65535)
TTL	64	(1 to 128)
Total TS Bit Rate	40,000	(0 to 400000) Kbps
TS Encapsulation Type	UDP	
Audio Delay	0	(0 to 200) ms
Encoder Enable	Enable	
Encoder Type	H264	
Pixel Depth	4:2:2 10-bit	
Backup Output Stream State	Disable	
Backup IP Address ( SFP 2 )	239.0.0.201	
Backup UDP Port Number ( SFP 2 )	1,234	(1025 to 65535)
<b>Encoder Controls Basic</b>		
PMT PID	100	(16 to 8190)
Video PID	96	(16 to 8190)
<b>Encoder Controls Tables</b>		
Digital Television Standard	ATSC	
Short Name	Evertz	
Major Channel	1	(1 to 99)
Minor Channel	1	(0 to 999)
Carrier Frequency ( Hz)	100,000	(-2147483648 to 2147483647)
Modulation Mode	Disable	
Service Type	Disable	

**Figure 4-9: WebEASY® – Contribution Encoder Part 1**

### Output Configuration

**IP Address:** This parameter allows the user to select a streaming output IP address for the Contribution Encoder. Can be a Multicast or Unicast address.

**UDP Port Number:** This parameter allows the user to select the destination UDP port number of the streaming output.

**TTL:** This parameter allows the user to set the TTL (Time To Live) field of the output IP packets.

**Total TS Bit Rate:** This parameter allows the user to select the output TS Bitrate in kbps. The device will automatically adjust the bitrate for video based on audio and advanced PID configuration to maintain the set TS bitrate.

**TS Encapsulation Type:** This parameter allows the user to select the output encapsulation type. The options are UDP or RTP.

**Audio Delay:** This control allows for the user to add audio delay. Range is 0 to 200 ms.

**Encoder Enable:** This parameter allows the user to enable or disable streaming out of the device. This will stop the IP output and the ASI output when disabled.

**Encoder Type:** This parameter allows the user to set the encoder type. Options are MPEG 2 or H264.

**Pixel Depth:** This parameter allows the user to set the pixel depth. Options include:

MPEG 2

- 4:2:2 8-bit
- 4:2:0 8-bit

H264

- 4:2:2 10-bit
- 4:2:2 8-bit
- 4:2:0 8 bit

**Backup Output Stream State:** This parameter enables or disables Data 2 (SFP 2) to be used for backup.

**Backup IP Address (Data 2):** This parameter allows the user to select a streaming output IP address for the Contribution Backup Encoder. Can be a Multicast or Unicast address.

**Backup UDP Port Number (SFP 2):** This parameter allows the user to select the destination UDP port number of the backup streaming output.

### **Encoder Controls Basic**

**PMT PID (16 to 8190):** This parameter allows the user to select the PMT PID number of the output stream.

**Video PID (16 to 8190):** This parameter allows the user to select the Video PID number of the output stream.

### **Encoder Controls Tables**

**Digital Television Standard:** This parameter allows the user to select the DTV tables to use. Options are ATSC, MPEG and DVB.

When set to DVB, options for settings are:

**Program Name:** This parameter allows the user to enter the DVB program name.

**Provider Name:** This parameter allows the user to enter the DVB provider name.

**Service Type:** This parameter allows the user to set the DVB service type. Options include Digital TV, Digital Radio, Teletext, NVOD Reference, NVOD Timeshifted, Mosaic, PAL Signal, SECAM Signal, DMAC, FM Radio, NTSC Signal or Data Broadcast.



**Network ID:** This parameter allows the user to set the DVB network ID number.

When set to ATSC, options for settings are:

**Short Name:** This parameter is used to publish the short name. A maximum of seven characters can be used in a short name.

**Major Channel (1 to 99):** Allows user to set a value for the Major Channel.

**Minor Channel (0 to 999):** Allows the user to set a value for the Minor Channel.

**Carrier Frequency (Hz):** Allows the user to set the carrier frequency. Range is -2147483648 to 2147483647.

**Modulation Mode:** Allows the user to set the modulation mode. Options are Disable, Analog, SCTE Mode 1, SCTE Mode 2, ATSC (8VSB) and ATSC (16VSB).

**Service Type:** Allows the user to set the service type. Options are Disable, Analog TV, ATSC Digital TV, ATSC Audio and ATSC Data.

Audio Assignment

	PID (16 to 8190)	Audio Encoding Mode	Audio Start
Audio 1	200	Mpeg-1 Audio Layer II ▾	Channel Pair 1 ▾
Audio 2	201	PCM Passthrough ▾	Off ▾
Audio 3	202	PCM Passthrough ▾	Off ▾
Audio 4	203	PCM Passthrough ▾	Off ▾
Audio 5	204	PCM Passthrough ▾	Off ▾
Audio 6	205	PCM Passthrough ▾	Off ▾
Audio 7	206	PCM Passthrough ▾	Off ▾
Audio 8	207	PCM Passthrough ▾	Off ▾

AC3 Audio Bitrate Setup

Audio Bitrate
256 Kbps

Advanced Video Settings

GOP Size35(15 to 60) frames

IDR PicturesEnable▾

Latency ModeLow▾

I-P Interval4▾

Encoder Controls Advanced

	PID (16 to 8190)	PID Enable Disable	Max Bitrate (0 to 400) Kbps
SCTE 35	400	Disable ▾	0
VANC	401	Disable ▾	0

Figure 4-10: WebEASY® – Contribution Encoder Part 2

## Audio Assignment

**Audio 1-8:** The 5782ENC-H264HD-IPASI has eight audio encoders onboard. These parameters allow the user to select the audio start channel pair and select the audio encoding mode for each audio encoder. Audio encoders can be disabled by selecting off from the Audio start select. For multichannel standards be sure to choose the correct audio start pair. The Contribution encoder and the IPTV encoder share the same audio encoders.

**Audio Encoding Mode:** There are four default selections to choose from:

- Mpeg-1 Audio Layer II
- Dolby E Bypass

- PCM Passthrough
- Dolby Digital Bypass

There are also other possibilities that can be that can be selected:

- AAC-LC-2.0
- AAC-LC-5.1

### **AC3 Audio Bitrate Setup**

**Audio Bitrate:** This monitor displays the bitrate on the AC3 audio.

### **Advanced Video Settings**

**GOP Size (15 to 60):** This parameter allows the user to set the GOP (Group of Pictures) size of the compressed stream.

**IDR Pictures:** This parameter allows the user to enable/disable insertion of IDR (Instantaneous Decoder Refresh) frames. An IDR frame is a special type of I-frame in H.264. An IDR frame specifies that no frame after the IDR frame can reference any frame before it. This makes seeking the H.264 frames easier and more responsive for the decoder.

**Latency Mode:** This parameter allows the user to set the latency mode. Possible values are ULL (ultra low latency) and Low.

**I-P Interval:** This control allows the user to set the number of intervals between the I and P frames, range is 1 to 4.

**Closed GOP:** This parameter allows the user to set the closed GOP. Possible values are open or closed. A closed GOP cannot contain any frame that refers to a frame in the previous/next GOP.

***Closed GOP only applies and visible when MPEG 2 is selected as codec.***

### **Encoder Controls Advanced**

**SCTE 35:** These parameters allow the user to set the SCTE 35 PID number, have the PID enable or disable and select the max bitrate in kbps. If the max bitrate is exceeded the PID will be limited and only SCTE 35 packets will be dropped so other stream components are unaffected. The SCTE 35 PID is generated by receiving SCTE 104 data or GPI triggers.

**VANC:** These parameters allow the user to set the VANC (SMPTE 2038) PID number, have the PID enable or disable and select the max bitrate in kbps. If the max bitrate is exceeded the PID will be limited and only Control Data packets will be dropped so other stream components are unaffected.

#### 4.6. DOLBY METADATA CONTROL

Dolby Metadata Control	
Bitstream Mode	(C M) main Audio service: comj ▼
Audio Coding Mode	3 / 2 ▼
Center Mix Level	3 . 0 d B ▼
Surround Mix Level	3 . 0 d B ▼
Surround Mode	Not Indicated ▼
Dialnorm	-27.0 dBFS
Audio Prod Info	Does Not Exist ▼
Mix Level	105 (80 to 111) dBFS
Room Type	Not Indicated ▼
Copyright	Not Copyrighted ▼
Original Bitstream	Not Original ▼
Preferred DownMix	Not Indicated ▼
Lf\ Rt Center DownMix	3 . 0 d B ▼
Lf\ Rt Surround DownMix	3 . 0 d B ▼
Lo\ Ro Center DownMix	3 . 0 d B ▼
Lo\ Ro Surround DownMix	3 . 0 d B ▼
Dolby Surround EX	Not Indicated ▼
DC Filter	Disabled ▼
Lowpass Filter	Disabled ▼
LFE Lowpass Filter	Disabled ▼
Surround Phase Shift	Disabled ▼
Surround 3 db Attenuation	Disabled ▼
RF Overmod Protect	Disabled ▼
RF Mode	None ▼
Line Mode	None ▼

**Figure 4-11: WebEASY<sup>®</sup> – Dolby Metadata Control**

#### Dolby Metadata Control

**Bitstream Mode:** This parameter allows the user to select the Dolby Metadata authoring bitstream mode. The options include

- (C M) Main Audio Service: Complete Main
- (M E) Main Audio Service: Music and Effects
- (V I) Associated Service: Visually Impaired
- (H I) Associated Service: Hearing Impaired
- (D) Associated Service: Dialogue
- (C) Associated Service: Commentary
- (E) Associated Service: Emergency
- (V O) Associated Service: Voice Over or Karaoke

**Audio Coding Mode:** This parameter allows the user to set the Meta authoring program audio coding mode; it is used to be referred to by metaAuthoringBitstreamMode. Options include: 1/0, 2/0, 3/0, 2/1, 3/1, 2/2 or 3/2.

**Center Mix Level:** This parameter allows the user to configure Dolby metadata authoring center mix level. Options include -3.0dB, -4.5dB or -6.0dB.

**Surround Mix Level:** This parameter allows the user to configure Dolby metadata authoring surround mix level. Options include -3.0dB, -6.0dB or mute (0.0dB).

**Surround Mode:** This parameter allows the user to configure Dolby metadata authoring Dolby surround mode. Options include Not Indicated, Not Dolby Surround Encoded or Dolby Surround Encoded.

**Dialnorm (-1 to -32 dBFS):** This parameter allows the user to select the Dialnorm for a program.

**Audio Prod Info:** This parameter allows the user to set Dolby metadata authoring audio product information to either exists or does not exist.

**Mix Level (80 to 111 dBFS):** This parameter allows the user to set the mix level for a program.

**Room Type:** This parameter allows the user to configure Dolby metadata authoring room type. Options include Not Indicated, Large Room XCurve Monitor or Small Room Flat Monitor.

**Copyright:** This parameter allows the user to configure Dolby metadata authoring copyright value to either Copyrighted Material or Not Copyrighted.

**Original Bitstream:** This parameter allows the user to indicate in the Dolby metadata if it is original bitstream.

**Preferred DownMix:** This parameter allows the user to configure Dolby metadata preferred downmix. Options include Not Indicated, Lt/Rt Downmix or Lo/Ro Downmix.

**Lt\ Rt Center DownMix:** This parameter allows the user to configure Dolby metadata authoring Lt/Rt center downmix. Values include 3.0dB, 1.5dB, 0.0dB, -1.5dB, -3.0dB, -4.5dB, -6.0dB or Mute.

**Lt\ Rt Surround DownMix:** This parameter allows the user to configure Dolby metadata authoring Lt/Rt surround downmix. Values include 3.0dB, 1.5dB, 0.0dB, -1.5dB, -3.0dB, -4.5dB, -6.0dB or Mute.

**Lo\ Ro Center DownMix:** This parameter allows the user to configure Dolby metadata authoring Lo/Ro center downmix. Values include 3.0dB, 1.5dB, 0.0dB, -1.5dB, -3.0dB, -4.5dB, -6.0dB or Mute.

**Lo\ Ro Surround DownMix:** This parameter allows the user to configure Dolby metadata authoring Lo/Ro surround downmix. Values include 3.0dB, 1.5dB, 0.0dB, -1.5dB, -3.0dB, -4.5dB, -6.0dB or Mute.

**Dolby Surround EX:** This parameter allows the user to configure Dolby Surround EX encoding. Options include Not Indicated, not EX Encoded or Dolby EX Encoded.

**DC Filter:** This parameter allows the user to enable or disable Dolby metadata DC filter.

**Lowpass Filter:** This parameter allows the user to enable or disable Dolby metadata lowpass filter.

**LFE Lowpass Filter:** This parameter allows the user to enable or disable Dolby metadata LFE lowpass filter.

**Surround Phase Shift:** This parameter allows the user to enable or disable Dolby metadata surround phase shift.

**Surround 3 db Attenuation:** This parameter allows the user to enable or disable Dolby metadata surround 3 dB attenuation.

**RF Overmod Protect:** This parameter allows the user to enable or disable Dolby metadata RF overmod protect.

**RF Mode:** This parameter allows the user to configure Dolby metadata RF mode. Options include none, film Standard, film Light, music Standard, music Light or speech.

**Line Mode:** This parameter allows the user to configure Dolby metadata line mode. Options include none, film Standard, film Light, music Standard, music Light or speech.



#### 4.7. SCTE 35 GPI

System  
Product Features  
Input Audio Proc Control  
Encoders Monitor  
Contribution Encoder  
Dolby Metadata Control  
**SCTE 35 GPI**  
Preset  
Fault  
Video Notify

### SCTE 35 GPI

Merged Table

12

GPI Triggering

Disable

Splice Insert

Disable

Splice Insert Event ID

0

Splice Insert Type

Start Normal

Unique Program ID

0

(0 to 65535)

Preroll

0

(0 to 65535)

Break Duration

0

(0 to 65535)

Avail Num

0

(0 to 255)

Avails Expected

0

(0 to 255)

Auto Return

Off

Time Signal

Disable

Preroll

0

(0 to 65535)

Splice Null

Disable

Descriptor Enable

Disable

Avail Id

0

(0 to 2147483647)

Descriptor Enable

Disable

DTMF Char

DTMF Preroll

0

(0 to 255)

Descriptor Enable

Disable

Segmentation Event ID

0

(0 to 2147483647)

Segmentation Event Cancel

0

(0 to 1)

Duration

0

(0 to 2147483647)

Segmentation UPID Type

0

(0 to 255)

Segmentation UPID

Segmentation Type ID

0

(0 to 255)

Segment Num

0

(0 to 255)

Segment Expected

0

(0 to 255)

Delivery Not Restricted

0

(0 to 1)

Web Delivery Allowed

0

(0 to 1)

No Regional Blackout

0

(0 to 1)

Archive Allowed

0

(0 to 1)

Device Restrictions

None

**Figure 4-12: WebEASY® – SCTE 35 GPI**

There are no SCTE 35 GPI triggers on the 5782ENC and this section does not imply. The companion 7882ENC-H264HD-IPASI has the SCTE 35 GPI feature.

#### 4.8. PRESET

The screenshot shows the WebEASY interface for the 5782ENC-H264HD-IPASI encoder. On the left is a vertical menu with the following items: Frame, System, Product Features, Input Audio Proc Control, Encoders Monitor, Contribution Encoder, Dolby Metadata Control, SCTE 35 GPI, Preset (which is highlighted in green), Fault, and Video Notify. The main content area is titled 'Preset'. It contains a 'User Preset' section with a row of 10 buttons numbered 1 through 10. Below these buttons is a 'Preset Name' text input field containing the text 'NONE'. At the bottom of this section are two buttons: 'Preset Store' and 'Preset Recall'.

Figure 4-13: WebEASY<sup>®</sup> – Preset

For each of the 10 Presets the following parameters are available:

**Preset Name:** This field allows the user to enter a name for each preset.

**Preset Store:** This control will take the current 5782ENC-H264HD-IPASI settings and save them to a Preset. When storing a preset all parameters will be stored except the following:

- Control Port IP address, Netmask and Gateway.
- Data Port 1 and 2 IP address, Netmask and Gateway.
- Syslog Configuration.
- Other preset configurations.
- SNMP Trap destinations, Faults and Video Notify status.

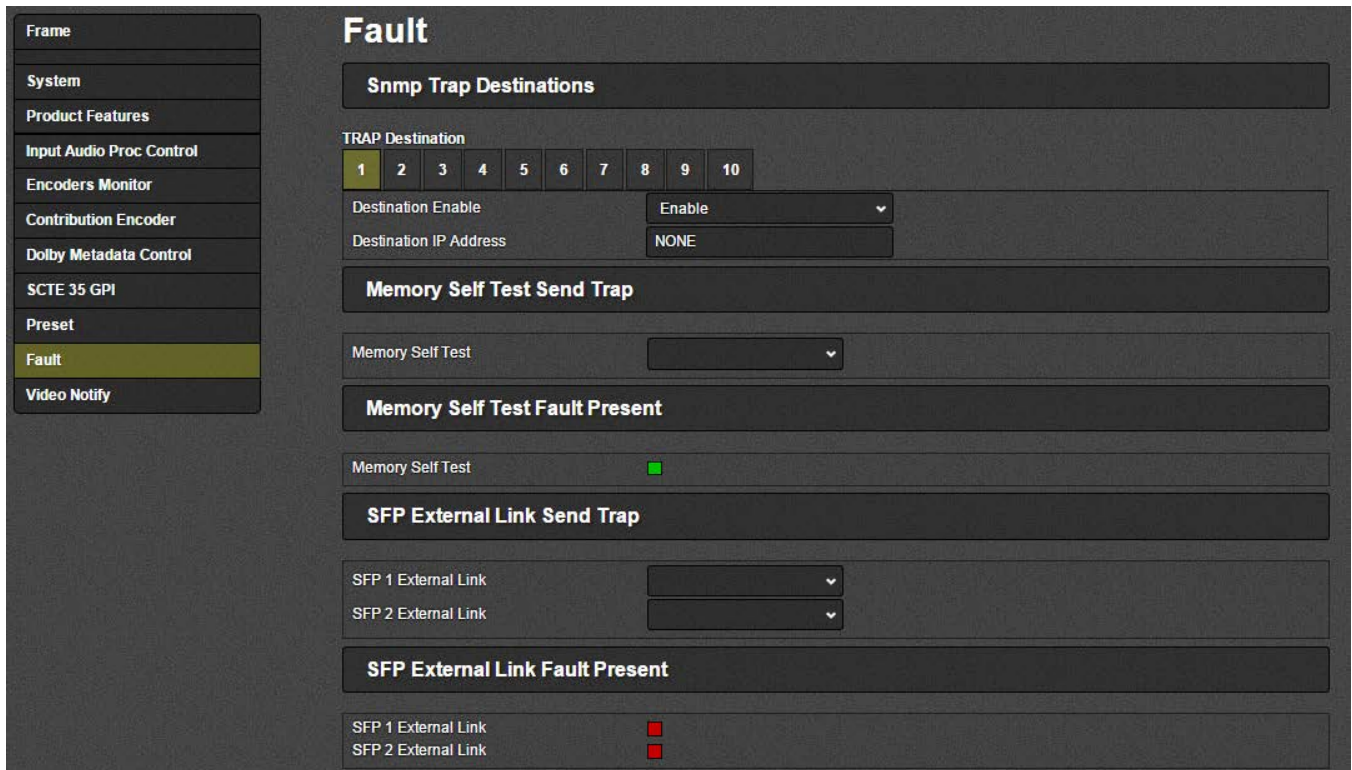
**Preset Recall:** This control will take the stored 5782ENC-H264HD-IPASI settings and apply them. When recalling a preset all parameters will be set except the following:

- Control Port IP address, Netmask and Gateway will not change.
- Data Port 1 and 2 IP address, Netmask and Gateway will not change.
- Syslog Configuration will not change.
- Presets will not change.
- SNMP Trap destinations, Faults and Video Notify status will not change.



## 4.9. FAULT

5782ENC-H264HD-IPASI has a Fault Page where the following information can have traps set and will display if there is a fault present. Where red indicated there is a fault present and green indicates there is no fault present.



**Figure 4-14: WebEASY® – Fault Part 1**

For each of the 10 SNMP Trap Destinations the following parameters are available:

**Destination Enable:** This parameter allows the user enable this Destination to be able to send a Trap to. This parameter is reserved for future use. For current trap destinations please configure the Destination IP address on the 570FC.

**Destination IP Address:** This parameter allows the user to enter the IP address to associate with this destination. This parameter is reserved for future use. For trap current destinations please configure the Destination IP address on the 570FC.

### Memory Self Test Send Trap

**Memory Self Test:** This control sends out a trap if there is a fault generated by the memory self test.

### Memory Self Test Fault Present

**Memory self test:** This monitor displays the fault condition of the memory self test. Green indicates healthy while red indicates a fault.

### SFP External Link Send Trap

**SFP (1 or 2) External Link:** This control sends out a trap if there is a fault generated on the SFP external Links.

### SFP External Link Fault Present

**SFP (1 or 2) External Link:** This monitor displays if there is a fault condition on the SFP external links. Green indicates healthy while red indicates a fault.

<b>System Send Trap</b>		
Temperature Monitor 1 Threshold Exceeded	<div>True</div>	
<b>System Fault Present</b>		
Temperature Monitor 1 Threshold Exceeded	<div></div>	
<b>SCTE 35 and SCTE 104</b>		
	<b>SCTE 35 Send Trap</b>	<b>SCTE 35 Fault Present</b>
SCTE 104 Present	<div>False</div>	<div></div>
SCTE 35 Present	<div>False</div>	<div></div>
<b>Fault Configuration</b>		
Fan 1 Status	<div>True</div>	
Metadata Bitrate Status	<div>True</div>	
Ltc Bitrate Status	<div>True</div>	
Control Data Bitrate Status	<div>True</div>	
Encoder Input Status	<div>True</div>	
Temperature Status	<div>True</div>	
<b>Fault Status</b>		
Fan 1 Status	<div></div>	
Metadata Bitrate Status	<div></div>	
Ltc Bitrate Status	<div></div>	
Control Data Bitrate Status	<div></div>	
Encoder Input Status	<div></div>	
Temperature Status	<div></div>	

Figure 4-15: WebEASY<sup>®</sup> – Fault Part 2

### System Send Trap

**Temperature Monitor 1 Threshold Exceeded:** This allows the user to enable traps for exceeding a threshold condition set under the System tab in the Temperature submenu.

### System Fault Present

**Temperature Monitor 1 Threshold Exceeded:** This monitor displays if there is a fault condition on the System Temperature Monitor. Green indicates healthy while red indicates a fault.

### **SCTE 35 and SCTE 104**

There are no SCTE 35 GPI triggers on the 5782ENC and this section does not imply. The companion 7882ENC-H264HD-IPASI has the SCTE 35 GPI feature.

**Fault Configuration:** This control allows the user to turn reporting of a particular fault on and off by placing a check in the box next to the desired fault.

**Fault Status:** This control allows the user to read the present state of a particular fault. If the box is green there is no fault detected, when the box turns red this indicated the presence of a fault.

### **System Send Trap and System Fault Present**

#### **Fault Configuration and Fault Status**

**Fan 1 Status:** This control enables the Fan 1 status to be checked for faults. This fan is for the FPGA cooling. If a fault occurs on this fan contact Evertz Service for recommended action.

**Metadata Bitrate Status:** This control enables the metadata Bitrate to be checked for faults.

**LTC Bitrate Status:** This control enables the LTC Bitrate to be checked for faults.

**Control Data Bitrate Status:** This control enables the Control Data Bitrate to be checked for faults.

**Encoder Input Status:** This control enables the Encoder Input Status to be checked for faults.

**Temperature Status:** This control enables the Temperature Status to be checked for faults.

#### 4.10. VIDEO NOTIFY

Figure 4-16: WebEASY<sup>®</sup> – Video Notify

##### Video Monitoring Control

**Black Duration (1 to 2499):** This control allows the user to set the duration, in frames of active picture content below 7 IRE that is considered a fault. This parameter is adjusted in four-frame increments. As in 1 = 4 frames and 10 = 40 frames. The range is 1 (4 frames) to 2499 (9996 frames).

**Picture Noise Level (1 to 10):** This control allows the user to set approximate level of noise expected in video signal feed. It is used by the freeze detect feature to distinguish motion from background noise on top of a video feed.

**Freeze Duration (1 to 2499):** This control allows the user to set the duration, in frames of video activity under the Picture Noise Level that is considered a fault. This parameter is adjusted in four-frame increments. As in 1 = 4 frames and 10 = 40 frames. The range is 1 (4 frames) to 2499 (9996 frames).

##### Video Notify

These controls allow the user to enable and disable traps for each condition based on the thresholds set in the **Video Monitor Control** section above. Red color indicates that a fault is triggered and green indicates that there is no fault.

## 5. VISTALINK<sup>®</sup> PRO INTERFACE

This chapter assumes that the VistaLINK<sup>®</sup> PRO server and client are already configured for your network and you have basic knowledge of the VistaLINK<sup>®</sup> 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

To communicate with the 5782ENC-H264HD-IPASI and VistaLINK<sup>®</sup> PRO, install a 570FC Frame Controller and 5782ENC-H264HD-IPASI in a 570FR chassis with appropriate Jar files and by using the network port from the frame controller.

Open VistaLINK<sup>®</sup> PRO and click on the refresh tree icon. Expand the hardware tree by clicking on the “+” button on the IP address of the frame controller’s network port. The 570FC should show up and the number of 5782ENC-H264HD-IPASI cards installed after it in the tree formation.

Select 5782ENC-H264HD-IPASI and right click to “***View Configuration...***”.



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



## 5.1. SYSTEM TAB

Contribution Encoder	Dolby Metadata Control	Preset	SNMP Trap Destinations	SCTE 35 GPI	Fault	Video Notify
<b>System</b>		Product Features		Input Audio Proc Control		Encoders Monitor
Firmware Version		Control Port				
Firmware Version: v2.0 build 0629		IP Address: 192.168.100.100				
		Netmask: 255.255.255.0				
		Gateway: 192.168.100.1				
Data Port 1 Control		Data Port 2 Control				
IP Address: 192.168.245.10		IP Address: 192.168.246.11				
Netmask: 255.255.255.0		Netmask: 255.255.255.0				
Gateway: 192.168.245.1		Gateway: 192.168.246.1				
Data Port 1 Monitor		Data Port 2 Monitor				
SFP Part Number: None		SFP Part Number: None				
Link Status: Down		Link Status: Down				
Link Info: Unknown		Link Info: Unknown				
Receive Bandwidth: 0		Receive Bandwidth: 0				
Transmit Bandwidth: 0		Transmit Bandwidth: 0				
Encoder Control		Syslog Configuration				
Encoder SDI Input: SDI 1		External Syslog: Disable				
		Syslog server IP: 0.0.0.0				
Output Port Mux Select		System Control				
BNC Output 4: Contribution Encoder		Default Set				
BNC Output 2: HD / SD-SDI Loopout		Reset				
Temperature						
Temperature Monitor 1: 45 Celsius						
Trap Temperature Threshold: 60 Celsius						

Figure 5-1: VistaLINK® - System Tab



**Note:** For IP address settings on Control and Data ports. After applying any changes, the device must be rebooted for the changes to take. Reset can be pressed at the bottom of this System tab after all changes are made.

**Firmware Version:** This parameter returns the firmware version on the card.

**Control Port – For future implementation.**

### Data Port Control

For Data Port Control 1 and Data Port Control 2

**IP Address:** Allows user to set the IP Address for the Data Port.

**NetMask:** Allows user to set the Subnet NetMask for the Data Port.

**Gateway:** Allows user to set the Gateway for the Data Port.

## Data Port Monitor

For Data Port Monitor 1 and Data Port Monitor 2

**SFP Part Number:** This parameter returns the part number of the SFP located in the Data Port.

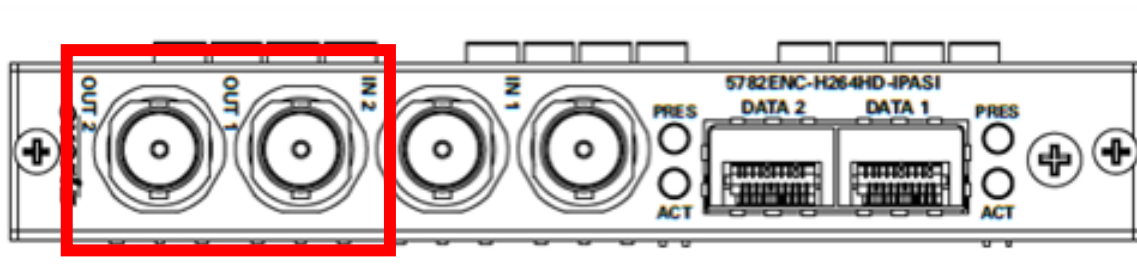
**Link Status:** This parameter returns the link status for the Data Port. The status could be either Up or Down.

**Link Info:** When the link is Up, this parameter returns link speed & duplex mode information for the Data Port.

**Receive Bandwidth:** When the link is Up, this parameter returns the receive bandwidth currently being read on the Data Port. Reading is in kbps.

**Transmit Bandwidth:** When the link is Up, this parameter returns the transmit bandwidth currently being sent on the Data Port. Reading is in kbps.

## Output Port Mux Select



**Figure 5-2: Illustration of BNC Outputs 1 and 2**

**BNC 2 Output (OUT 1) and BNC 4 Output (OUT 2):** This parameter allows the user to select the BNC output type. Options are:

- Contribution encoder ASI
- V-Proc (video processor) HD/SD-SDI Loopout (HD/SDI-Loopout will forward the currently selected input).

## Encoder Control

**Encoder SDI Input:** 5782ENC-H264HD-IPASI has two HD/SD SDI input interfaces. One input is used for the main feed and the other input for backup. This parameter is used to select the SDI input for all encoders.

## Syslog Configuration:

Syslog is a valuable tool for debugging 5782ENC-H264HD-IPASI operation. It is essentially serial readouts over IP, sent to a dedicated server. If issues are present Evertz can help install and setup a syslog server for constant monitoring of 5782ENC-H264HD-IPASI activity.

**External Syslog:** This parameter allows the user to enable or disable sending syslog information to the configured external server.

**Syslog Server IP:** This parameter allows the user to assign the external syslog server IP address. This will be the address of a PC with the syslog server software installed (ex Kiwi Syslog Server).

## Temperature

**Temperature Monitor 1:** This displays the temperature of the module.

**Trap Temperature Threshold:** This control allows the user to set a temperature threshold to trigger a fault or trap.

### **System Control**

**Default Set:** This parameter can be used to reset most 5782ENC-H264HD-IPASI parameters to factory default values. All parameters except the below will be reset to Factory defaults:

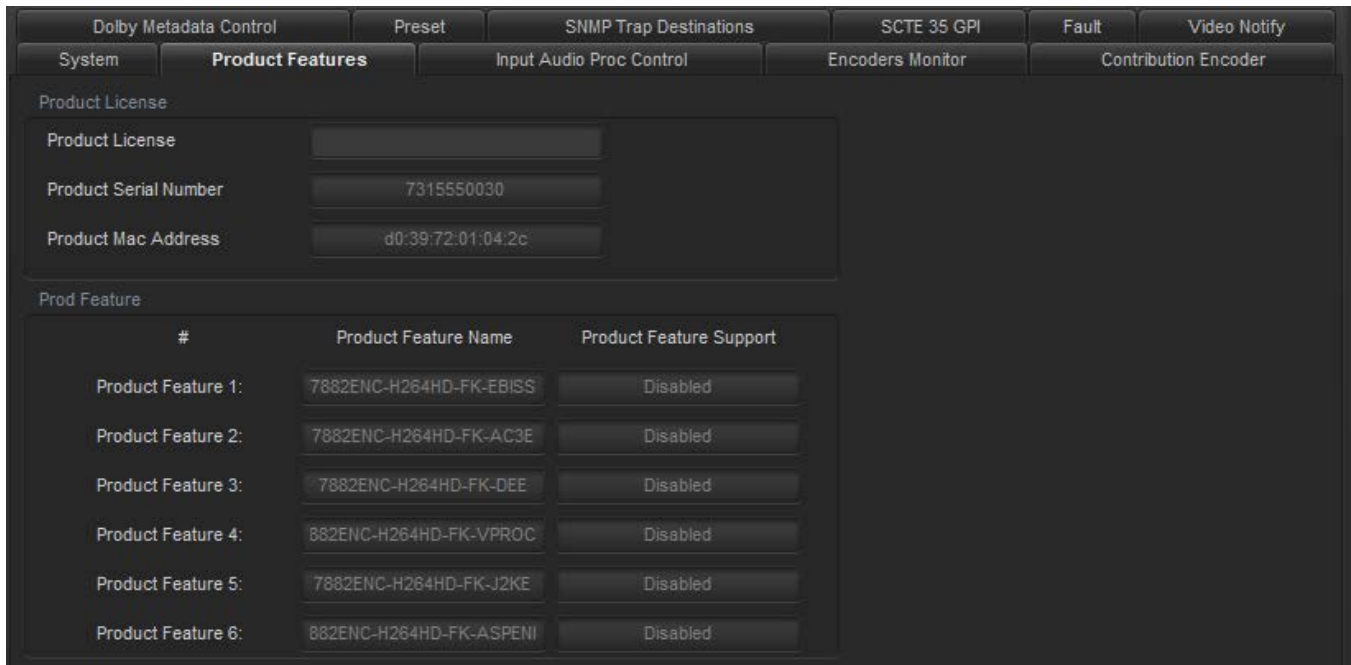
- Control Port IP address, Netmask and Gateway will be preserved.
- Syslog Configuration will be preserved.
- Presets will be preserved.
- SNMP Trap destinations, Faults and Video Notify status will be preserved.

**Reset:** This control can be used to soft reboot the 5782ENC-H264HD-IPASI. It will cycle the power relay and cause an effective power cycle.



## 5.2. PRODUCT FEATURES TAB

The 5782ENC-H264HD-IPASI has the ability to enable features by adding/updating applicable licenses. Please contact Evertz Microsystems Ltd for any additional License generation along with Product Serial Number and Product MAC address.



#	Product Feature Name	Product Feature Support
Product Feature 1:	7882ENC-H264HD-FK-EBISS	Disabled
Product Feature 2:	7882ENC-H264HD-FK-AC3E	Disabled
Product Feature 3:	7882ENC-H264HD-FK-DEE	Disabled
Product Feature 4:	882ENC-H264HD-FK-VPROC	Disabled
Product Feature 5:	7882ENC-H264HD-FK-J2KE	Disabled
Product Feature 6:	882ENC-H264HD-FK-ASPENI	Disabled

**Figure 5-3: VistaLINK® - Product Features Tab**

### System

**Product License:** This parameter allows the user to apply new License key provided by Evertz Microsystems Ltd. A license key will be a long string generated by Evertz, specific to the card being upgraded. When this string is obtained the current Product License can be erased and the new key can be copy/pasted into the section. When applied the new license will take and the new functionality will change to enabled under the Prod Feature section.

**Product Serial Number:** This parameter displays the card serial number. This is required by Evertz when generating or updating license files on the 5782ENC-H264HD-IPASI.

**Product MAC Address:** This parameter displays the card MAC address. This is required by Evertz when generating or updating license files on the 5782ENC-H264HD-IPASI.

### Prod Feature

**Product Feature Name:** This parameter displays the possible product features supported on the 5782ENC-H264HD-IPASI. It will display feature names such as BISSE scrambling and AC3E if it's available on the platform.

**Product Feature Supported:** This parameter displays the status of features currently supported. Enabled means the license key is installed and disabled means the license key is not installed.

### 5.3. INPUT AUDIO PROC CONTROL TAB

The screenshot displays the 'Input Audio Proc Control' tab in the VistaLINK® interface. The top navigation bar includes tabs for Dolby Metadata Control, Preset, SNMP Trap Destinations, SCTE 35 GPI, Fault, Video Notify, System, Product Features, Input Audio Proc Control (the active tab), Encoders Monitor, and Contribution Encoder. The main content area is titled 'Input Audio Proc Control' and features an 'Audio Source' dropdown menu currently set to 'Disable'. Below this, the 'Encoder Audio Source Select' section contains a list of 16 audio channels, each with a 'Mute' dropdown menu.

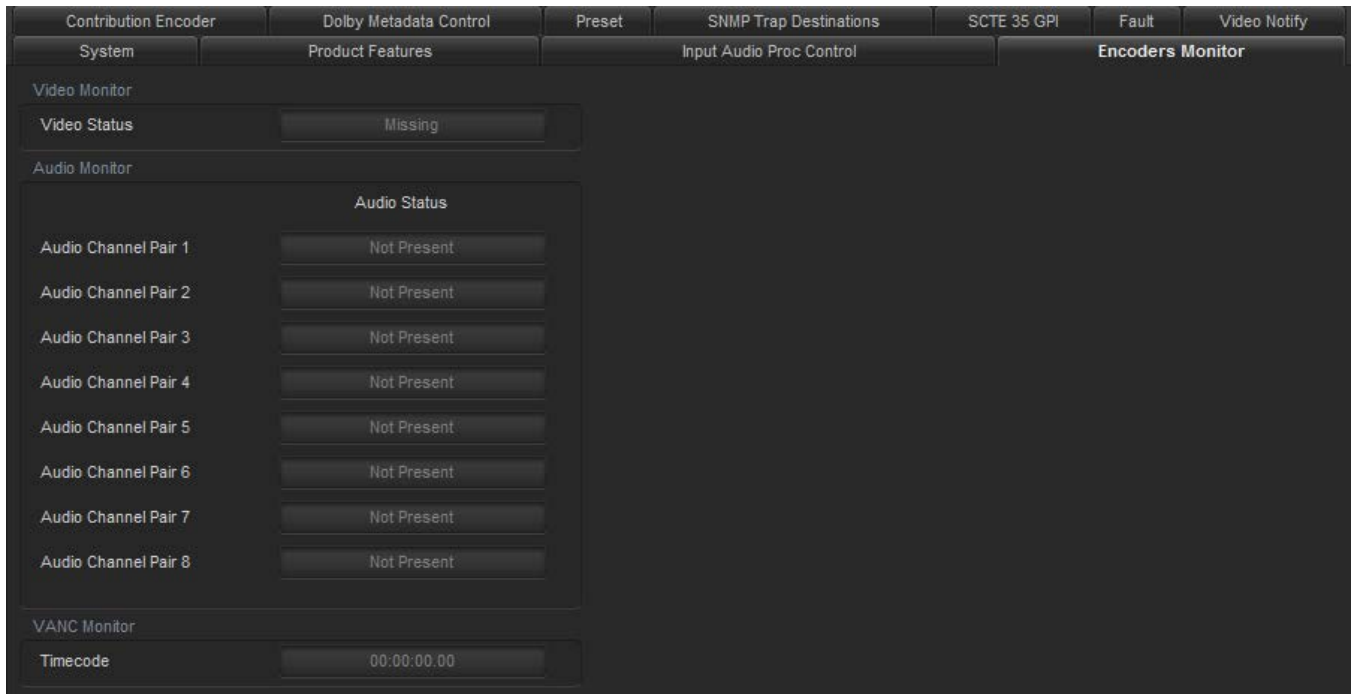
Figure 5-4: VistaLINK<sup>®</sup> - Input Audio Proc Control Tab

#### Input Audio Proc Control

**Audio Source:** If this is disabled, Audio will follow the standard convention on the input. Input Audio Channels 1-16 go to Encoder Source Channels 1-16 respectively. If this parameter is enabled it allows the user to select which incoming embedded audio channel goes to which Encoder source channel. Effectively enabling or disabling an audio router at the source of the encoder.

**Encoder Audio Source Select:** The drop down menu allows the user to select any embedded audio channel 1-16 or Mute. When Audio Source is enabled the respected input channel will be routed to the Encoder audio source channel as defined by the user.

## 5.4. ENCODER MONITOR TAB



**Figure 5-5: VistaLINK® - Encoder Monitor Tab**

### Video Monitor

**Video Status:** This parameter displays the detected video resolution on the selected SDI input used for encoding (SDI IN 1 or SDI IN 2).

### Audio Monitor

**Audio Status:** This parameter displays present or not present if the input SDI has active embedded audio (AES presence).

### VANC Monitor

**Timecode:** This parameter displays the VITC timecode value read from the SDI input.

## 5.5. CONTRIBUTION ENCODER TAB

Contribution Encoder		Dolby Metadata Control	Preset	SNMP Trap Destinations	SCTE 35 GPI	Fault	Video Notify
System	Product Features		Input Audio Proc Control		Encoders Monitor		
<b>Output Configuration</b>				<b>Encoder Controls - Basic</b>			
IP Address	239.0.0.101		Program Number	1			
UDP Port Number	1234		PMT PID	19			
TTL	64		Video PID	8190			
Total TS Bit Rate	40000		PCR PID	301			
TS Encapsulation Type	RTP						
Audio Delay(0 to 200)ms	0		<b>Advanced Video Settings</b>				
Encoder Enable	Enable		GOP Size	35			
Encoder Type	MPEG2		IDR Pictures	Enable			
Pixel Depth	4:2:0 8-bit		Latency Mode	ULL			
Backup Output Stream State	Enable		Closed GOP	Open			
Backup IP Address(SFP2)	239.0.0.101		I-P Interval	3			
Backup UDP Port Number(SFP2)	1234		<b>AC3 Audio Bitrate Setup</b>				
			Audio Bitrate	256 Kbps			
<b>Encoder Controls - Advanced</b>							
	PID #	PID Enable/Disable		Max Bitrate (0 to 400 Kbps)			
SCTE 35	400	Disable		0			
VANC	401	Disable		0			
<b>Audio Assignment</b>							
	PID #	Audio Encoding Mode		Audio Start			
Audio 1	200	Mpeg-1 Audio Layer II		Channel Pair 1			
Audio 2	201	PCM Passthrough		Off			
Audio 3	202	PCM Passthrough		Off			
Audio 4	203	PCM Passthrough		Off			
Audio 5	204	PCM Passthrough		Off			
Audio 6	205	PCM Passthrough		Off			
Audio 7	206	PCM Passthrough		Off			
Audio 8	207	PCM Passthrough		Off			

**Figure 5-6: VistaLINK® - Contribution Encoder Tab Part 1**

### Output Configuration

**IP Address:** This parameter allows the user to select a streaming output IP address for the Contribution Encoder. Can be a Multicast or Unicast address.

**UDP Port Number:** This parameter allows the user to select the destination UDP port number of the streaming output.

**TTL:** This parameter allows the user to set the TTL (Time To Live) field of the output IP packets.

**Total TS Bit Rate:** This parameter allows the user to select the output TS Bitrate in kbps. The 5782ENC-H264HD-IPASI will automatically adjust the bitrate for video based on audio and advanced PID configuration to maintain the set TS bitrate.

**TS Encapsulation Type:** This parameter allows the user to select the output encapsulation type. The options are UDP or RTP.

**Audio Delay:** This parameter allows the user to select the output audio delay time. Range is from 0 to 200ms.

**Encoder Enable:** This parameter allows the user to enable or disable streaming out of the 5782ENC-H264HD-IPASI. This will stop the IP output and the ASI output when disabled.

**Encoder Type:** This parameter allows the user to set the encoder type. Options are H264 or MPEG2.

**Pixel Depth:** This parameter allows the user to set the pixel depth. Options include:

MPEG 2

- 4:2:2 8-bit
- 4:2:0 8-bit

H264

- 4:2:2 10-bit
- 4:2:2 8-bit
- 4:2:0 8 bit

**Backup Output Stream State:** This parameter enables or disables SFP 2 to be used for back up.

**Backup IP Address (SFP2):** This parameter allows the user to select a streaming output IP address for the Contribution Backup Encoder. Can be a Multicast or Unicast address.

**Backup UDP Port Number (SFP2):** This parameter allows the user to select the destination UDP port number of the backup streaming output.

### **Encoder Controls – Basic**

**PMT PID:** This parameter allows the user to select the PMT PID number of the output stream.

**Video PID:** This parameter allows the user to select the Video PID number of the output stream.

**AC3 Audio Bitrate:** This monitor displays the bitrate on the AC3 audio.

### **Audio Assignment**

**Audio 1-8:** The 5782ENC-H264HD-IPASI has 8x audio encoders onboard. These parameters allow the user to select the Audio PID number, select the audio start channel pair and select the audio encoding mode for each audio encoder. Audio encoders can be disabled by selecting off from the Audio start select. For multichannel standards be sure to choose the correct audio start pair. The Contribution encoder and the IPTV encoder share the same audio encoders.

**Audio Encoding Mode:** This control allows the user to specify the type of encoding for the audio. There are four default selections to choose from:

- Mpeg-1 Audio Layer II
- Dolby E Bypass
- PCM Passthrough
- Dolby Digital Bypass

There are also other possibilities that can be that can be selected:

- AAC-LC-2.0
- AAC-LC-5.1
- Dolby Digital AC3-2.0
- Dolby Digital AC3-5.1
- Dolby Digital Plus-2.0
- Dolby Digital Plus-5.1
- Dolby E-5.1+2
- Dolby E-5.1
- Dolby Digital Plus-7.1

### **Advanced Video Settings**

**GOP Size:** This parameter allows the user to set the GOP (Group of Pictures) size of the compressed stream. The range is from 15 to 60.

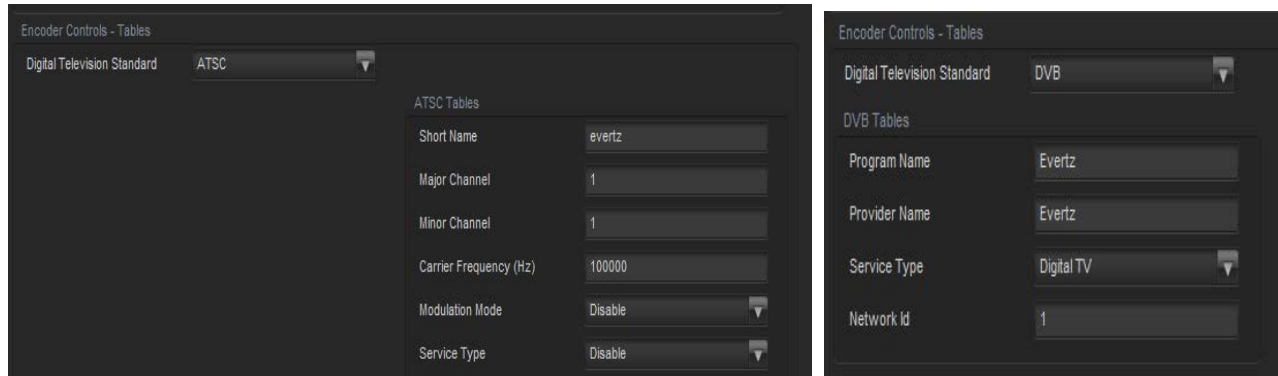
**Deblocking:** This parameter allows the user to set a Deblocking level to the stream. Possible values are Off, Low, Medium and High. A deblocking filter is a filter applied to blocks of video. This can improve visual quality and prediction performance by smoothing sharp edges that can form between macro blocks when block coding techniques are used. The filter aims to improve the appearance of decoded pictures

**IDR Pictures:** This parameter allows the user to enable / disable insertion of IDR (Instantaneous Decoder Refresh) frames. An IDR frame is a special type of I-frame in H.264. An IDR frame specifies that no frame after the IDR frame can reference any frame before it. This makes seeking the H.264 frames easier and more responsive for the decoder.

**Latency Mode:** This parameter allows the user to set the latency mode. Possible values are ULL (ultra low latency), Low.

**Closed GOP:** This parameter allows the user to set the closed GOP. Possible values are open or closed. A closed GOP cannot contain any frame that refers to a frame in the previous/next GOP.

**I-P interval:** This control allows the user to set the intervals between the I and P frames, range is 1 to 4.



**Figure 5-7: VistaLINK® - Contribution Encoder Tab Part 2**

### Encoder Controls Tables

**Digital Television Standard:** This parameter allows the user to select the DTV tables to use. Options are ATSC, MPEG and DVB.

When set to DVB, options for settings are:

**Program Name:** This parameter allows the user to enter the DVB program name.

**Provider Name:** This parameter allows the user to enter the DVB provider name.

**Service Type:** This parameter allows the user to set the DVB service type. Options include Digital TV, Digital Radio, Teletext, NVOD Reference, NVOD Timeshifted, Mosaic, PAL Signal, SECAM Signal, DMAC, FM Radio, NTSC Signal or Data Broadcast.

**Network ID:** This parameter allows the user to set the DVB network ID number.

When set to ATSC, options for settings are:

**Short Name:** This parameter is used to publish the short name. A maximum of seven characters can be used in a short name.

**Major Channel (1 to 99):** Allows user to set a value for the Major Channel.

**Minor Channel (0 to 999):** Allows the user to set a value for the Minor Channel.

**Carrier Frequency (Hz):** Allows the user to set the carrier frequency. Range is -2147483648 to 2147483647.

**Modulation Mode:** Allows the user to set the modulation mode. Options are Disable, Analog, SCTE Mode 1, SCTE Mode 2, ATSC (8VSB) and ATSC (16VSB).

**Service Type:** Allows the user to set the service type. Options are Disable, Analog TV, ATSC Digital TV, ATSC Audio and ATSC Data.



## 5.6. DOLBY METADATA CONTROL TAB

Contribution Encoder	Dolby Metadata Control	Preset	SNMP Trap Destinations	SCTE 35 GPI	Fault	Video Notify
System	Product Features	Input Audio Proc Control		Encoders Monitor		
Dolby Metadata Control						
Bitstream Mode	(C M) main Audio service: co...	LtRt Surround Downmix		3 . 0 d B		
Audio Coding Mode	3 / 2	LoLr Center Downmix		3 . 0 d B		
Center Mix Level	3 . 0 d B	LoLr Surround Downmix		3 . 0 d B		
Surround Mix Level	3 . 0 d B	Dolby Surround EX		Not Indicated		
Surround Mode	Not Indicated	DC Filter Enabled		Disable		
Dialnorm	-27.0 dBFS	Lowpass Filter Enabled		Disable		
Audio Prod Info	Does Not Exist	LFE Lowpass Filter Enabled		Disable		
Mix Level	105	Surround Phase Shift		Disable		
Room Type	Not Indicated	Surround 3 db Attenuation		Disable		
Copyright	Not Copyrighted	RF Overmod Protect		Disable		
Original Bitstream	Not Original	RF Mode		None		
Preferred Downmix	Not Indicated	Line Mode		None		
LtRt Center Downmix	3 . 0 d B					

Figure 5-8: VistaLINK<sup>®</sup> - Dolby Metadata Control Tab

### Dolby Metadata Control

**Bitstream Mode:** This parameter allows the user to select the Dolby Metadata authoring bitstream mode. The options include Main Audio Service: Complete Main, Main Audio Service: Music and Effects, Associated Service: Visually Impaired, Associated Service: Hearing Impaired, Associated Service: Dialogue, Associated Service: Commentary, Associated Service: Emergency or Associated Service: Voice Over or Karaoke.

**Audio Coding Mode:** This parameter allows the user to set the Meta authoring program audio coding mode; it is used to be referred to by metaAuthoringBitstreamMode. Options include: 1/0, 2/0, 3/0, 2/1, 3/1, 2/2 or 3/2.

**Center Mix Level:** This parameter allows the user to configure Dolby metadata authoring center mix level. Options include -3.0dB, -4.5dB or -6.0dB.

**Surround Mix Level:** This parameter allows the user to configure Dolby metadata authoring surround mix level. Options include -3.0dB, -6.0dB or 0.0dB.

**Surround Mode:** This parameter allows the user to configure Dolby metadata authoring Dolby surround mode. Options include Not Indicated, Not Dolby Surround Encoded or Dolby Surround Encoded.

**Dialnorm:** This parameter allows the user to select the dialnorm for a program.

**Audio Prod Info:** This parameter allows the user to set Dolby metadata authoring audio product information to either exists or does not exist.



**Mix Level:** This parameter allows the user to set the mix level for a program.

**Room Type:** This parameter allows the user to configure Dolby metadata authoring room type. Options include Not Indicated, Large Room XCurve Monitor or Small Room Flat Monitor.

**Copyright:** This parameter allows the user to configure Dolby metadata authoring copyright value to either Copyrighted Material or Not Copyrighted.

**Original Bitstream:** This parameter allows the user to indicate in the Dolby metadata if it is original bitstream.

**Preferred DownMix:** This parameter allows the user to configure Dolby metadata preferred downmix. Options include Not Indicated, Lt/Rt Downmix or Lo/Ro Downmix.

**Lt\ Rt Center DownMix:** This parameter allows the user to configure Dolby metadata authoring Lt/Rt center downmix. Values include 3.0dB, 1.5dB, 0.0dB, -1.5dB, -3.0dB, -4.5dB, -6.0dB or Mute.

**Lt\ Rt Surround DownMix:** This parameter allows the user to configure Dolby metadata authoring Lt/Rt surround downmix. Values include 3.0dB, 1.5dB, 0.0dB, -1.5dB, -3.0dB, -4.5dB, -6.0dB or Mute.

**Lo\ Ro Center DownMix:** This parameter allows the user to configure Dolby metadata authoring Lo/Ro center downmix. Values include 3.0dB, 1.5dB, 0.0dB, -1.5dB, -3.0dB, -4.5dB, -6.0dB or Mute.

**Lo\ Ro Surround DownMix:** This parameter allows the user to configure Dolby metadata authoring Lo/Ro surround downmix. Values include 3.0dB, 1.5dB, 0.0dB, -1.5dB, -3.0dB, -4.5dB, -6.0dB or Mute.

**Dolby Surround EX:** This parameter allows the user to configure Dolby Surround EX encoding. Options include Not Indicated, not EX Encoded or Dolby EX Encoded.

**DC Filter:** This parameter allows the user to enable or disable Dolby metadata DC filter.

**Lowpass Filter:** This parameter allows the user to enable or disable Dolby metadata lowpass filter.

**LFE Lowpass Filter:** This parameter allows the user to enable or disable Dolby metadata LFE lowpass filter.

**Surround Phase Shift:** This parameter allows the user to enable or disable Dolby metadata surround phase shift.

**Surround 3 db Attenuation:** This parameter allows the user to enable or disable Dolby metadata surround 3 dB attenuation.

**RF Overmod Protect:** This parameter allows the user to enable or disable Dolby metadata RF overmod protect.

**RF Mode:** This parameter allows the user to configure Dolby metadata RF mode. Options include none, film Standard, film Light, music Standard, music Light or speech.

**Line Mode:** This parameter allows the user to configure Dolby metadata line mode. Options include none, film Standard, film Light, music Standard, music Light or speech.

## 5.7. PRESET TAB

	Name	Store Button	Recall Button
Preset 1	test trial	Preset Store	Preset Recall
Preset 2	test	Preset Store	Preset Recall
Preset 3	test2	Preset Store	Preset Recall
Preset 4	NONE	Preset Store	Preset Recall
Preset 5	NONE	Preset Store	Preset Recall
Preset 6	NONE	Preset Store	Preset Recall
Preset 7	NONE	Preset Store	Preset Recall
Preset 8	NONE	Preset Store	Preset Recall
Preset 9	NONE	Preset Store	Preset Recall
Preset 10	NONE	Preset Store	Preset Recall

**Figure 5-9: VistaLINK<sup>®</sup> - Preset Tab**

For each of the 10 Presets the following parameters are available:

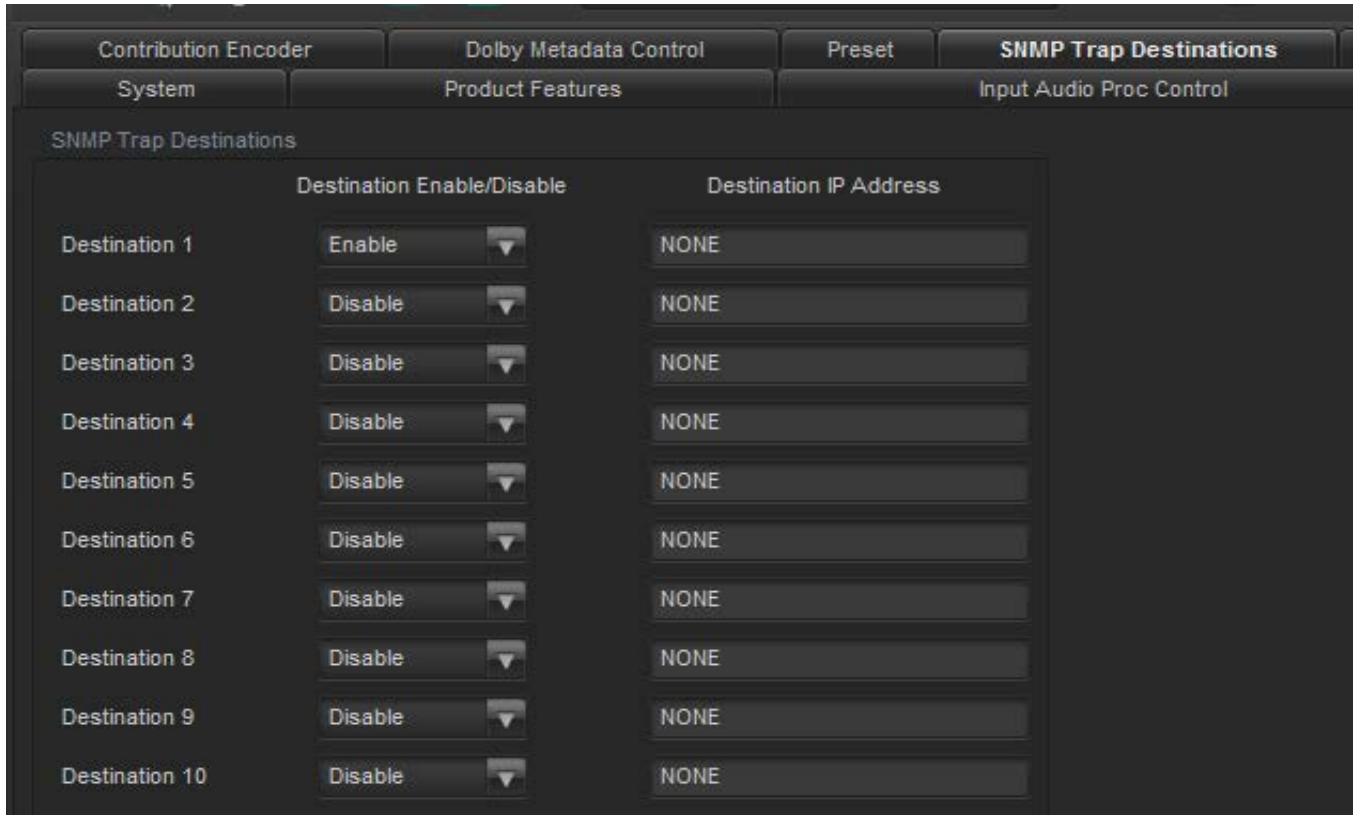
**Preset Name:** This field allows the user to enter a name for each preset.

**Preset Store:** This control will take the current 5782ENC-H264HD-IPASI settings and save them to a Preset. When storing a preset all parameters will be stored except the following:

- Control Port IP address, Netmask and Gateway.
- Data Port 1 and 2 IP address, Netmask and Gateway.
- Syslog Configuration.
- Other Preset Configurations.
- SNMP Trap destinations, Faults and Video Notify status.

**Preset Recall:** This control will take the stored 5782ENC-H264HD-IPASI settings and apply them. When recalling a preset all parameters will be set except the following:

- Control Port IP address, Netmask and Gateway will not change.
- Data Port 1 and 2 IP address, Netmask and Gateway will not change.
- Syslog Configuration will not change.
- Presets will not change.
- SNMP Trap destinations, Faults and Video Notify status will not change.



	Destination Enable/Disable	Destination IP Address
Destination 1	Enable	NONE
Destination 2	Disable	NONE
Destination 3	Disable	NONE
Destination 4	Disable	NONE
Destination 5	Disable	NONE
Destination 6	Disable	NONE
Destination 7	Disable	NONE
Destination 8	Disable	NONE
Destination 9	Disable	NONE
Destination 10	Disable	NONE

Figure 5-10: VistaLINK® - SNMP Trap Destinations Tab

For each of the 10 SNMP Trap Destinations the following parameters are available:

**Destination Enable:** This parameter allows the user enable this Destination to be able to send a Trap to. This parameter is reserved for future use. For current trap destinations please configure the Destination IP address on the 570FC.

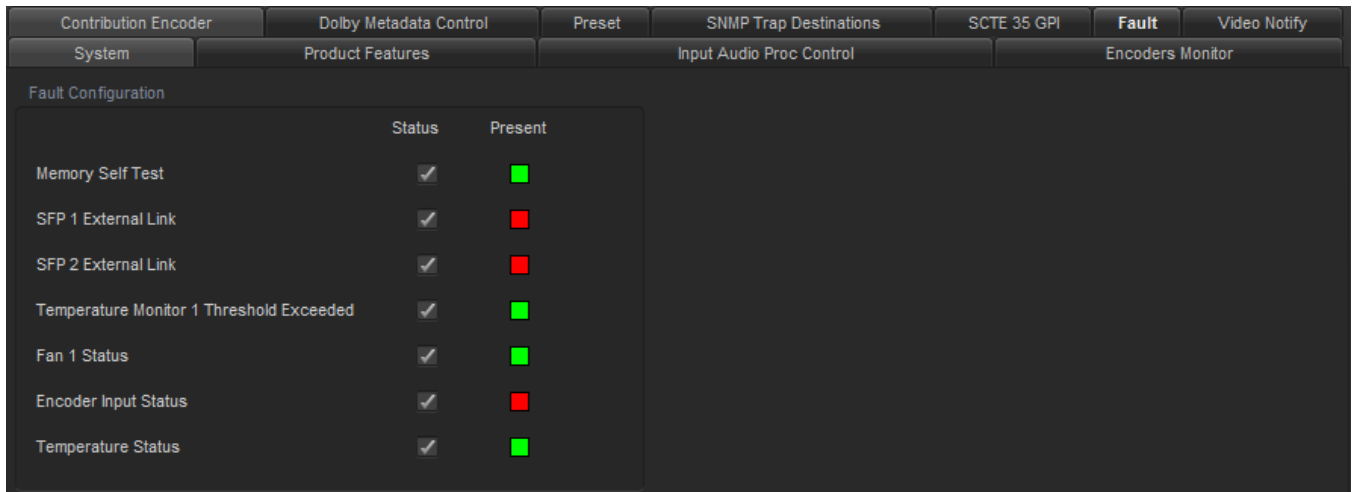
**Destination IP Address:** This parameter allows the user to enter the IP address to associate with this destination. This parameter is reserved for future use. For current trap destinations please configure the Destination IP address on the 570FC.

Contribution Encoder		Dolby Metadata Control	Preset	SNMP Trap Destinations	SCTE 35 GPI	Fault	VistaLINK
System		Product Features		Input Audio Proc Control		Encoders Monitor	
<b>GPI Triggering</b>				<b>Splice Null Request</b>			
GPI Triggering GPI 1	Disable			Splice Null GPI 1	Disable		
GPI Triggering GPI 2	Disable			Splice Null GPI 2	Disable		
<b>Splice Insert Request GPI 1</b>				<b>Splice Insert Request GPI 2</b>			
Splice Insert	Disable			Splice Insert	Disable		
Splice Insert Event ID	0			Splice Insert Event ID	0		
Splice Insert Type	Start Normal			Splice Insert Type	Start Normal		
Unique Program ID	0			Unique Program ID	0		
Preroll	0			Preroll	0		
Break Duration	0			Break Duration	0		
Avail Num	<input type="text"/> 0			Avail Num	<input type="text"/> 0		
Avails Expected	<input type="text"/> 0			Avails Expected	<input type="text"/> 0		
Auto Return	Off			Auto Return	Off		
<b>Time Signal Request GPI 1</b>				<b>Time Signal Request GPI 2</b>			
Time Signal	Disable			Time Signal	Disable		
Preroll	0			Preroll	0		
<b>Avail Descriptor GPI 1</b>				<b>Avail Descriptor GPI 2</b>			
Descriptor Enable	Disable			Descriptor Enable	Disable		
Avail ID	0			Avail ID	0		
<b>DTMF Descriptor GPI 1</b>				<b>DTMF Descriptor GPI 2</b>			
Descriptor Enable	Disable			Descriptor Enable	Disable		
DTMF Char				DTMF Char			
DTMF Preroll	<input type="text"/> 0			DTMF Preroll	<input type="text"/> 0		
<b>Segmentation Descriptor GPI 1</b>				<b>Segmentation Descriptor GPI 2</b>			
Descriptor Enable	Disable			Descriptor Enable	Disable		
Segmentation Event ID	0			Segmentation Event ID	0		
Segmentation Event Cancel	<input type="text"/> 0			Segmentation Event Cancel	<input type="text"/> 0		
Duration	0			Duration	0		
Segmentation UPD Type	<input type="text"/> 0			Segmentation UPD Type	<input type="text"/> 0		
Segmentation UPD				Segmentation UPD			
Segmentation Type ID	<input type="text"/> 0			Segmentation Type ID	<input type="text"/> 0		
Segment Num	<input type="text"/> 0			Segment Num	<input type="text"/> 0		
Segment Expected	<input type="text"/> 0			Segment Expected	<input type="text"/> 0		
Delivery Not Restricted	<input type="text"/> 0			Delivery Not Restricted	<input type="text"/> 0		
Web Delivery Allowed	<input type="text"/> 0			Web Delivery Allowed	<input type="text"/> 0		
No Regional Blackout	<input type="text"/> 0			No Regional Blackout	<input type="text"/> 0		
Archive Allowed	<input type="text"/> 0			Archive Allowed	<input type="text"/> 0		
Device Restrictions	None			Device Restrictions	None		

**Figure 5-11: VistaLINK<sup>®</sup> - SCTE 35 GPI Tab**

There are no SCTE 35 GPI triggers on the 5782ENC and this section does not imply. The companion 7882ENC-H264HD-IPASI has the SCTE 35 GPI feature.

## 5.8. FAULT TAB



**Figure 5-12: VistaLINK® - Fault Tab**

### Fault Configuration

**Memory Self Test:** This control sends out a trap if there is a fault generated by the memory self test and Status window is checked off.

The Preset fault monitor displays the fault condition of the memory self test. Green indicates healthy while red indicates a fault.

**SFP (1 or 2) External Link:** This control sends out a trap if there is a fault generated by the SFP External Links test and Status window is checked off.

The Preset fault monitor displays the fault condition of the SFP External Links. Green indicates healthy while red indicates a fault.

**Temperature Monitor 1 Threshold Exceeded:** This control sends out a trap if there is a fault generated by the Temperature Monitor 1 Threshold Exceeded and Status window is checked off.

This monitor displays if there is a fault condition on the System Temperature Monitor. Green indicates healthy while red indicates a fault.

**Fan 1 Status:** This control sends out a trap if there is a fault generated by the Fan 1 and Status window is checked off.

This monitor displays if there is a fault condition on the Fan 1. Green indicates healthy while red indicates a fault.

**Encoder Input Status:** This control sends out a trap if there is a fault generated by the Encoder Input Status and Status window is checked off.

This monitor displays if there is a fault condition on the Encoder Input Status. Green indicates healthy while red indicates a fault.

**Temperature Status:** This control sends out a trap if there is a fault generated by the Temperature Status and Status window is checked off.

This monitor displays if there is a fault condition on the System Temperature Status. Green indicates healthy while red indicates a fault.

## 5.9. VIDEO NOTIFY

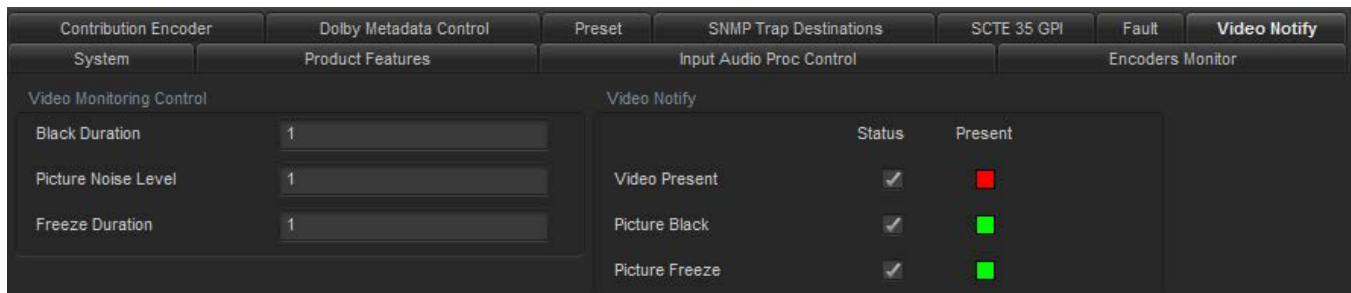


Figure 5-13: VistaLINK<sup>®</sup> - Video Notify

### Video Monitoring Control

**Black Duration:** This control allows the user to set the duration, in frames of active picture content below 7 IRE that is considered a fault. This parameter is adjusted in four-frame increments. As in 1 = 4 frames and 10 = 40 frames. The range is 1 (4 frames) to 2499 (9996 frames).

**Picture Noise Level:** This control allows the user to set approximate level of noise expected in video signal feed. It is used by the freeze detect feature to distinguish motion from background noise on top of a video feed.

**Freeze Duration:** This control allows the user to set the duration, in frames of video activity under the Picture Noise Level that is considered a fault. This parameter is adjusted in four-frame increments. As in 1 = 4 frames and 10 = 40 frames. The range is 1 (4 frames) to 2499 (9996 frames).

### Video Notify

**Video Traps:** This control allows the user to turn reporting of a particular video fault on and off by placing a check in the box next to the desired fault.

**Video Faults:** This control allows the user to read the present state of a particular fault. If the box is green there is no fault detected, when the box turns red this indicated the presence of a fault.

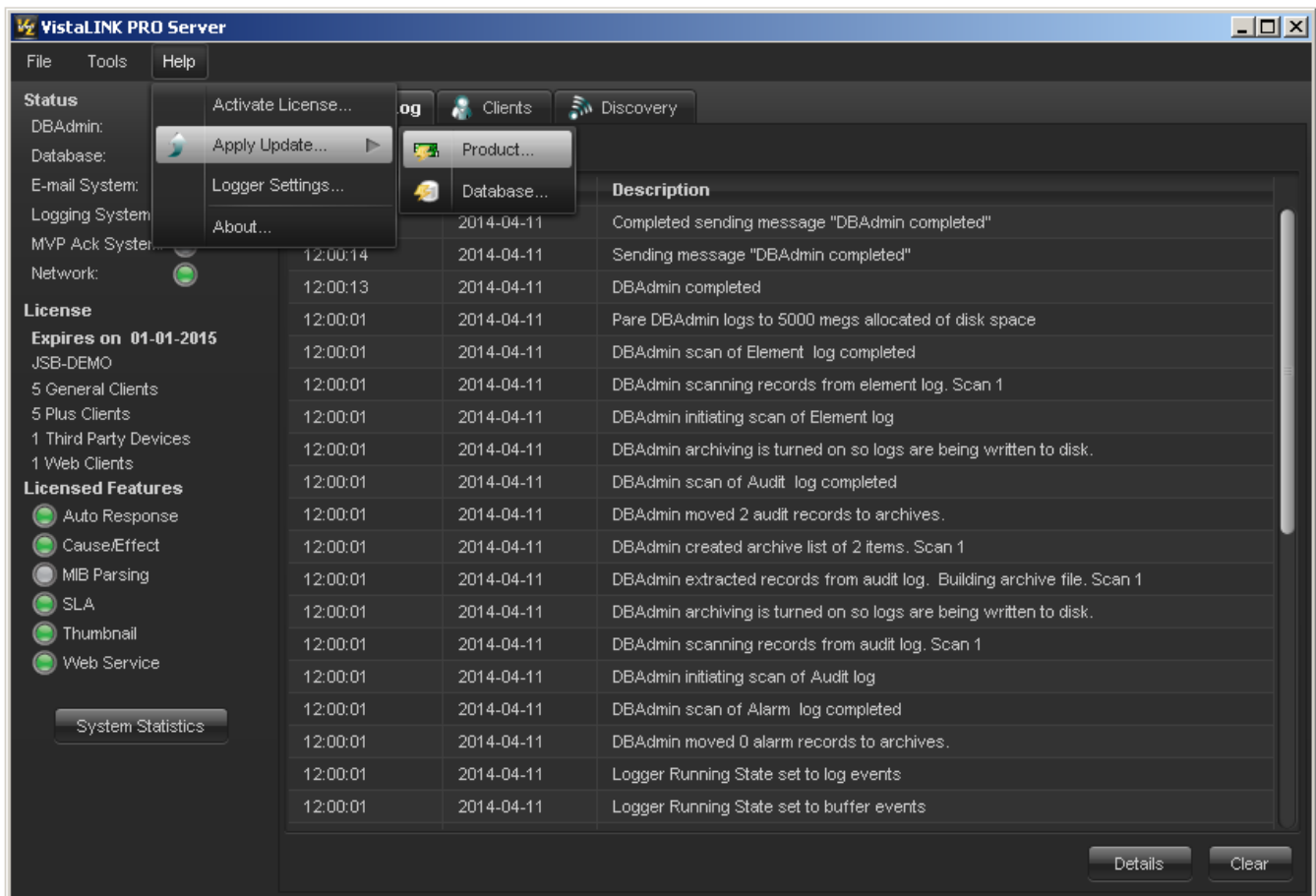
**Video Present:** This trap monitors for active video on the input. If no active video is found it will be in error and can send a trap.

## 6. UPGRADE PROCEDURES

### 6.1. UPDATING VLPRO SERVER JAR FILE

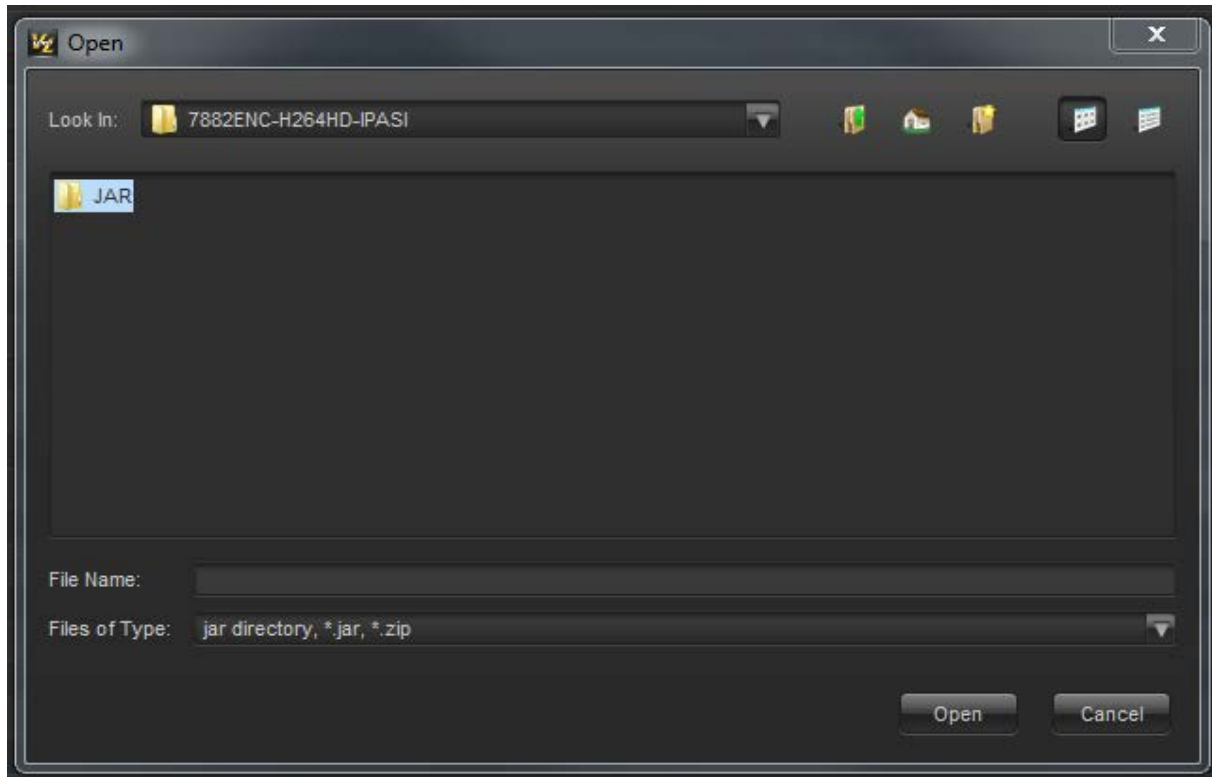
Products from Evertz are constantly evolving and new features are often added. It is therefore important to update the JAR files in use to provide access to all the latest features or enhancements. It will also be necessary to add JAR files for new products.

To perform a JAR update, ensure that all VLPro clients are closed (those clients which are not closed will automatically be disconnected as soon as the VLPro Server is restarted). Maximize the VLPro Server window from the Windows task bar, select *Help> Apply Update> Product* from the menu.



**Figure 6-1: VistaLINK® PRO Server**

A window will appear, as shown in Figure 6-2. Navigate to the location of the new JAR file and double click to select the file. The window will automatically close and the update will be applied in the background.



**Figure 6-2: VistaLINK® PRO – Applying JAR Updates**

You will be prompted to restart the server to enable the change to take effect. Apply as many JAR updates as required before restarting the server.



**NOTE:** You may confirm that all updates have been successfully applied by selecting from the menu *Tools>View>Show/Hide Product update log*.

Shutdown the server by selecting from the menu: *File>Shutdown Server*. Now re-open the server, it is normal for the start up to take marginally longer while each individual update is being applied. Once complete, you may restart the VLPro Clients. As the Client restarts you will experience a short delay while the update is applied. A prompt will appear confirming that the updates have been applied.



## 6.2. FIRMWARE UPGRADE

There two recommended ways to upgrade the firmware for the 5782ENC-H264HD-IPASI:

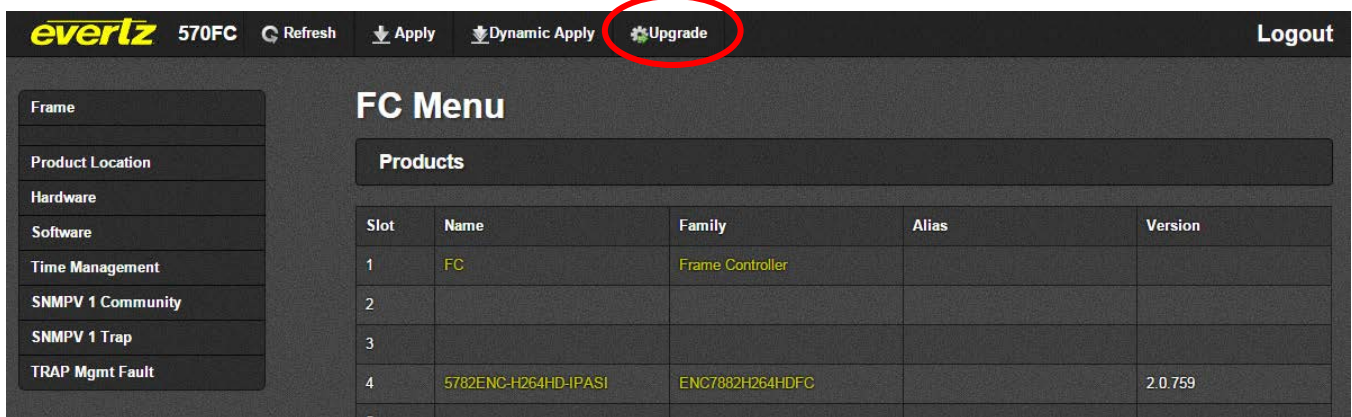
1. Using the 570FC and the WebEASY® browser interface.
2. Using the 570FC and VistaLINK® Version Information interface.

Using the WebEASY® on a web interface is the fastest and recommended procedure to load the firmware onto the 5782ENC-H264HD-IPASI.

## 6.3. FIRMWARE UPGRADE USING WEBEASY®

When first visiting the 5782ENC-H264HD-IPASI web interface, the user will be asked to enter a Login and Password. Enter “**customer**” for Login and “**customer**” for Password.

On the top of the web page for the 5782ENC-H264HD-IPASI, there is a tab labeled **Upgrade**. The **Upgrade** tab is used to check current firmware version and upload the latest firmware.



**Figure 6-3: WebEASY® - Upgrade Button on Top Menu Bar**

Selecting the **Upgrade** tab, will take you to Figure 6-4 where the current firmware version is shown. Should the firmware version be outdated, you will need to download the firmware image file.



**NOTE: Contact Evertz get the latest firmware file.**

Frame

Product Location

Hardware

Software

Time Management

SNMPV 1 Community

SNMPV 1 Trap

TRAP Mgmt Fault

## Firmware Upgrade

Upgrade

Firmware Upgrade

Slot	Upgrade	Name	Alias	Current Version	Progress
1	Upgrade	Frame Controller			
2		Not Available		0.0.0	
3		Not Available		0.0.0	
4	<input checked="" type="checkbox"/>	5782ENC-H264HD-IPASI		2.0.759	
5		Not Available		0.0.0	
6		Not Available		0.0.0	
7		Not Available		0.0.0	
8		Not Available		0.0.0	
9		Not Available		0.0.0	
10		Not Available		0.0.0	
11		Not Available		0.0.0	
12		Not Available		0.0.0	
13		Not Available		0.0.0	
14		Not Available		0.0.0	
15		Not Available		0.0.0	

Firmware

Choose File

No file chosen

Upgrade

**Figure 6-4: WebEASY® - Firmware Upgrade Menu**

Mark off the 5782ENC for the upgrade and then Click **Choose File** and browse to locate image file. Once selected, click **Open** to advance to next step. Click **Upgrade** and watch progress bar for status. Once completed, the device will automatically restart.

## Firmware Upgrade

Upgrade

Firmware Upgrade

Slot	Upgrade	Name	Alias	Current Version	Progress
1	Upgrade	Frame Controller			
2		Not Available		0.0.0	
3		Not Available		0.0.0	
4	<input checked="" type="checkbox"/>	5782ENC-H264HD-IPASI		2.0.759	
5		Not Available			
6		Not Available			
7		Not Available			
8		Not Available			
9		Not Available			
10		Not Available			
11		Not Available			
12		Not Available			
13		Not Available			
14		Not Available			
15		Not Available			

Open

5782ENC

Search 5782ENC

Organize New folder

Desktop

Libraries

Documents

Music

Pictures

Subversion

Videos

Computer

OSDisk (C:)

My Web Sites on

Name Date modified Type Size

No items match your search.

File name:

All Files

Open

Cancel

Firmware

Choose File

No file chosen

Step 1

Step 2

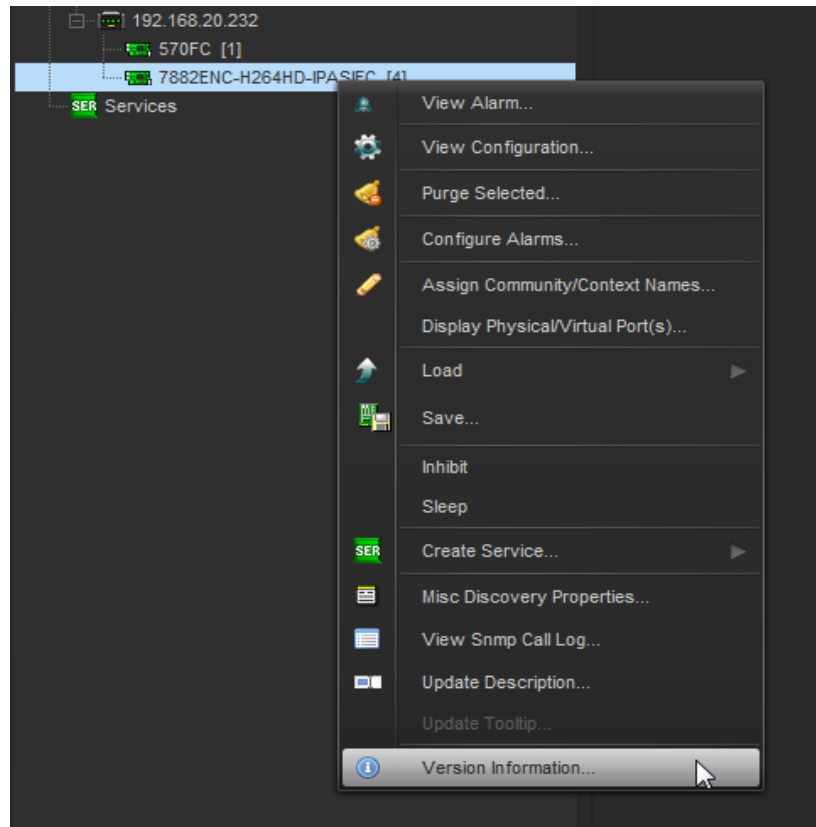
Upgrade

Figure 6-5: WebEASY® - Firmware Upgrade Menu

#### 6.4. FIRMWARE UPGRADE USING VISTALINK<sup>®</sup> WITH THE 570FC

Upgrading the firmware using VistaLINK<sup>®</sup> can be accomplished using the 570FC frame controller and the 5782ENC-H264HD-IPASI.

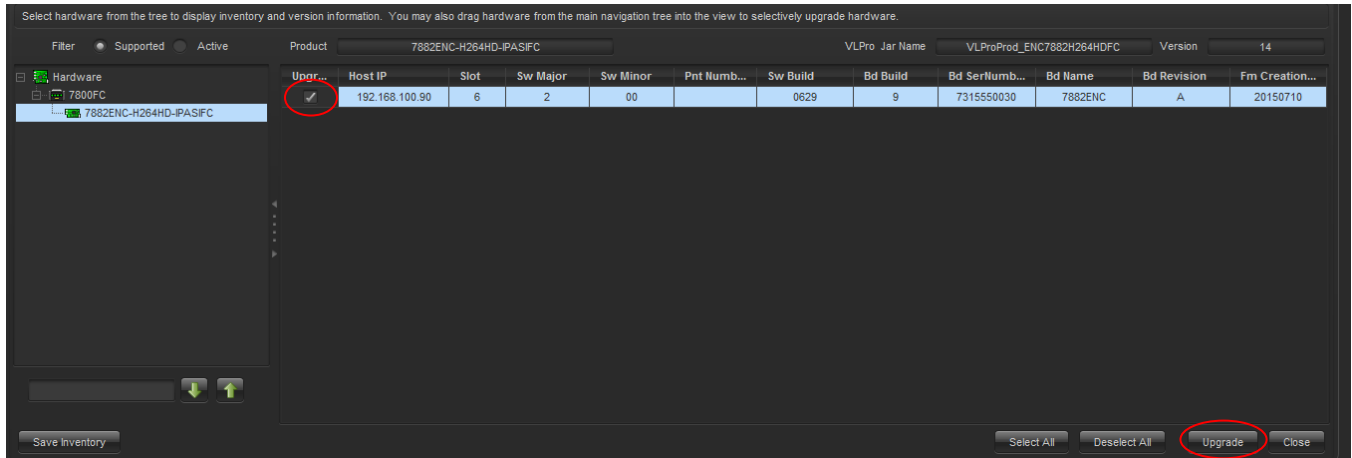
Ensure that the 5782ENC-H264HD-IPASI is running the latest firmware, to check this simply right click on the cards address in VLPro Client and select *Version Information* as shown in Figure 6-6.



**Figure 6-6: VistaLINK<sup>®</sup> - Selecting Version Information**

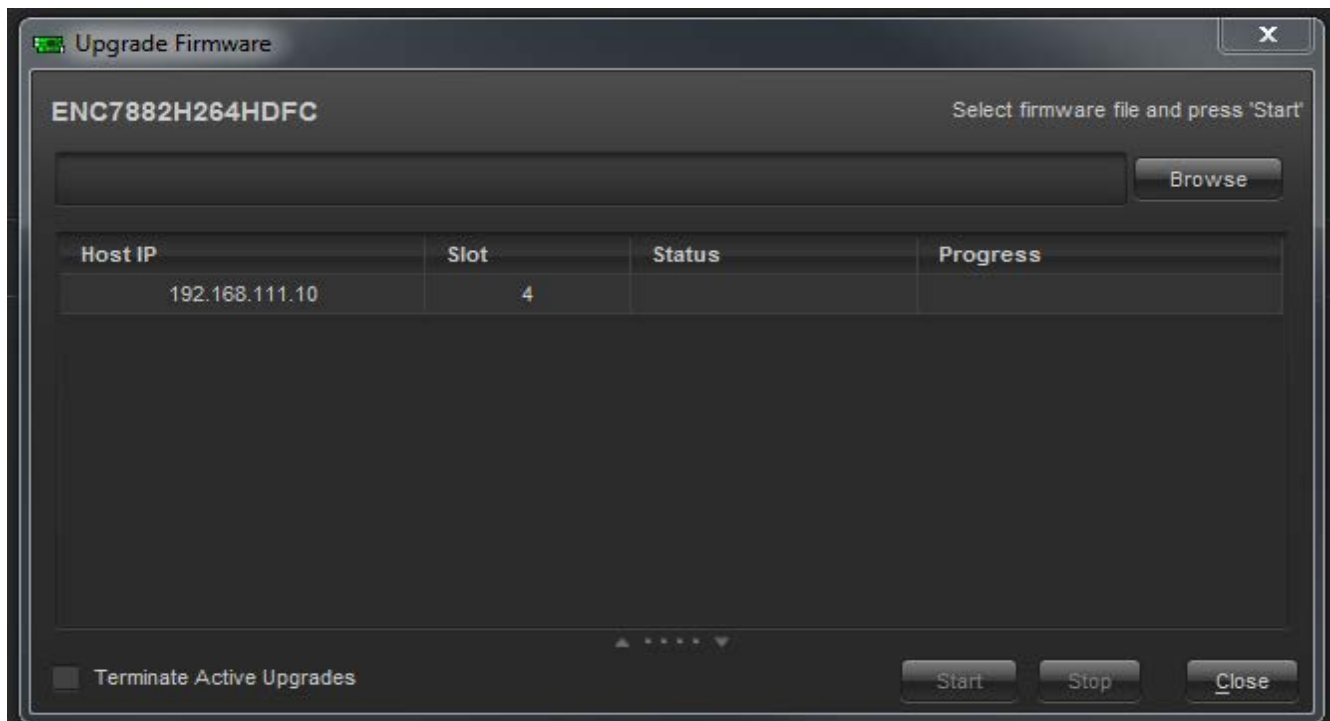
Once *Version Information* is selected, Figure 6-7 will appear and the module will be able to be selected for upgrade.

- Open hardware tree and select card to be upgraded.
- Check mark card to be upgraded.



**Figure 6-7: VistaLINK® - Selecting Card for Upgrade**

- Click the 'Upgrade' button on bottom right corner
- Click the 'Browse' button to select the 5782ENC-H264HD-IPASI image file.
- Click the 'Upgrade' button and wait for the upload to complete. This will take approximately 5 to 10 minutes depending on network traffic. The progress bar to the right will provide feedback on the status of the upgrade.



**Figure 6-8: Selecting File for Firmware Upgrade**

- Upon completion, the 5782ENC-H264HD-IPASI module will reboot automatically and return online in normal "run" mode.

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