

7882ENC-H264HD-IPASI

Professional Contribution H.264

and MPEG-2 Encoder

User Manual

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Version 1.0, September 2015

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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

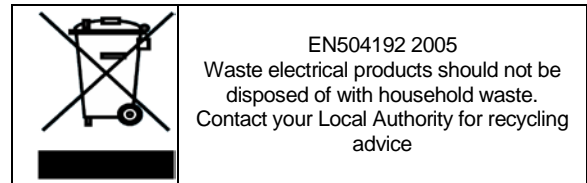
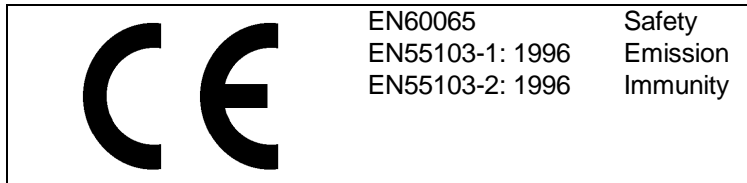
THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE

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

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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	Sep 2015

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1. OVERVIEW

The 7882ENC-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 7882ENC becomes an ideal compression solution for low latency contribution requirements.

The 7882ENC-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 7882ENC-H264HD-IPASI includes a dedicated control port that offers a built-in web server for quick and easy configuration, including true SNMP control from the award winning VistaLINK® NMS and can be paired with a frame controller or use it's own control port for multiple control options. For those mission critical applications, the 7882ENC-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 7882ENC-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 7882ENC-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 with loop out protection
- Support for multiple audio codecs including AAC and Dolby
- Fully integrated with the industry leading VistaLINK® PRO System
- Compact two slot design compatible within any Evertz 3RU chassis
- Control via 7800 Frame Controller and/or integrated HTTP interfaces

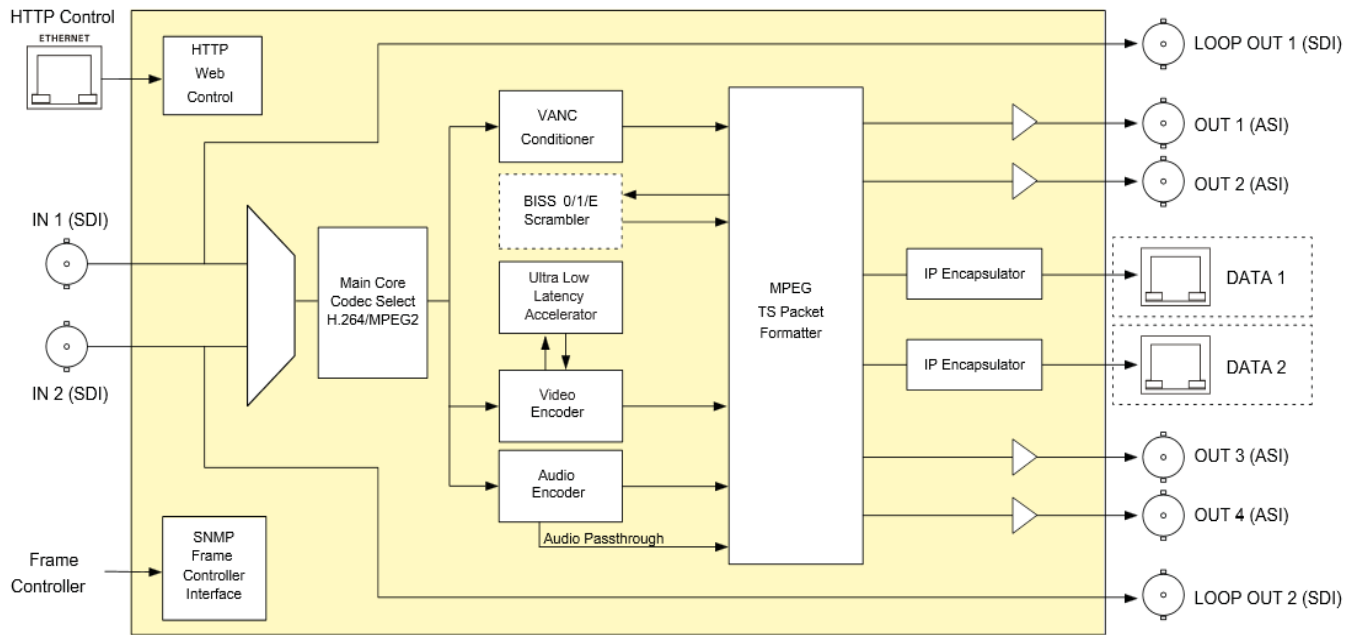


Figure 1-1: 7882ENC-H264HD-IPASI Block Diagram

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:	4
Connectors:	BNC IEC 61169-8 Annex A

2.3. ETHERNET:

Control Port:	1x GbE Control Port (RJ-45)
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
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):

7800FR: 2
7800FR-QT: 2
7801FR: 2
3700FR: 2

3. GETTING STARTED

The 7882ENC-H264HD-IPASI module comes with a companion rear plate that occupies two slots in the frame.

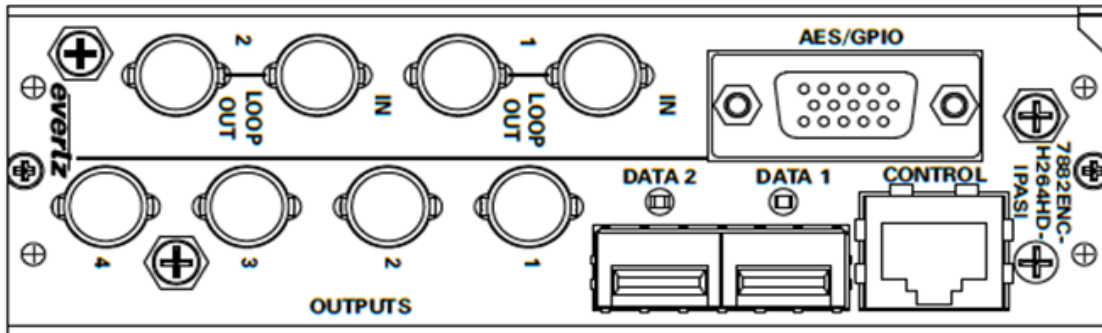


Figure 3-1: 7882ENC-H264HD Rear Plate

- IN 1, 2:** BNC connectors used to input HD/SD SDI with embedded audio.
- LOOP OUT 1, 2:** BNC connector used to Passive Bypass HD/SD SDI when device is unpowered.
- OUTPUT 1:** Contribution encoder ASI output.
- OUTPUT 2:** Contribution encoder ASI output or correctly selected HD/SD SDI input bypass.
- OUTPUT 3:** Contribution encoder ASI output.
- OUTPUT 4:** Contribution encoder ASI output or correctly selected 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.
- CONTROL:** This RJ-45 Ethernet port is for communications with WebEASY[®] using a web browser or VistaLINK[®].
- AES/GPIO:** The high-density DB-15 connector and Evertz breakout cable (sold separately) can bring various signals conveniently to BNC connectors. Currently the AES connections are reserved for future use. Table 3-1 shows the respective DB-15 connector pin outs. Figure 3-2 illustrates the breakout cable used for the DB-15 connector (separate ordering option). Table 3-2 shows the pin out for the Evertz breakout cable (Evertz Part # WPAES8-BNCM-9W-6F/A).



Figure 3-2: Illustration of DB15 Breakout Cable

The 7882ENC-H264HD-IPASI module can be shipped with a breakout cable for the DB-15 connector (separate ordering option - Evertz Part # WPAES8-BNCM-9W-6F/A).

The breakout cable can be used to facilitate wiring for the GPI connections. The pin out of the DB-15 communication port and breakout cable is shown in Table 3-1 and Table 3-2.

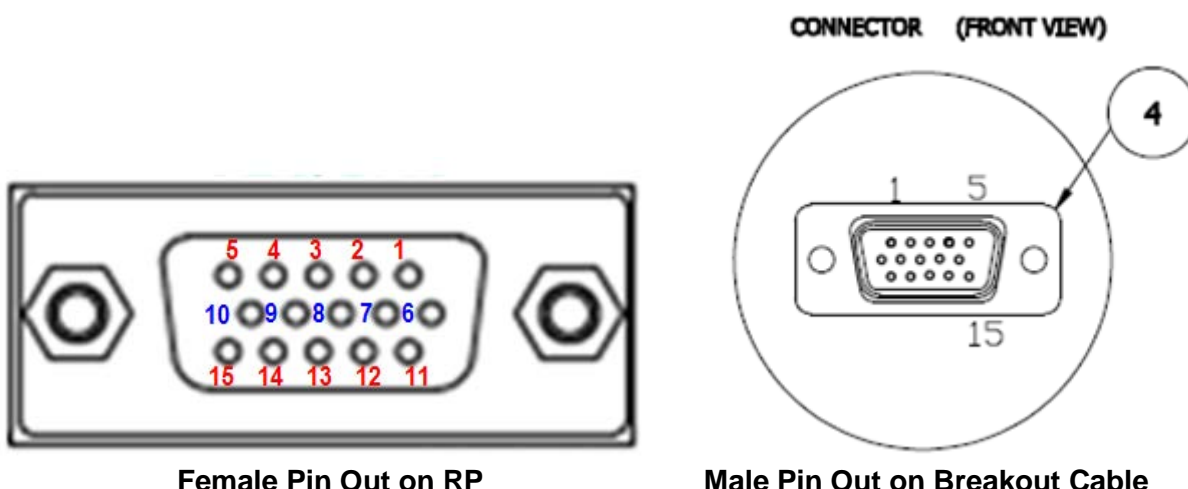


Figure 3-3: DB15 Communications Port Pin-Out Mappings

DB-15 Pin	Name	Description
1	n/a	Reserved for Future Use
2	GPI 1	GPI 1 (Connect ground to activate)
3	n/a	Reserved for Future Use
4	GPI 2	GPI 2(Connect ground to activate)
5	n/a	Reserved for Future Use
6	n/a	Reserved for Future Use
7	n/a	Reserved for Future Use
8	n/a	Reserved for Future Use
9	n/a	Reserved for Future Use
10	n/a	Reserved for Future Use
11	n/a	Reserved for Future Use
12	n/a	Reserved for Future Use
13	n/a	Reserved for Future Use
14	n/a	Reserved for Future Use
15	n/a	Reserved for Future Use
Shell	GND	Ground

Table 3-1: DB-15 Connector Pin Out

DB-15 PIN	Wire	Ground/Shield Connection	Label Name	Connector Type	DB-15 OUT FUNCTION
1	Red	n/a	W1 RED	WIRE	Reserved for Future
2	Green	n/a	W2 GRN	WIRE	GPI 1
3	Blue	n/a	W3 BLU	WIRE	Reserved for Future
4	Purple	n/a	W6 PUR	WIRE	GPI 2
5	Orange	n/a	W7 ORG	WIRE	Reserved for Future
6	White	n/a	W4 WHI	WIRE	Reserved for Future
7	Coax	DB15 Shell	AES A2	BNC MALE	Reserved for Future
8	Yellow	n/a	W5 YEL	WIRE	Reserved for Future
9	Coax	DB15 Shell	AES B2	BNC MALE	Reserved for Future
10	Coax	DB15 Shell	AES B1	BNC MALE	Reserved for Future
11	Coax	DB15 Shell	AES A1	BNC MALE	Reserved for Future
12	Coax	DB15 Shell	AES B4	BNC MALE	Reserved for Future
13	Coax	DB15 Shell	AES B3	BNC MALE	Reserved for Future
14	Coax	DB15 Shell	AES A4	BNC MALE	Reserved for Future
15	Coax	DB15 Shell	AES A3	BNC MALE	Reserved for Future
GND	Brown	DB15 Shell	GND BR	WIRE	Ground wire
GND	Black	DB15 Shell	GND BL	WIRE	Ground wire

Table 3-2: AES Audio Breakout Cable (Evertz Part # WPAES8-BNCM-9W-6F/A)

3.1. CONNECTING TO AN ETHERNET NETWORK

3.1.1. Ethernet Connection for the Control Port

The 7882ENC-H264HD-IPASI is designed to be used with 10Base-T (10 Mbps), 100Base-TX (100 Mbps), or 1000Base-T (1Gbps) systems. When connecting for 10Base-T systems, category 3, 4, or 5 UTP (unshielded twisted pair) cable as well as EIA/TIA – 568 100Ω STP (shielded twisted pair) cable may be used. When connecting for 100Base-TX systems, category 5 UTP cable or better is required. When connecting for 1000Base-T system, category 5, 5e, 6, or 7 UTP cable is required. The cable must be “straight-through” with a RJ-45 connector at each end.

Make the network connection by plugging one end of the cable into the RJ-45 control port on the 7882ENC and the other end into a port of the supporting switch or directly to a computer.

The straight-through RJ-45 cable can be purchased or can be constructed using the pin out information in Table 3-3 or Table 3-4 for the current RJ-45 standards (AT&T 258A, EIA/TIA 568A or EIA/TIA 568B - colour coding listed). Also refer to the notes following the table for additional wiring guide information.

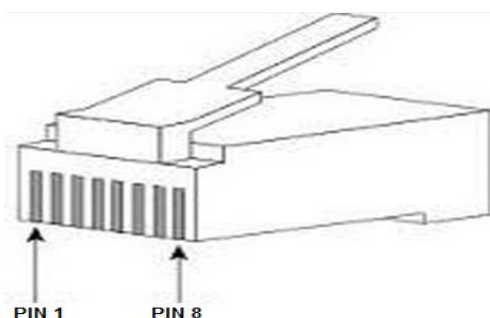


Figure 3-4: RJ-45 Connector Pin-Out Locations

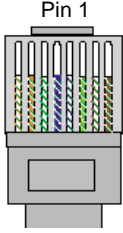
	Pin #	Signal	EIA/TIA 568A	AT&T 258A or EIA/TIA 568B	10BaseT or 100BaseT
	1	Transmit +	White/Green	White/Orange	X
	2	Transmit –	Green/White or White	Orange/White or Orange	X
	3	Receive +	White/Orange	White/Green	X
	4	N/A	Blue/White or Blue	Blue/White or Blue	Not used (required)
	5	N/A	White/Blue	White/Blue	Not used (required)
	6	Receive –	Orange/White or Orange	Green/White or Green	X
	7	N/A	White/Brown	White/Brown	Not used (required)
	8	N/A	Brown/White or Brown	Brown/White or Brown	Not used (required)

Table 3-3: 10BaseT and 100BaseT Straight Through Wiring Connections

Note the following cabling information for this wiring guide:

- On 10Base-T and 100Base-T, only two pairs of wires are used in the 8-pin RJ-45 connector to carry Ethernet signals. Even though pins 4, 5, 7 and 8 are not used, it is mandatory that they be present in the cable
- Pairs may be solid colours and not have a stripe
- Category 5 cable must use Category 5 rated connectors

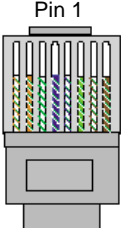
	Pin #	Signal	EIA/TIA 568A	AT&T 258A or EIA/TIA 568B
	1	DA +	White/Green	White/Orange
	2	DA -	Green/White or White	Orange/White or Orange
	3	DB +	White/Orange	White/Green
	4	DC +	Blue/White or Blue	Blue/White or Blue
	5	DC -	White/Blue	White/Blue
	6	DB -	Orange/White or Orange	Green/White or Green
	7	DD +	White/Brown	White/Brown
	8	DD -	Brown/White or Brown	Brown/White or Brown

Table 3-4: 1000BaseT Straight Through Wiring Connections

The maximum cable run between the 7882ENC-H264HD-IPASI and the supporting hub is 328 ft (**100 m**). The maximum combined cable run between any two end points (i.e. 7882ENC-H264HD-IPASI and PC/laptop via network hub) is 675 feet (205 m).

Devices on the Ethernet network continually monitor the receive data path for activity as a means of checking that the link is working correctly. When the network is idle, the devices also send a link test signal to one another to verify link integrity. The 7882ENC-H264HD-IPASI Ethernet port is fitted with two LEDs to monitor the Ethernet connection.

LN/ACT This dual purpose Green LED indicates that the 7882ENC-H264-HD has established a valid linkage to its switch or connecting computer, and whether the 7882ENC-H264-HD is sending or receiving data. This LED will be ON when the 7882ENC-H264-HD has established a good link to its supporting switch or connecting computer. This gives you a good indication that the segment is wired correctly. The LED will BLINK when the 7882ENC-H264-HD is sending or receiving data. The LED will be OFF if there is no valid connection.

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 7882ENC-H264HD-IPASI

There are three different ways that 7882ENC can be controlled and configured:

1. WebEASY[®] using the Control Port on the 7882ENC-H264HD-IPASI.
2. VistaLINK[®] using the Control Port on the 7882ENC-H264HD-IPASI.
3. VistaLINK[®] using the 7800FC frame controller with 7882ENC-H264HD-IPASI installed in frame.

When using the Control Port on the 7882ENC-H264HD-IPASI, each module will need to be assigned an IP address in order to communicate. When using a frame controller, multiple cards can be inserted in the frame and be controlled using only one IP address of the frame controller.

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 a frame chassis two adjacent vacant slots. Unpack the 7882ENC-H264HD-IPASI and separate the rear plate module from the main card. Locate on the rear of the rack the two slots and remove the blanking panels. Insert the rear plate module into the back of the chassis and secure using the four screws provided.

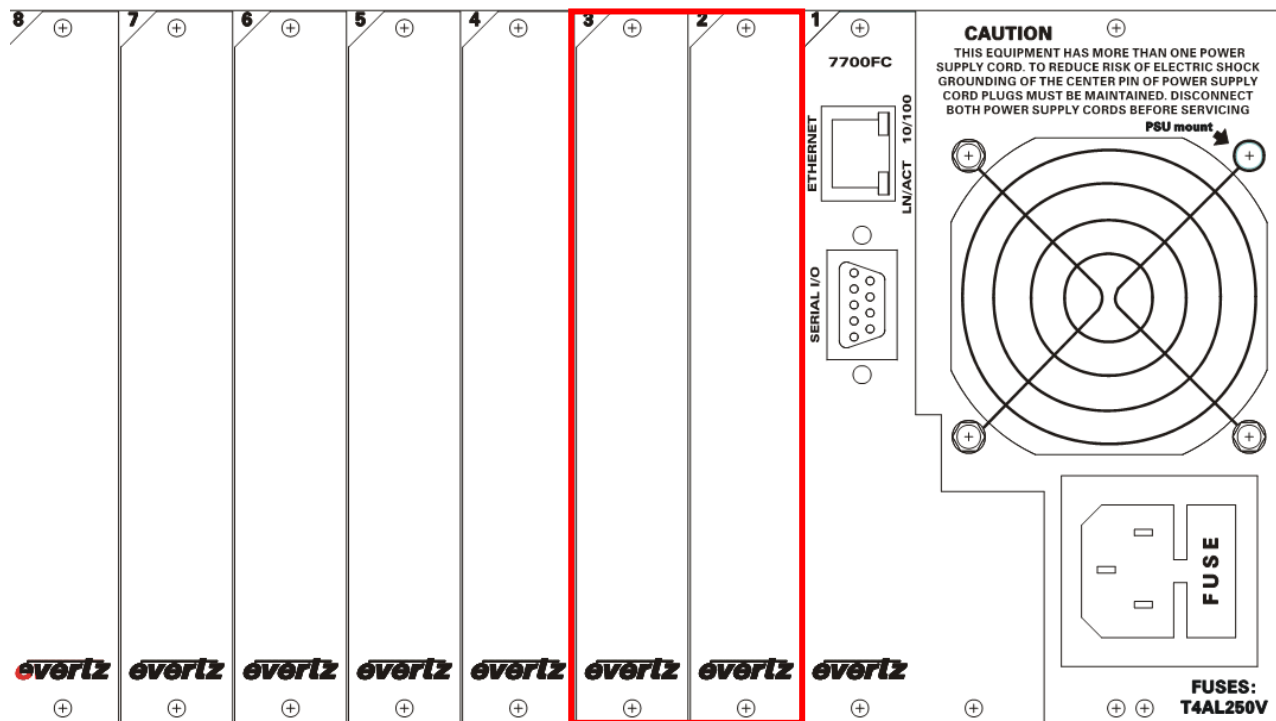


Figure 3-5: 7800 Chassis

Insert the 7882ENC-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.

Do not connect any cables to the rear card (failure to do this could cause unwanted network issues) until the initial configuration has been completed.

3.3.3. Control Port Configurations for the 7882ENC-H264-HD

Communication through the control port allows the module to be controlled and configured by using WebEASY[®] on a web interface or VistaLINK[®]. ***When using only the 7800FC frame controller to control and monitor the module, this step is not necessary for setting the control port on the 7882ENC-H264HD-IPASI.***

1. Connect the Evertz serial upgrade cable (ribbon cable) provided with module to the 2x3 header (J 5) at the front edge of the 7882ENC-H264HD-IPASI card.
2. Start a terminal program, such as Tera Term, and configure the port settings.

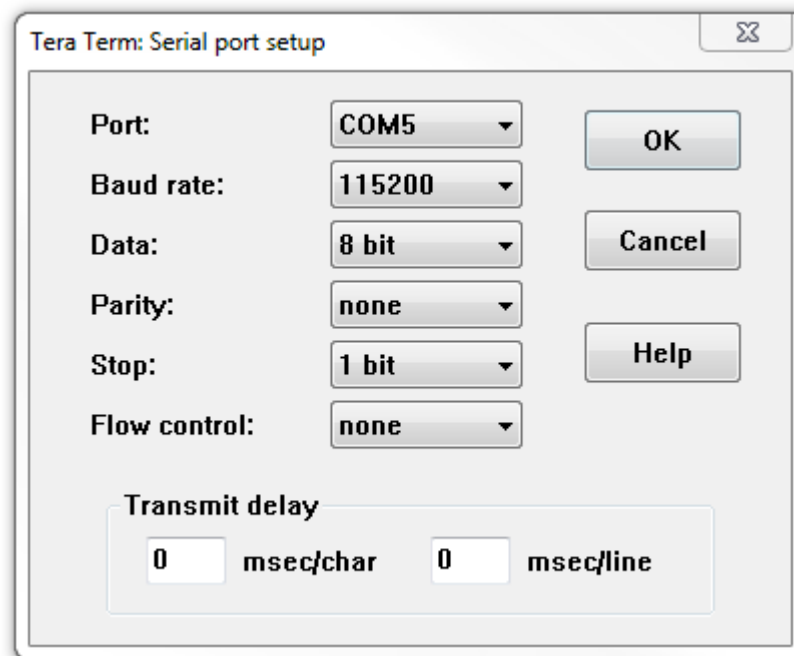


Figure 3-6: COM Port – Serial Port Settings

3. Boot up module and at the “netra-platform login” prompt, enter:
 - “**customer**” for user name <Enter>
 - “**customer**” for password <Enter>

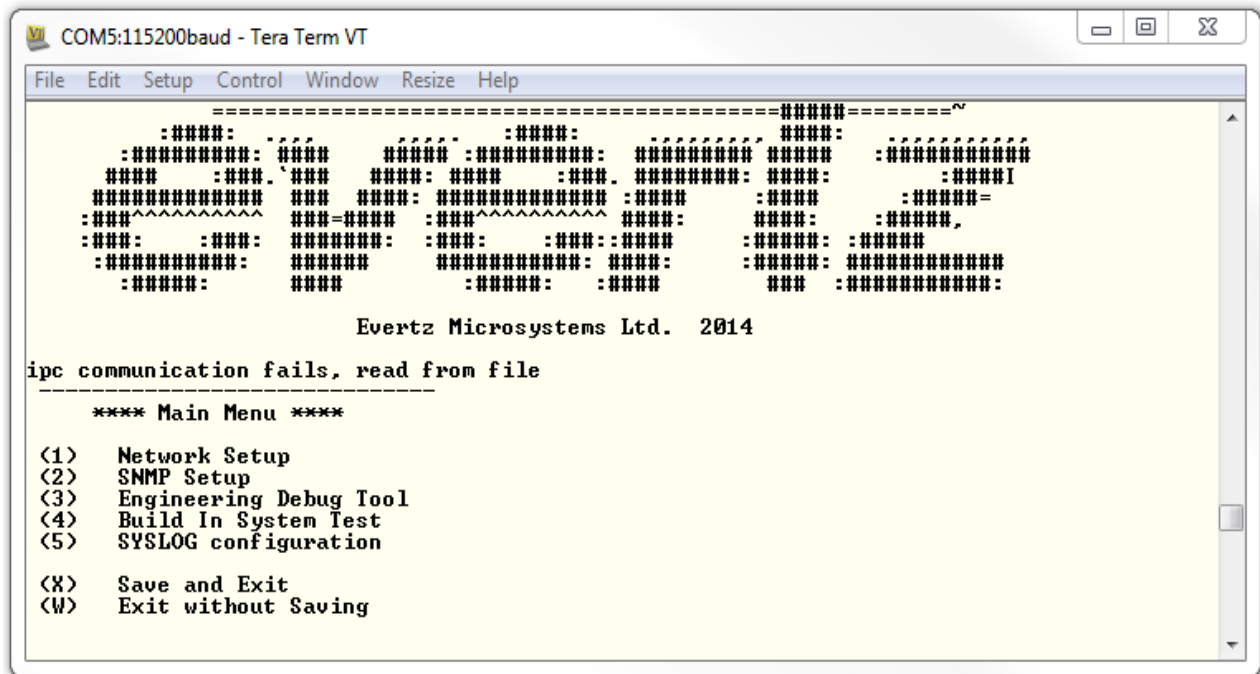


Figure 3-7: COM Port - Main Menu

4. From the main menu, several selections are available. Select *Network Setup* and the menu illustrated below will appear. Set the desired network addresses per your requirement. After entering all settings choose *Exit* two times to save configurations and get back to main menu. The card must be rebooted for all the network settings to take effect. Pull module out and in to reboot when all changes have be completed and saved.

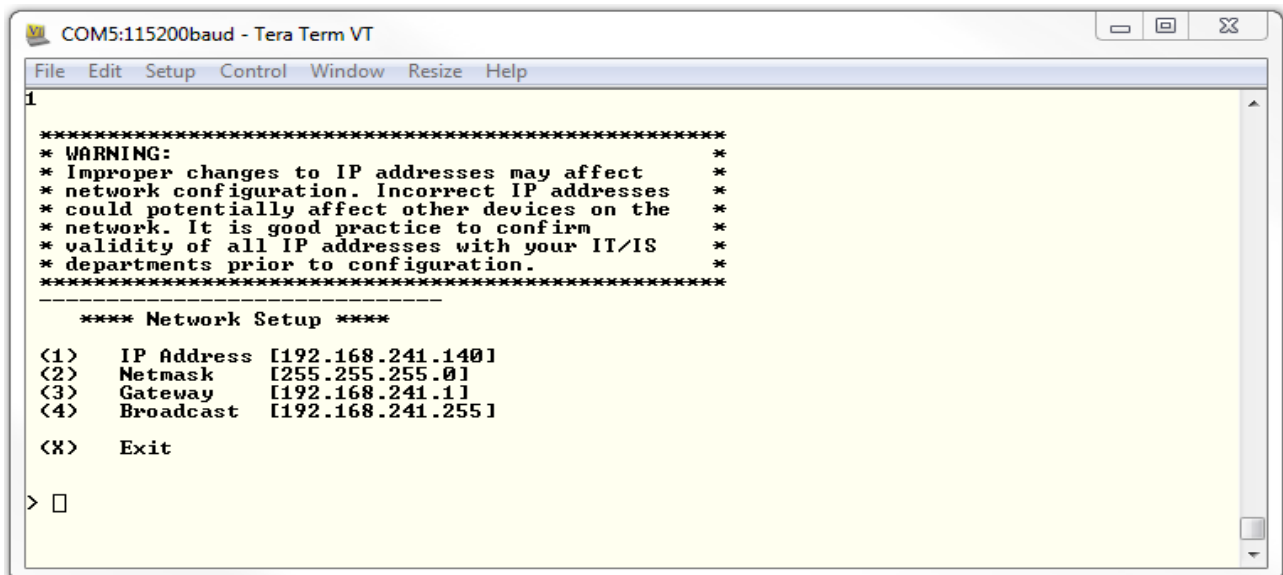


Figure 3-8: COM Port – Network Settings

3.3.4. Final Network Configurations and Connections

Once the network configurations for the module has been completed, make sure to set up your computer on the same subnet. Make all network connections between your computer and the device.

Proper network configurations can be confirmed when the connectivity lights for the Ethernet port are illuminated by connecting the module's Ethernet port to an active port of a computer using an Ethernet cable.

4. WEB INTERFACE

After the card has been installed and configured with the required network addresses for the control port, it can be completely configured using the web interface. To do this, simply type in the IP address of the control port on the 7882ENC-H264HD-IPASI module in the web browser.



Note: Computer must be on the same subnet in order to have communication with module.

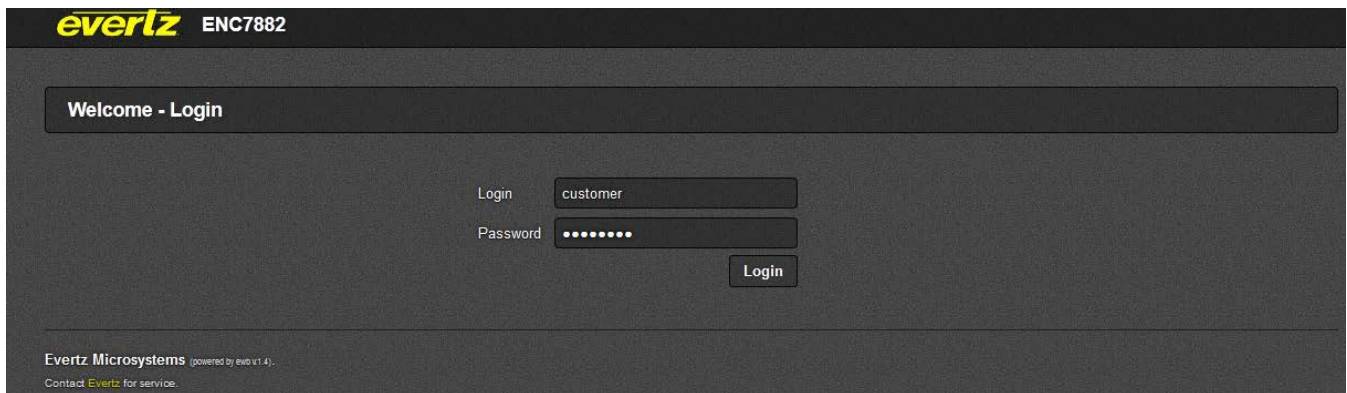


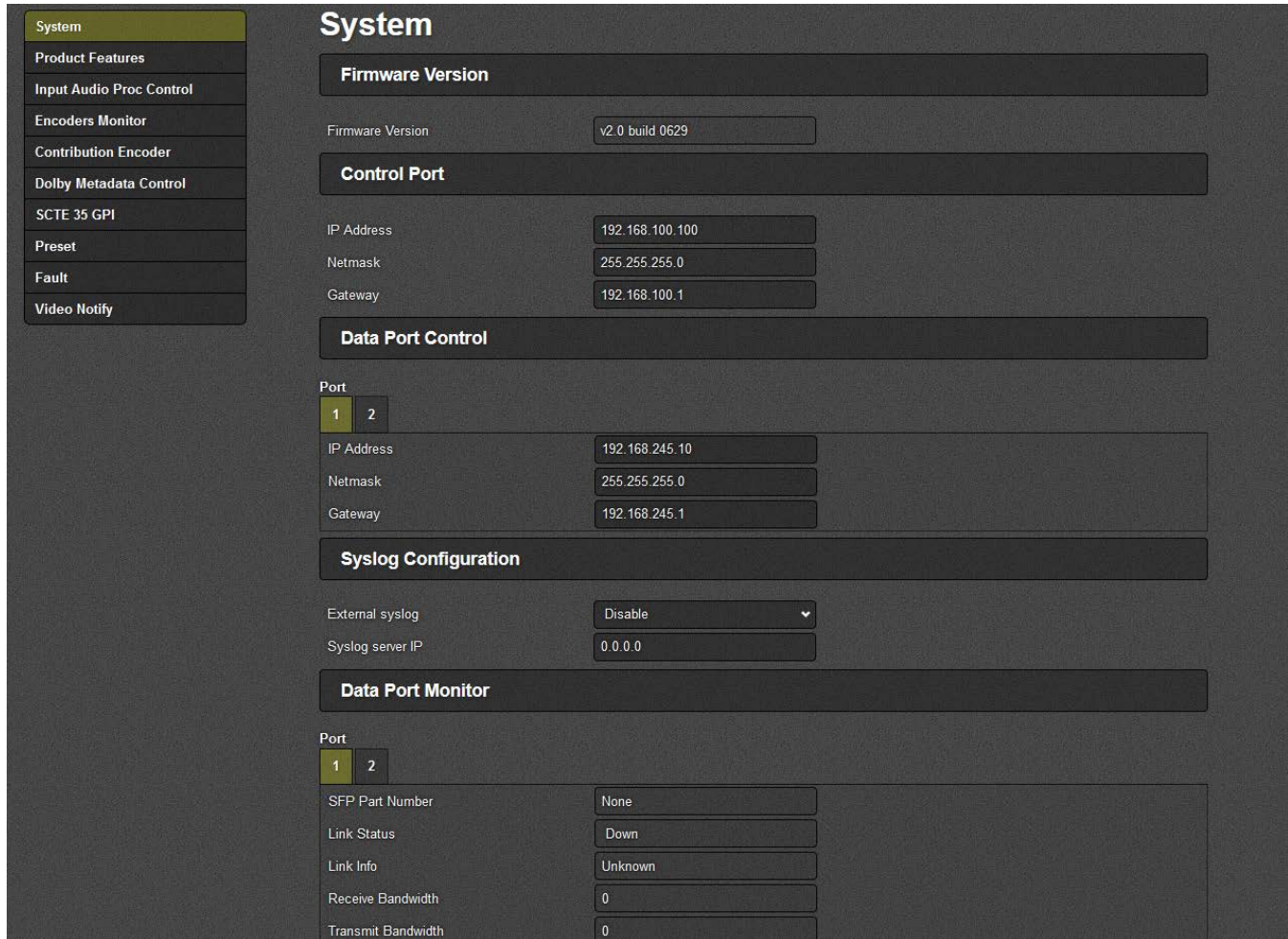
Figure 4-1: WebEASY – Login In Menu

For login and password, type in “**customer**”.



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



System

Firmware Version

Firmware Version: v2.0 build 0629

Control Port

IP Address: 192.168.100.100
Netmask: 255.255.255.0
Gateway: 192.168.100.1

Data Port Control

Port: 1 2

IP Address: 192.168.245.10
Netmask: 255.255.255.0
Gateway: 192.168.245.1

Syslog Configuration

External syslog: Disable
Syslog server IP: 0.0.0.0

Data Port Monitor

Port: 1 2

SFP Part Number: None
Link Status: Down
Link Info: Unknown
Receive Bandwidth: 0
Transmit Bandwidth: 0

Figure 4-2: WebEASY[®] – 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 (*must reboot in order for new settings to take effect*)

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

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

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

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

Contribution Encoder ASI

BNC Output 4

Contribution Encoder ASI

Encoders Control

Encoder SDI Input

SDI 1

Temperature

Temperature Monitor 1

57

Celsius

TRAP Temperature Threshold

85

(60 to 85) Celsius

System Control

Default Set

Reboot

Figure 4-3: WebEASY® – System Tab Part 2

Output Port Mux Select

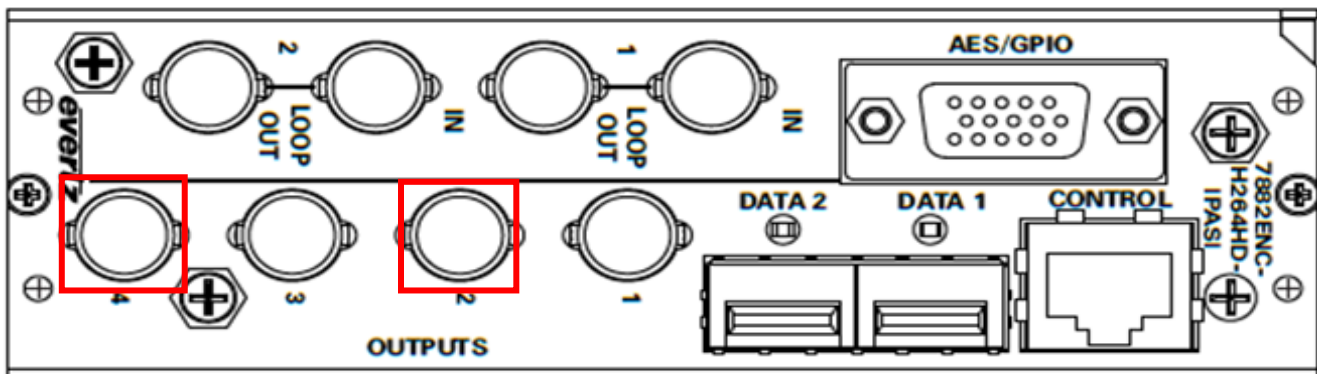


Figure 4-4: Illustration of BNC Outputs 2 and 4

BNC 2 Output and BNC 4 Output: This parameter allows the user to select the BNC 2 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: 7882ENC-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

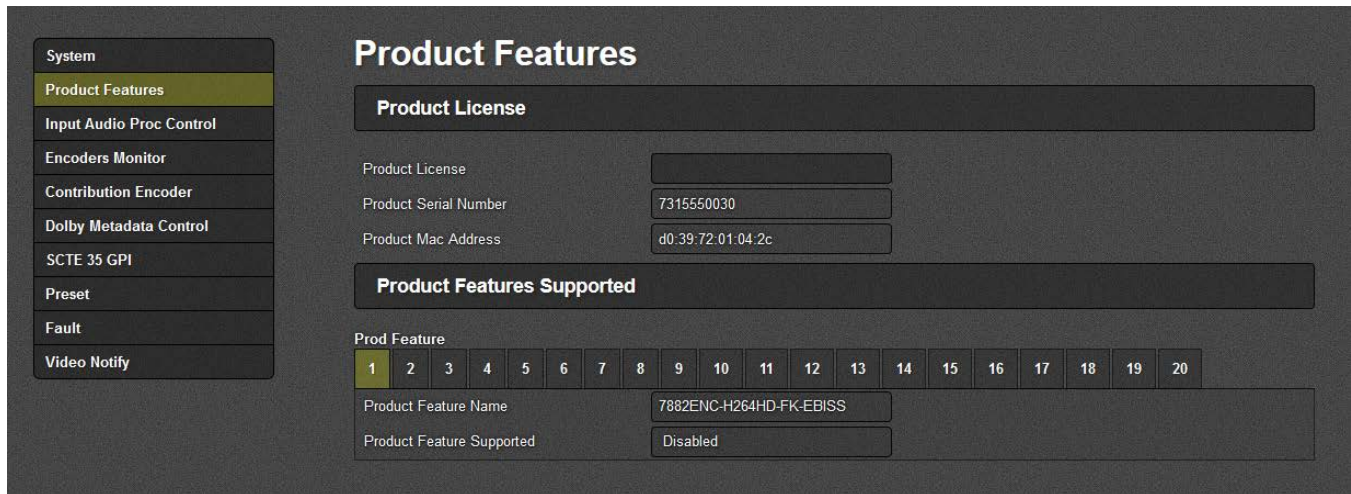
Default Set: This parameter can be used to reset most of the device's parameters to factory default values. All parameters except the below will be reset to Factory defaults:

- 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 7882ENC-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 License	
Product License	
Product Serial Number	7315550030
Product Mac Address	d0:39:72:01:04:2c

Product Features Supported	
Prod Feature	
1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
Product Feature Name	7882ENC-H264HD-FK-EBISS
Product Feature Supported	Disabled

Figure 4-5: 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 7882ENC-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 7882ENC-H264HD-IPASI.

Prod Feature

Product Feature Name: This parameter displays the possible product features supported on the 7882ENC-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

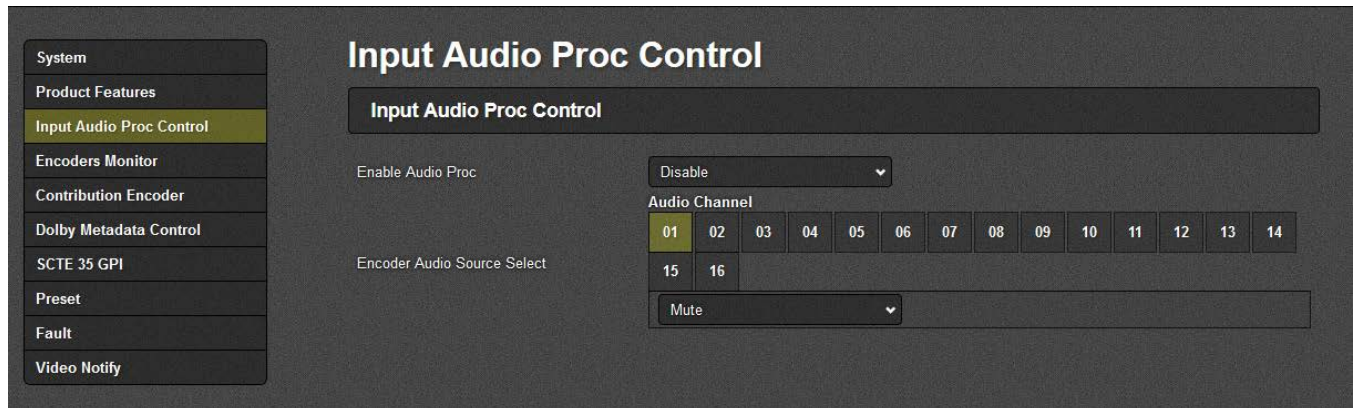


Figure 4-6: WebEASY – Input Audio Proc Control

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

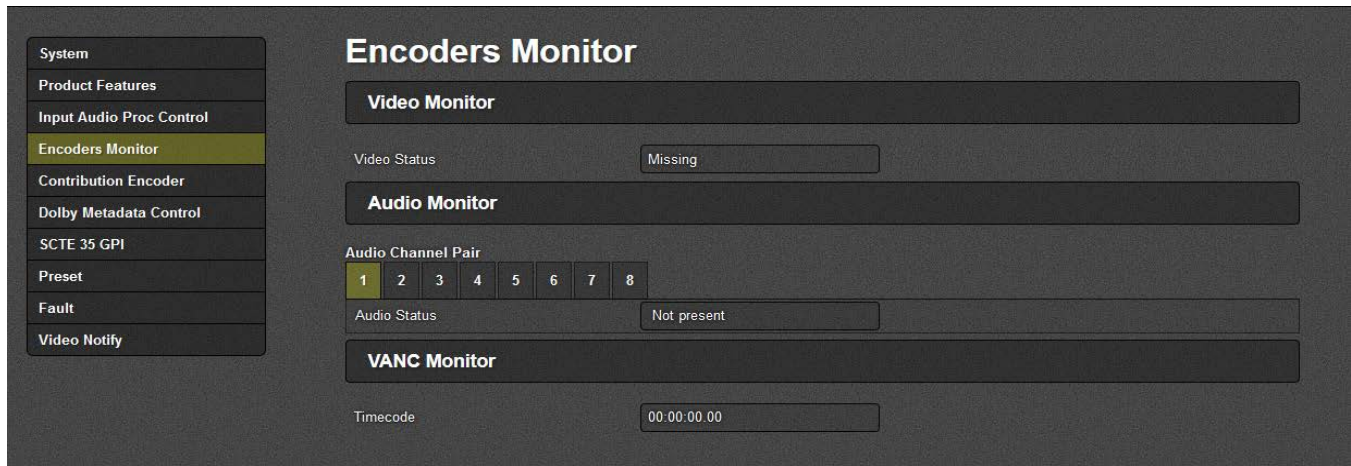


Figure 4-7: WebEASY[®] – Encoders Monitor

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).

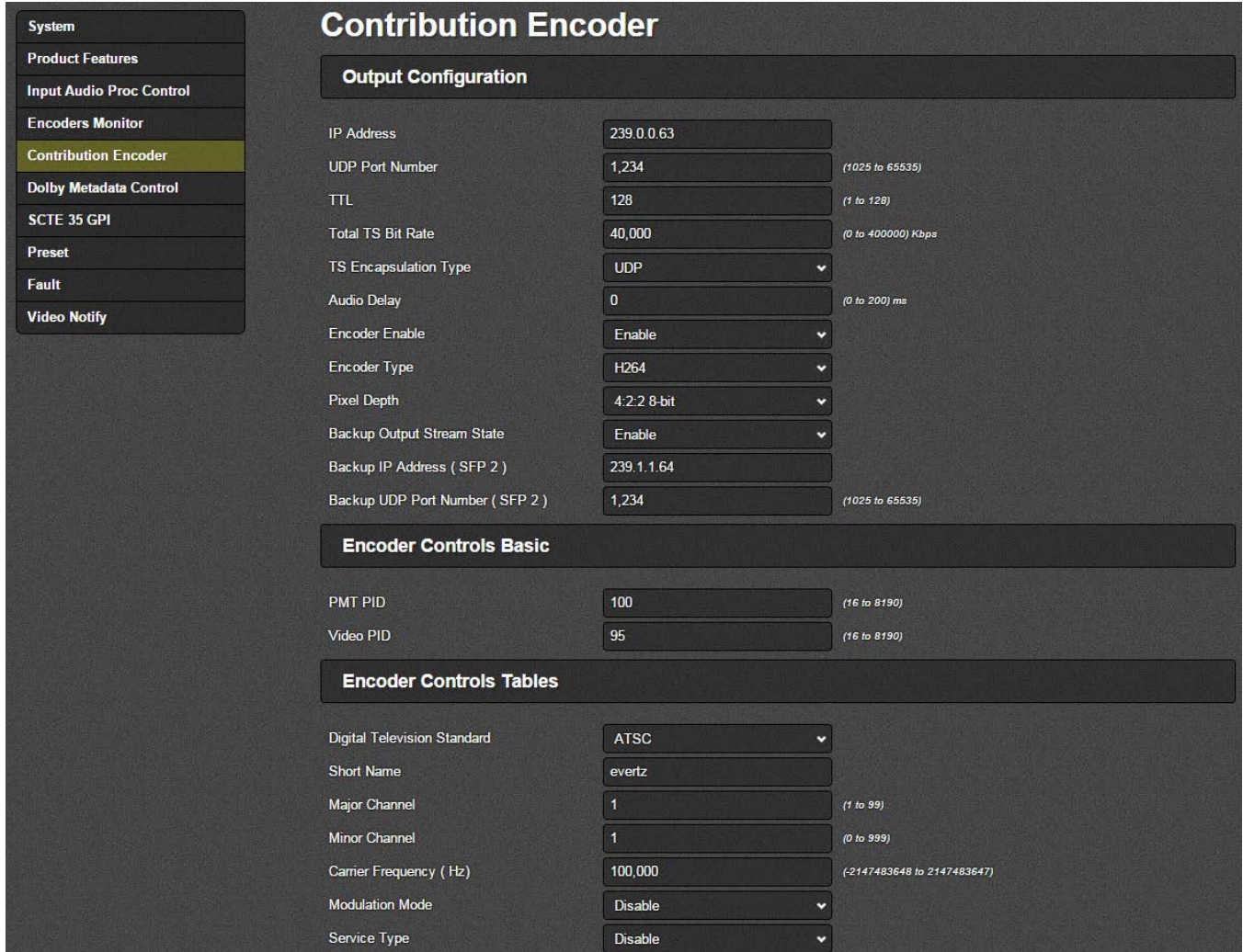
Audio Monitor

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

Output Configuration

IP Address	239.0.0.63	
UDP Port Number	1,234	(1025 to 65535)
TTL	128	(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 8-bit	▼
Backup Output Stream State	Enable	▼
Backup IP Address (SFP 2)	239.1.1.64	
Backup UDP Port Number (SFP 2)	1,234	(1025 to 65535)

Encoder Controls Basic

PMT PID	100	(16 to 8190)
Video PID	95	(16 to 8190)

Encoder Controls Tables

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 4-8: 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. Choices will depend on options purchased. Choices are:

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. This will enable streaming or not out of Data 2.

Backup IP Address (Data 2): This parameter allows the user to select a streaming output IP address for the Contribution Encoder Data 2 output. 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 for 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, table's options 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, table options 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	AAC-LC-2 . 0	Off
Audio 2	201	AAC-LC-2 . 0	Off
Audio 3	202	AAC-LC-2 . 0	Off
Audio 4	203	AAC-LC-2 . 0	Off
Audio 5	204	AAC-LC-2 . 0	Off
Audio 6	205	AAC-LC-2 . 0	Off
Audio 7	206	AAC-LC-2 . 0	Off
Audio 8	207	AAC-LC-2 . 0	Off

AC3 Audio Bitrate Setup

Audio Bitrate

192 Kbps

Advanced Video Settings

GOP Size

35

(15 to 60) frames

IDR Pictures

Enable

Latency Mode

Low

I-P Interval

1

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 4-9: WebEASY® – Contribution Encoder Part 2

Audio Assignment

Audio 1-8: The 7882ENC-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.

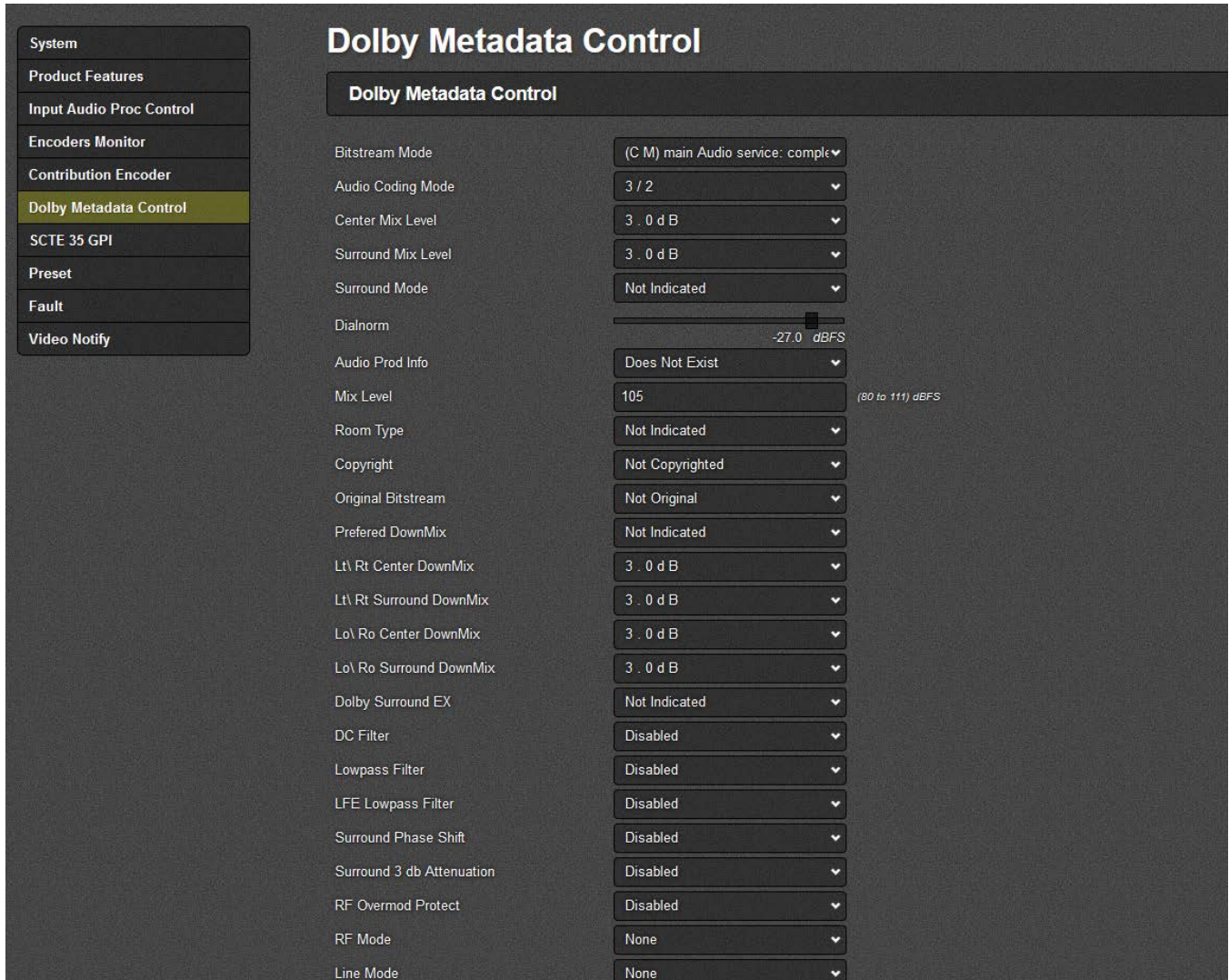
Closed GOP only applies and visible when MPEG 2 is selected as codec.

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: comple
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
Prefered DownMix	Not Indicated
Lt\ Rt Center DownMix	3 . 0 d B
Lt\ 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 4-10: WebEASY® – 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 Request

Disable

Splice Insert

0

Splice Insert Event ID

0

Splice Insert Type

Start Normal

Unique Program ID

0

Preroll

0

Break Duration

0

Avail Num

0

Avails Expected

0

Auto Return

Off

Time Signal Request

Disable

Preroll

0

Splice Null Request

Disable

Avail Descriptor

Disable

Avail Id

0

DTMF Descriptor

Disable

DTMF Char

DTMF Preroll

0

Segmentation Descriptor

Disable

Segmentation Event ID

0

Segmentation Event Cancel

0

Duration

0

Segmentation UPID Type

0

Segmentation UPID

Segmentation Type ID

0

Segment Num

0

Segment Expected

0

Delivery Not Restricted

0

Web Delivery Allowed

0

No Regional Blackout

0

Archive Allowed

0

Device Restrictions

None

Figure 4-11: WebEASY® – SCTE 35 GPI

Merged Table

For GPI 1 and GPI 2

GPI Triggering

GPI Triggering: This control allows the user to enable or disable GPI triggering.

Splice Insert Request

Splice Insert: This control allows the user to enable or disable the splice insert.

Splice Insert Event ID: This monitor displays the splice insert event ID.

Splice Insert Type: This control allows the user to set the splice insert type. Options are:

- Start Normal
- Start Immediate
- End Normal
- End Immediate
- Cancel

Unique Program ID: This control allows the user to set the splice insert unique program ID.

Preroll: This control allows the user to set the splice insert preroll.

Break Duration: This control allows the user to set the splice insert break duration.

Avail Num: This control allows the user to set the splice insert avail num.

Avails Expected: This control allows the user to set the splice insert avails expected.

Auto Return: This control allows the user to enable or disable the splice insert auto return.

Time Signal Request

Time Signal: This control allows the user to enable or disable the time signal.

Preroll: This control allows the user to set the time signal preroll.

Splice Null Request

Splice Null: This control allows the user to enable or disable the splice null.

Avail Descriptor

Descriptor Enable: This control allows the user to set the avail descriptor enable.

Avail ID: This control allows the user to set the avail descriptor avail ID.

DTMF Descriptor

Descriptor Enable: This control allows the user to set the DTMF descriptor enable.

DTMF Char: This control allows the user to set the DTMF descriptor DTMF char.

DTMF Preroll: This control allows the user to set the DTMF descriptor Preroll.

Segmentation Descriptor

Descriptor Enable: This control allows the user to set the segmentation descriptor enable.

Segmentation Event ID: This control allows the user to set the segmentation descriptor event ID.

Segmentation Event Cancel: This control allows the user to set the segmentation descriptor event cancel.

Duration: This parameter allows you to input the duration of the segmentation descriptor.

Segmentation UPID Type: This control allows the user to set the segmentation descriptor UPID type.

Segmentation UPID: This control allows the user to set the segmentation descriptor UPID.

Segmentation Type ID: This control allows the user to set the segmentation descriptor type ID.

Segment Num: This control allows the user to set the segmentation descriptor segment num.

Segment Expected: This control allows the user to set the segmentation descriptor segment expected.

Delivery Not Restricted: This control allows the user to set the segmentation descriptor.

Web Delivery Allowed: This control allows the user to set the segmentation descriptor delivery not restricted flag.

No Regional Blackout: This control allows the user to set the segmentation descriptor web delivery allowed flag.

Archive Allowed: This control allows the user to set the segmentation descriptor archive allowed flag.

Device Restrictions: This control allows the user to set the segmentation descriptor device restrictions. **Options are:**

- Restrict Group 0
- Restrict Group 1
- Restrict Group 2
- None

4.8. PRESET

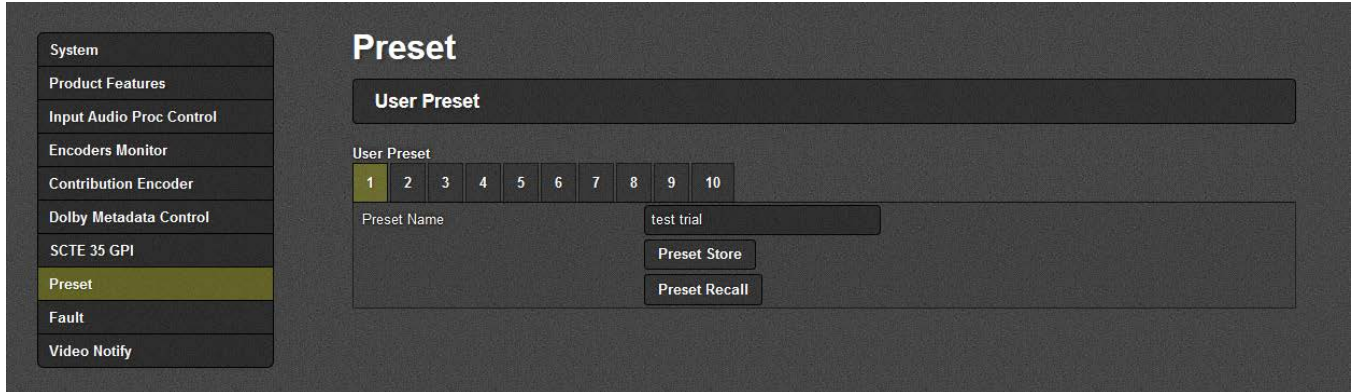


Figure 4-12: WebEASY® – Preset

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 7882ENC-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 7882ENC-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

7882ENC-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 4-13: 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.

Destination IP Address: This parameter allows the user to enter the IP address to associate with this destination.

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.

System Send Trap

Temperature Monitor 1 Threshold Exceeded

True

System Fault Present

Temperature Monitor 1 Threshold Exceeded

SCTE 35 and SCTE 104

SCTE 104 Present

SCTE 35 Send Trap

False

SCTE 35 Fault Present

SCTE 35 Present

False

Fault Configuration

Fan 1 Status

True

Metadata Bitrate Status

True

Ltc Bitrate Status

True

Control Data Bitrate Status

True

Encoder Input Status

True

Temperature Status

True

Fault Status

Fan 1 Status

Metadata Bitrate Status

Ltc Bitrate Status

Control Data Bitrate Status

Encoder Input Status

Temperature Status

Figure 4-14: WebEASY® – 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

SCTE 35 Send Trap: This allows the user to enable traps for SCTE 35 and SCTE 104 errors.

SCTE 35 Fault Present: This monitor displays if there is a fault condition on the SCTE 35 and SCTE 104. Green indicates healthy while red indicates a fault.

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

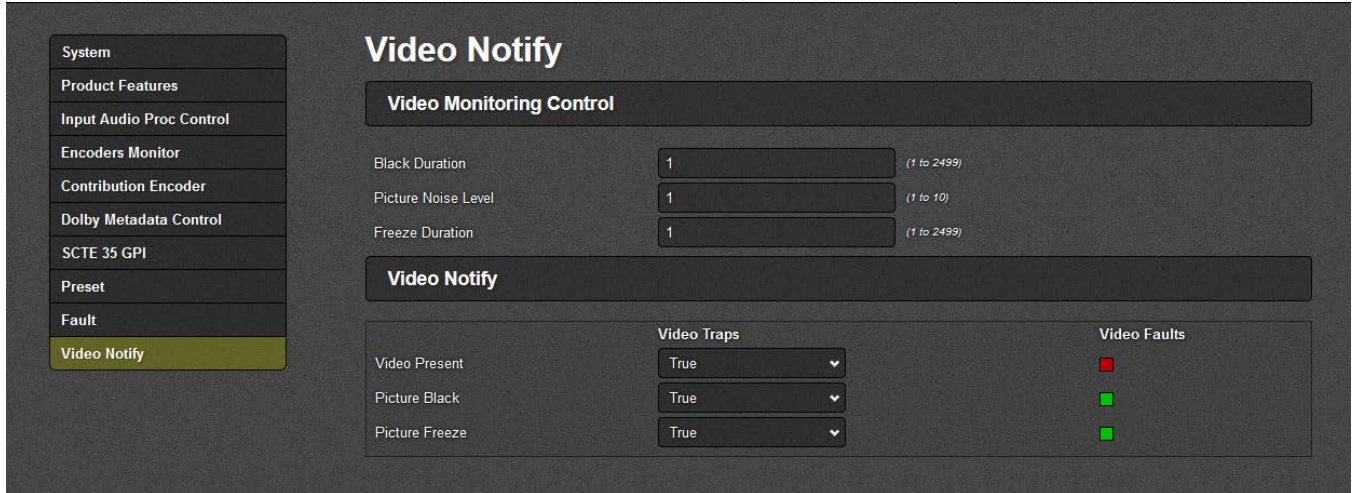


Figure 4-15: WebEASY® – Video Notify

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.

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5. VISTALINK[®] PRO INTERFACE

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

There are two methods that can be used to communicate with the 7882ENC-H264HD-IPASI and VistaLINK[®] PRO.

1. 7800FC Frame Controller and 7882ENC-H264HD-IPASI with appropriate Jar file and by using the control port from the frame controller.

Open VistaLINK[®] 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 control port. The 7800FC should show up and the number of 7882ENC-H264HD-IPASI cards installed after it in the tree formation.

2. Using the 7882ENC-H264HD-IPASI control port and appropriate Jar file.

Open VistaLINK[®] PRO and click on the refresh tree icon. Select 7882ENC-H264HD-IPASI and right click to “**View 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.

5.1. SYSTEM 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
Firmware Version Firmware Version: v2.0 build 0629				Control Port IP Address: 192.168.100.100 Netmask: 255.255.255.0 Gateway: 192.168.100.1		
Data Port 1 Control IP Address: 192.168.245.10 Netmask: 255.255.255.0 Gateway: 192.168.245.1		Data Port 2 Control IP Address: 192.168.246.11 Netmask: 255.255.255.0 Gateway: 192.168.246.1				
Data Port 1 Monitor SFP Part Number: None Link Status: Down Link Info: Unknown Receive Bandwidth: 0 Transmit Bandwidth: 0		Data Port 2 Monitor SFP Part Number: None Link Status: Down Link Info: Unknown Receive Bandwidth: 0 Transmit Bandwidth: 0				
Encoder Control Encoder SDI Input: SDI 1		Syslog Configuration External Syslog: Disable Syslog server IP: 0.0.0.0				
Output Port Mux Select BNC Output 4: Contribution Encoder BNC Output 2: HD / SD-SDI Loopout		System Control Default Set 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

IP Address: Allows user to set the IP Address for the Control Port.

NetMask: Allows user to set the Subnet NetMask for the Control Port.

Gateway: Allows user to set the Gateway for the Control Port.

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 kbps.

Output Port Mux Select

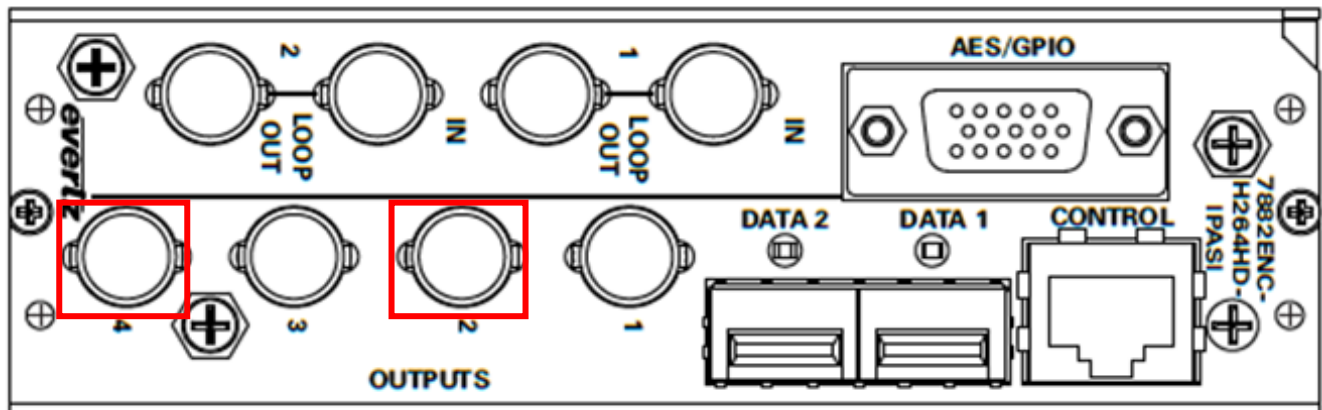


Figure 5-2: Illustration of BNC Outputs 2 and 4

BNC 2 Output and BNC 4 Output: This parameter allows the user to select the BNC 2 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: 7882ENC-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 7882ENC-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 7882ENC-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

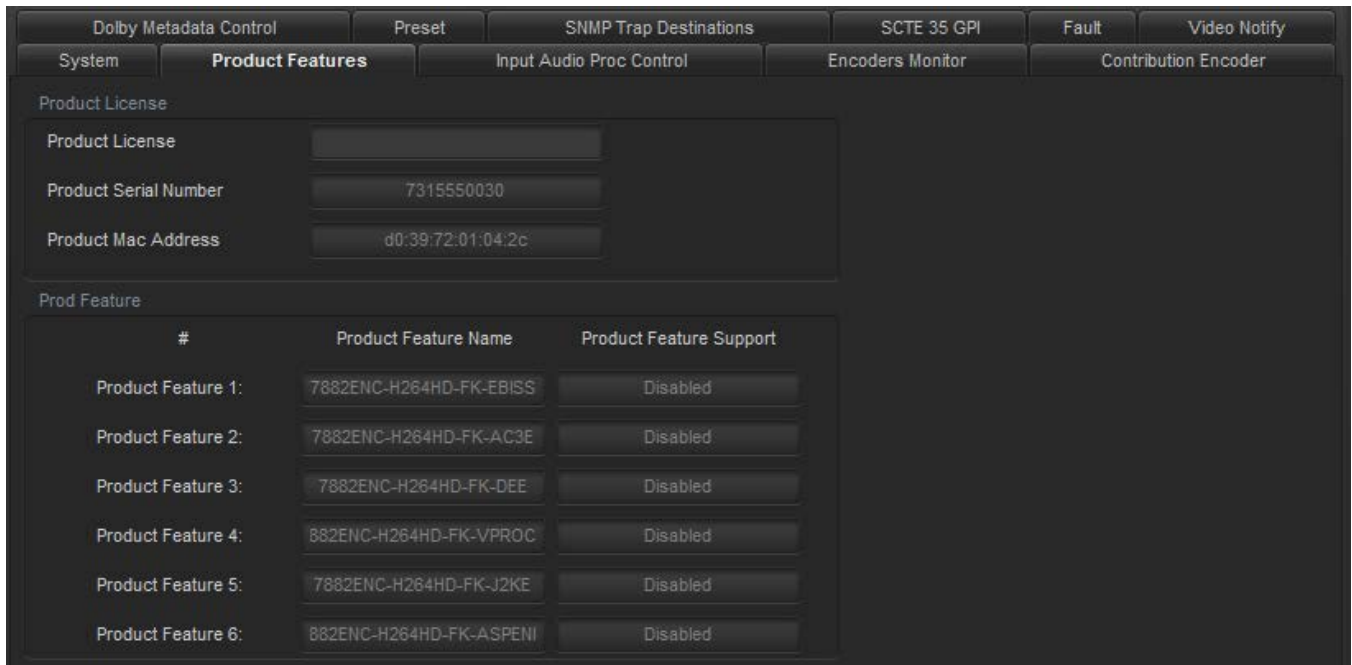
Default Set: This parameter can be used to reset most 7882ENC-H264HD-IPASI parameters to factory default values. All parameters except the below will be reset to Factory defaults:

- 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 7882ENC-H264HD-IPASI. It will cycle the power relay and cause an effective power cycle.

5.2. PRODUCT FEATURES TAB

The 7882ENC-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 7882ENC-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 7882ENC-H264HD-IPASI.

Prod Feature

Product Feature Name: This parameter displays the possible product features supported on the 7882ENC-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

Input Audio Proc Control	
Audio Source	Disable
Encoder Audio Source Select	
Audio Channel 1	Mute
Audio Channel 2	Mute
Audio Channel 3	Mute
Audio Channel 4	Mute
Audio Channel 5	Mute
Audio Channel 6	Mute
Audio Channel 7	Mute
Audio Channel 8	Mute
Audio Channel 9	Mute
Audio Channel 10	Mute
Audio Channel 11	Mute
Audio Channel 12	Mute
Audio Channel 13	Mute
Audio Channel 14	Mute
Audio Channel 15	Mute
Audio Channel 16	Mute

Figure 5-4: VistaLINK® - 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

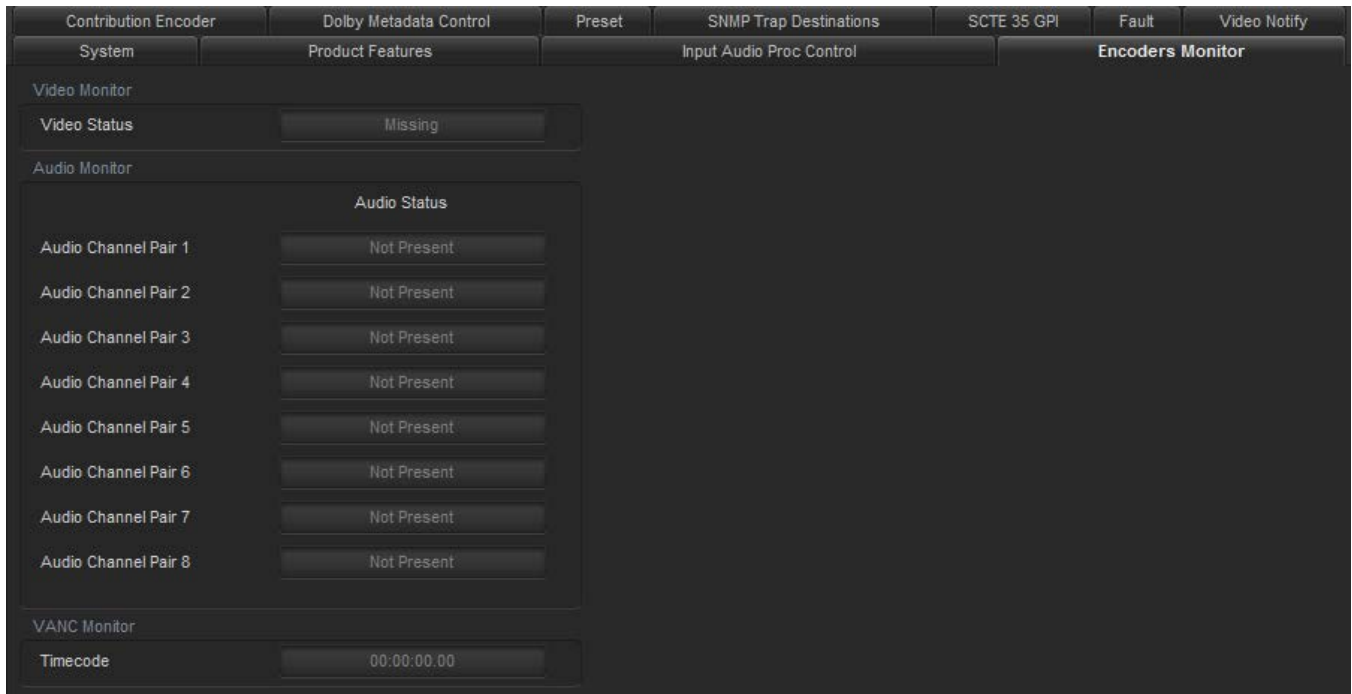


Figure 5-5: VistaLINK® - Encoder Monitor Tab

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

The screenshot shows the 'Contribution Encoder' tab in the VistaLINK interface. It features several sub-tabs at the top: System, Product Features, Input Audio Proc Control, Encoders Monitor, Dolby Metadata Control, Preset, SNMP Trap Destinations, SCTE 35 GPI, Fault, and Video Notify. The main content area is organized into six sections:

- Output Configuration:** Includes fields for IP Address (239.1.1.52), UDP Port Number (1234), TTL (64), Total TS Bit Rate (50000), TS Encapsulation Type (UDP), Audio Delay (0), Encoder Enable (Enable), Encoder Type (H264), Pixel Depth (4:2:2 10-bit), Backup Output Stream State (Enable), Backup IP Address (SFP2) (239.2.2.52), and Backup UDP Port Number (SFP2) (1234).
- Encoder Controls - Basic:** Includes PMT PID (100) and Video PID (95).
- Advanced Video Settings:** Includes a GOP Size slider (set to 35 frames), IDR Pictures (Enable), Latency Mode (Normal), Closed GOP (Open), and I-P Interval (3).
- AC3 Audio Bitrate Setup:** Includes AC3 Audio Bitrate (256 Kbps).
- Encoder Controls - Advanced:** A table for SCTE 35 and VANC settings.

	PID #	PID Enable/Disable	Max Bitrate (0 to 400 Kbps)
SCTE 35	400	Disable	0
VANC	401	Disable	0
- Audio Assignment:** A table for assigning audio channels.

	PID #	Audio Encoding Mode	Audio Start
Audio 1	200	AAC-LC-2.0	Channel Pair 1
Audio 2	201	AAC-LC-2.0	Channel Pair 2
Audio 3	202	AAC-LC-2.0	Channel Pair 3
Audio 4	203	AAC-LC-2.0	Channel Pair 4
Audio 5	204	AAC-LC-2.0	Channel Pair 5
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 7882ENC-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 7882ENC-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 7882ENC-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

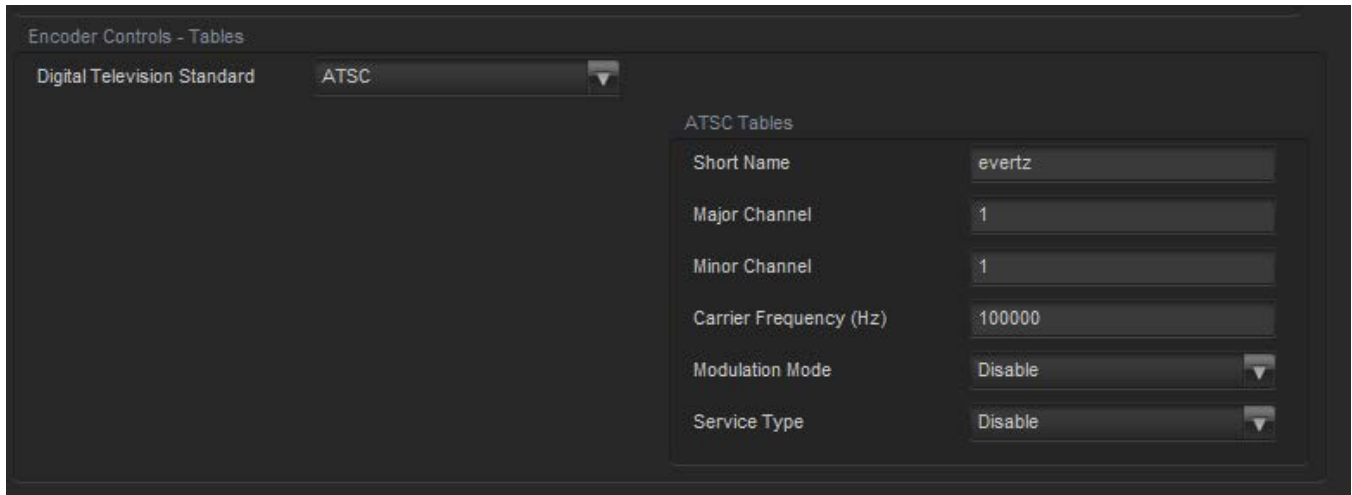
GOP Size: This parameter allows the user to set the GOP (Group of Pictures) size of the compressed stream. The range is from 15 to 60.

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

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



The screenshot shows the 'Encoder Controls - Tables' window. On the left, 'Digital Television Standard' is set to 'ATSC'. On the right, under 'ATSC Tables', the following settings are visible:

Parameter	Value
Short Name	evertz
Major Channel	1
Minor Channel	1
Carrier Frequency (Hz)	100000
Modulation Mode	Disable
Service Type	Disable

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		LoRc Center Downmix	3 . 0 d B		
Center Mix Level	3 . 0 d B		LoRc 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		
LfRt Center Downmix	3 . 0 d B					

Figure 5-8: VistaLINK[®] - 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® - 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 7882ENC-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 7882ENC-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.

Destination IP Address: This parameter allows the user to enter the IP address to associate with this destination.

Contribution Encoder		Dolby Metadata Control		Preset	SNMP Trap Destinations		SCTE 35 GPI	Fault	View
System		Product Features		Input Audio Proc Control				Encoders Monitor	
GPI Triggering					Splice Null Request				
GPI Triggering GPI 1	Disable				Splice Null GPI 1	Disable			
GPI Triggering GPI 2	Disable				Splice Null GPI 2	Disable			
Splice Insert Request GPI 1					Splice Insert Request GPI 2				
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			
Time Signal Request GPI 1					Time Signal Request GPI 2				
Time Signal	Disable				Time Signal	Disable			
Preroll	0				Preroll	0			
Avail Descriptor GPI 1					Avail Descriptor GPI 2				
Descriptor Enable	Disable				Descriptor Enable	Disable			
Avail ID	0				Avail ID	0			
DTMF Descriptor GPI 1					DTMF Descriptor GPI 2				
Descriptor Enable	Disable				Descriptor Enable	Disable			
DTMF Char					DTMF Char				
DTMF Preroll	<input type="text"/>	0				DTMF Preroll	<input type="text"/>	0	
Segmentation Descriptor GPI 1					Segmentation Descriptor GPI 2				
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 UPID Type	<input type="text"/>	0				Segmentation UPID Type	<input type="text"/>	0	
Segmentation UPID					Segmentation UPID				
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® - SCTE 35 GPI Tab

For GPI 1 and GPI 2

GPI Triggering

GPI Triggering: This control allows the user to enable or disable GPI triggering.

Splice Insert Request

Splice Insert: This control allows the user to enable or disable the splice insert.

Splice Insert Event ID: This monitor displays the splice insert event ID.

Splice Insert Type: This control allows the user to set the splice insert type. Options are:

- Start Normal
- Start Immediate
- End Normal
- End Immediate
- Cancel

Unique Program ID: This control allows the user to set the splice insert unique program ID.

Preroll: This control allows the user to set the splice insert preroll.

Break Duration: This control allows the user to set the splice insert break duration.

Avail Num: This control allows the user to set the splice insert avail num.

Avails Expected: This control allows the user to set the splice insert avails expected.

Auto Return: This control allows the user to enable or disable the splice insert auto return.

Time Signal Request

Time Signal: This control allows the user to enable or disable the time signal.

Preroll: This control allows the user to set the time signal preroll.

Splice Null Request

Splice Null: This control allows the user to enable or disable the splice null.

Avail Descriptor

Descriptor Enable: This control allows the user to set the avail descriptor enable.

Avail ID: This control allows the user to set the avail descriptor avail ID.

DTMF Descriptor

Descriptor Enable: This control allows the user to set the DTMF descriptor enable.

DTMF Char: This control allows the user to set the DTMF descriptor DTMF char.

DTMF Preroll: This control allows the user to set the DTMF descriptor Preroll.

Segmentation Descriptor

Descriptor Enable: This control allows the user to set the segmentation descriptor enable.

Segmentation Event ID: This control allows the user to set the segmentation descriptor event ID.

Segmentation Event Cancel: This control allows the user to set the segmentation descriptor event cancel.

Duration: This parameter allows you to input the duration of the segmentation descriptor.

Segmentation UPID Type: This control allows the user to set the segmentation descriptor UPID type.

Segmentation UPID: This control allows the user to set the segmentation descriptor UPID.

Segmentation Type ID: This control allows the user to set the segmentation descriptor type ID.

Segment Num: This control allows the user to set the segmentation descriptor segment num.

Segment Expected: This control allows the user to set the segmentation descriptor segment expected.

Delivery Not Restricted: This control allows the user to set the segmentation descriptor.

Web Delivery Allowed: This control allows the user to set the segmentation descriptor delivery not restricted flag.

No Regional Blackout: This control allows the user to set the segmentation descriptor web delivery allowed flag.

Archive Allowed: This control allows the user to set the segmentation descriptor archive allowed flag.

Device Restrictions: This control allows the user to set the segmentation descriptor device restrictions. **Options are:**

- Restrict Group 0
- Restrict Group 1
- Restrict Group 2
- None

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

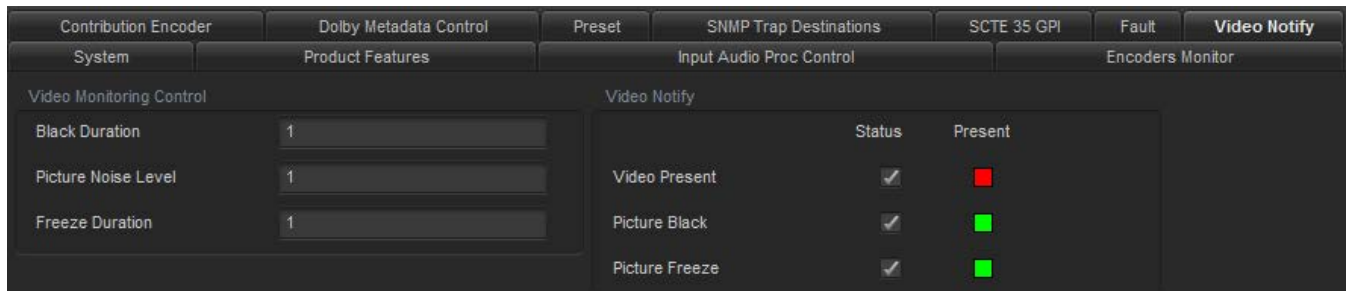


Figure 5-13: VistaLINK® - Video Notify

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.

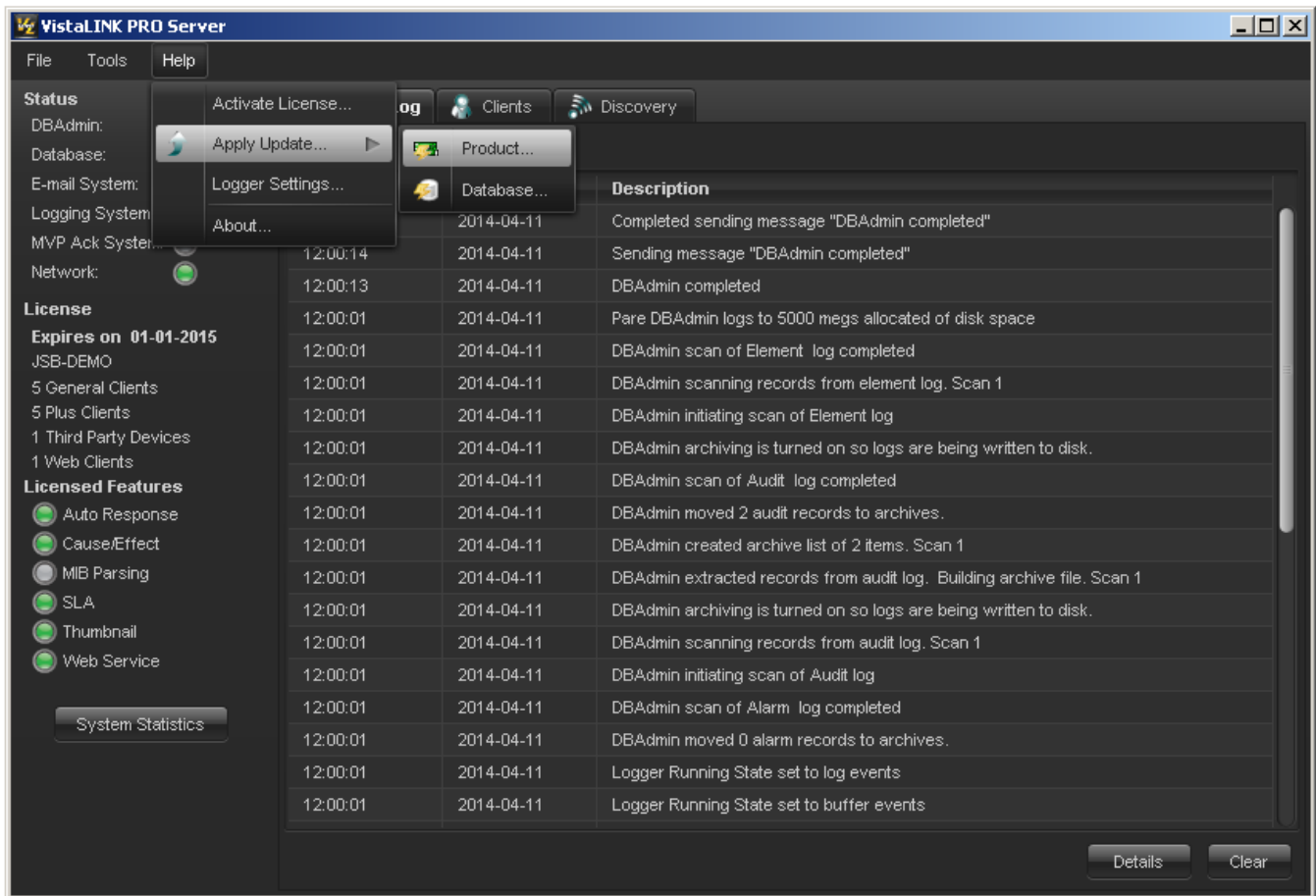


Figure 6-1: VistaLINK® PRO Server

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.

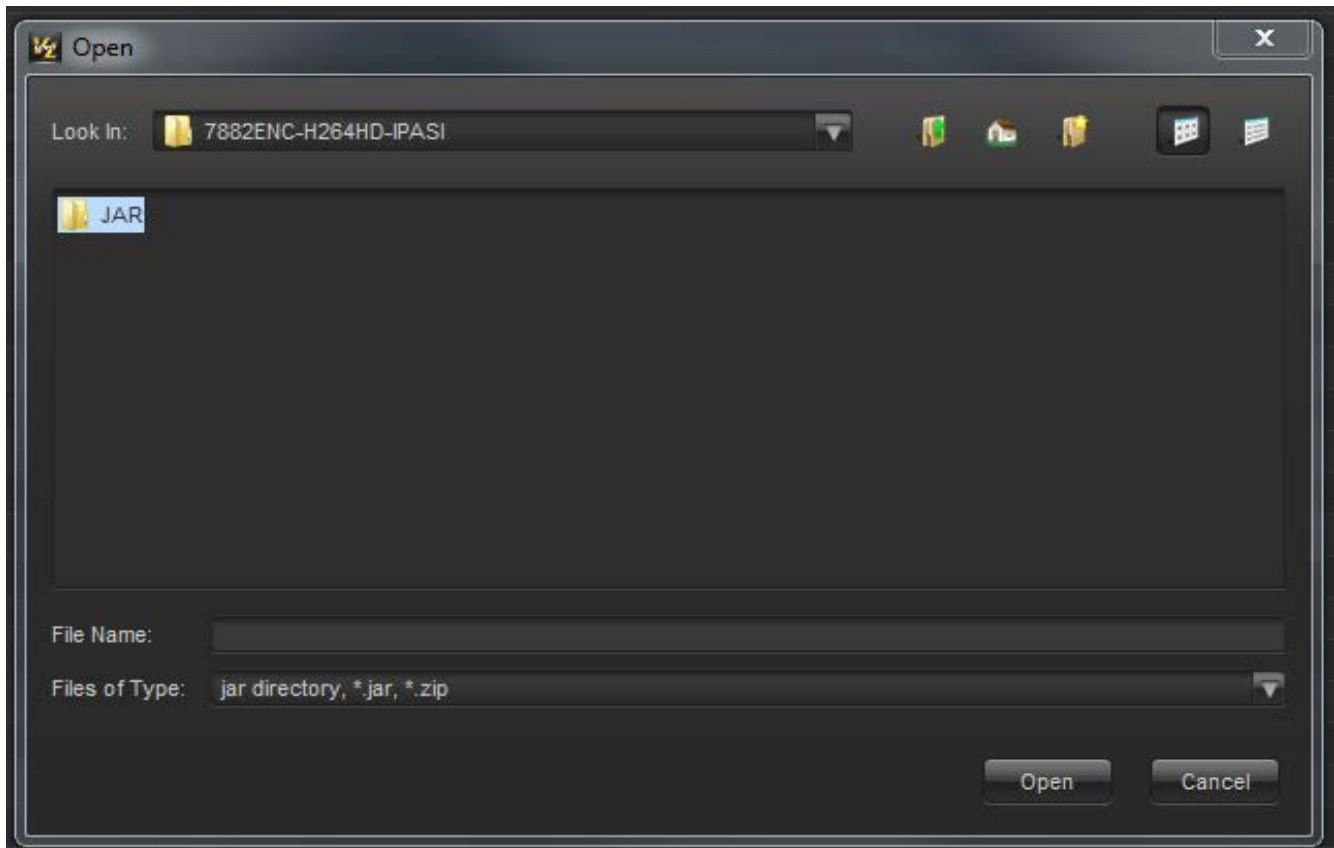


Figure 6-2: VistaLINK® PRO – Applying JAR Updates

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 7882ENC-H264HD-IPASI:

1. WebEASY®
2. VistaLINK® with the 7800FC

Using the WebEASY® on a web interface is the fastest and recommended procedure to load the firmware onto the 7882ENC-H264HD-IPASI.

6.3. FIRMWARE UPGRADE USING WEBEASY®

When first visiting the 7882ENC-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 7882ENC-H264HD-IPASI, there is a tab labeled **Upgrade**. The **Upgrade** tab is used to check current firmware version and upload the latest firmware.

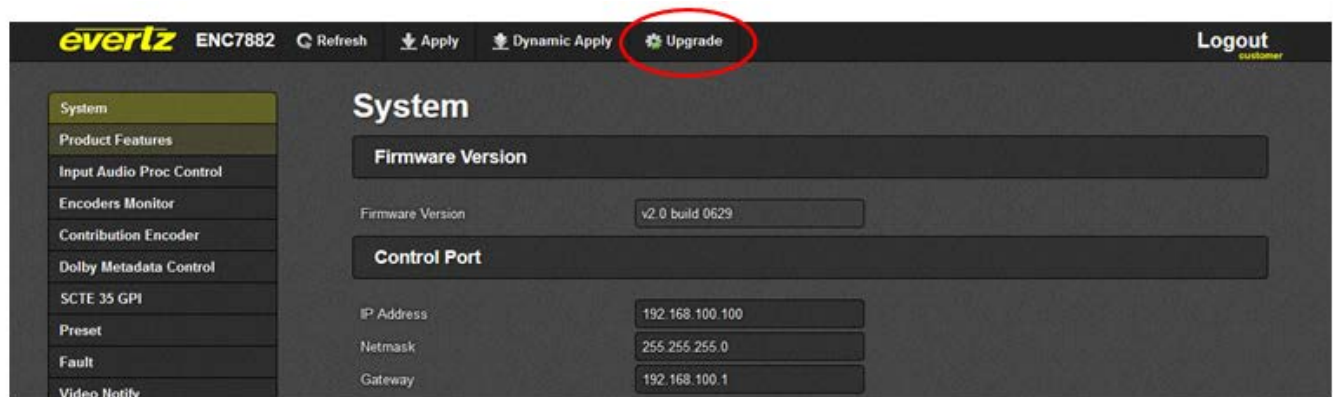


Figure 6-3: WebEASY® - Upgrade Button on Top Menu Bar

Selecting the Upgrade tab, will take you to Figure 6-5 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.

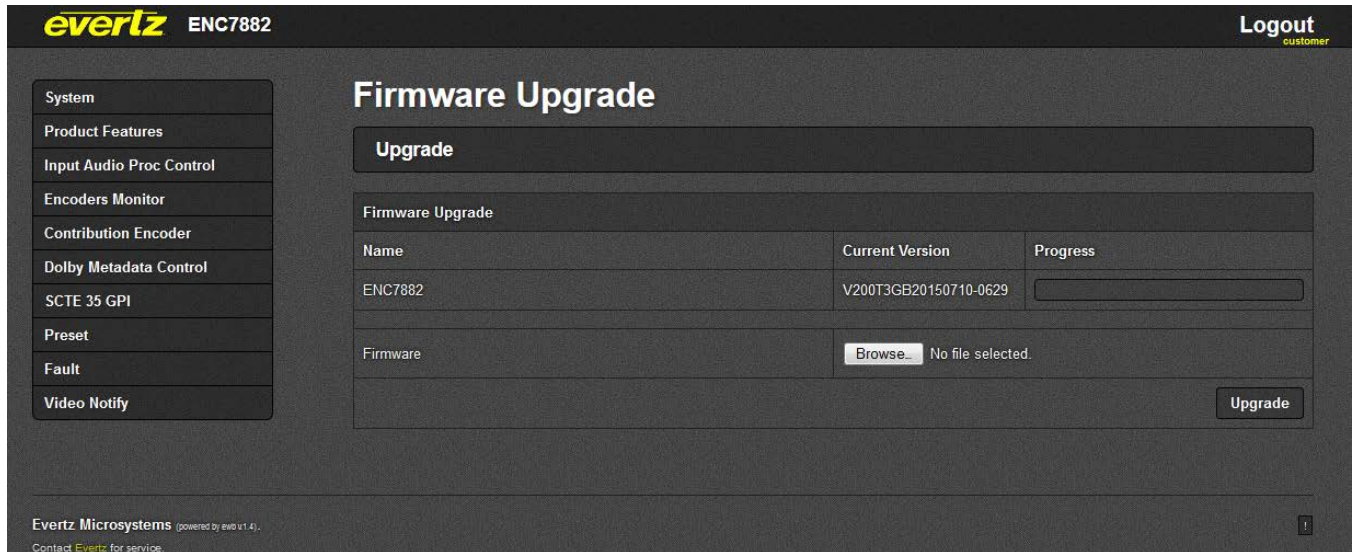


Figure 6-4: WebEASY® - Firmware Upgrade Menu

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.

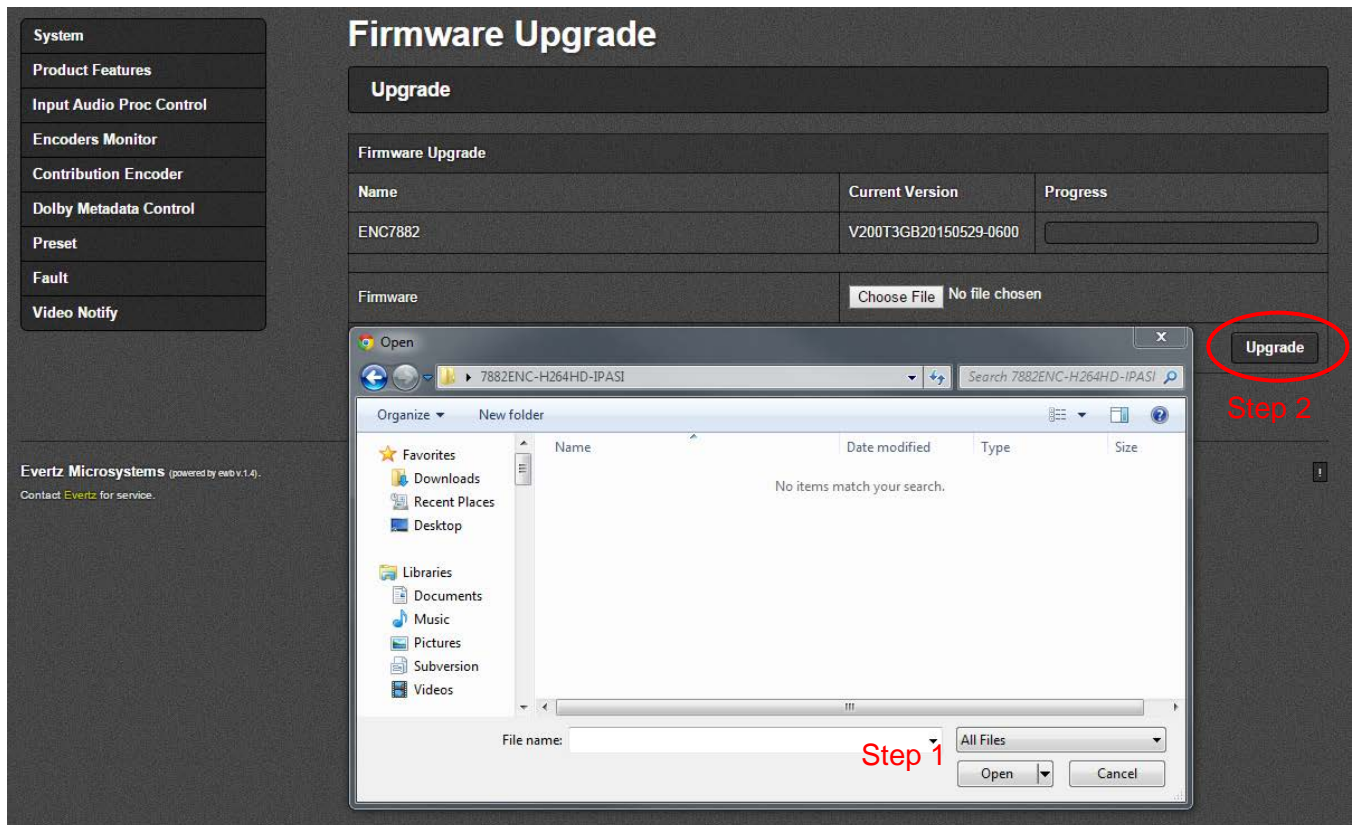


Figure 6-5: WebEASY® - Firmware Upgrade Menu

6.4. FIRMWARE UPGRADE USING VISTALINK® WITH THE 7800FC

Upgrading the firmware using VistaLINK® can be accomplished using the 7800FC frame controller and the 7882ENC-H264HD-IPASI. It's recommended to use the 7800FC over the 7700FC when upgrading. If 7700FC is present, recommend upgrading via direct web interface. 7700FC upgrade will take over 30min per card vs 2-4min with 7800FC or direct web.

Ensure that the 7882ENC-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 6-7.

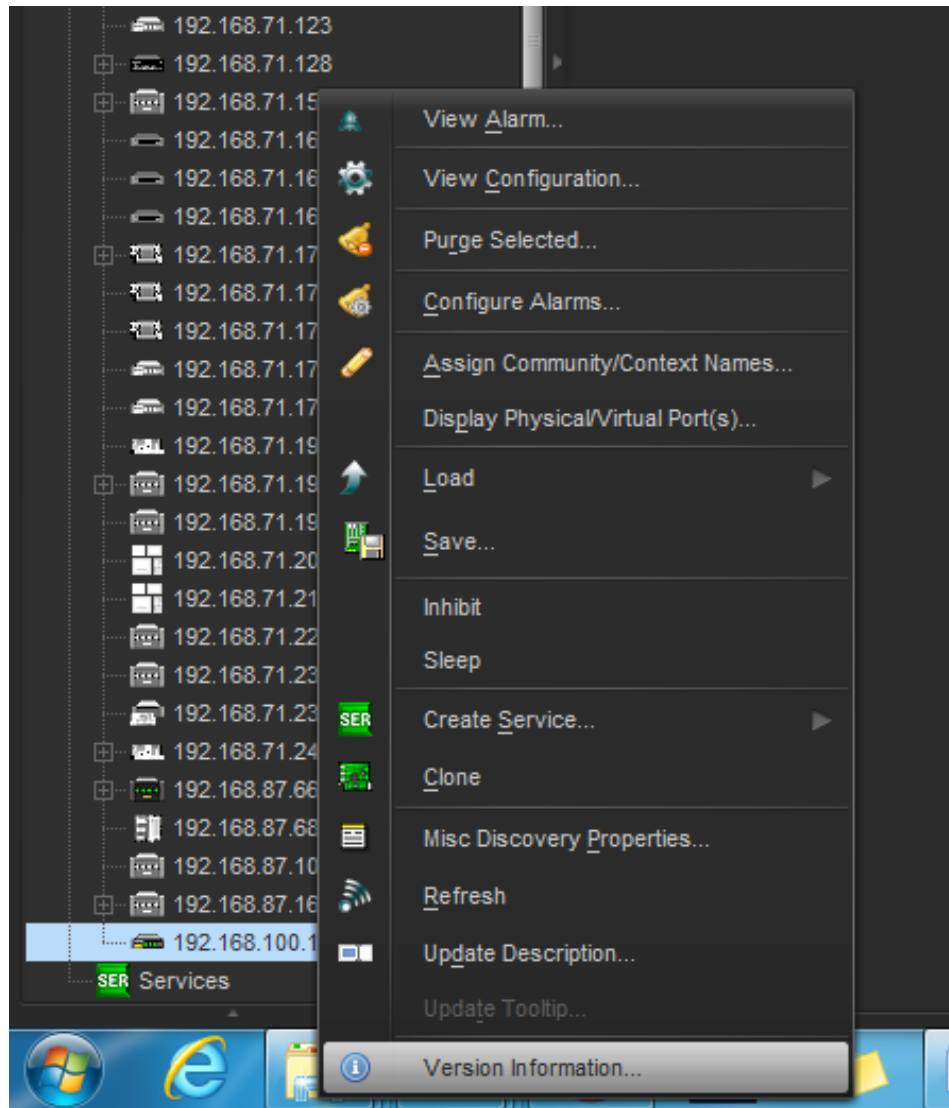


Figure 6-6: VistaLINK® - Selecting Version Information

Once *Version Information* is selected, Figure 6-8 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.

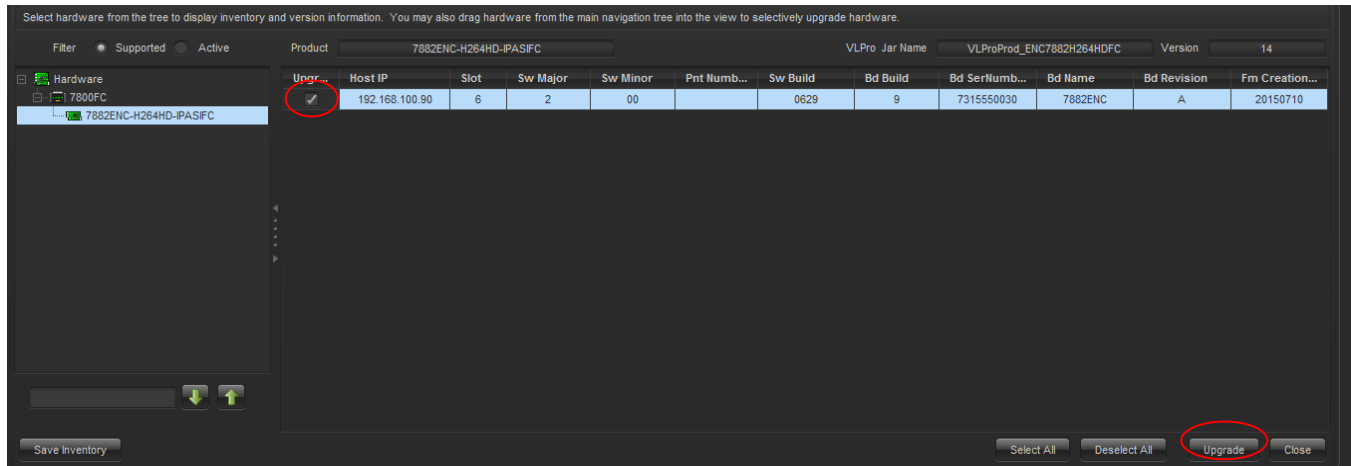


Figure 6-7: VistaLINK® - Selecting Card for Upgrade

- Click the 'Upgrade' button on bottom right corner
- Click the 'Browse' button to select the 7882ENC-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.

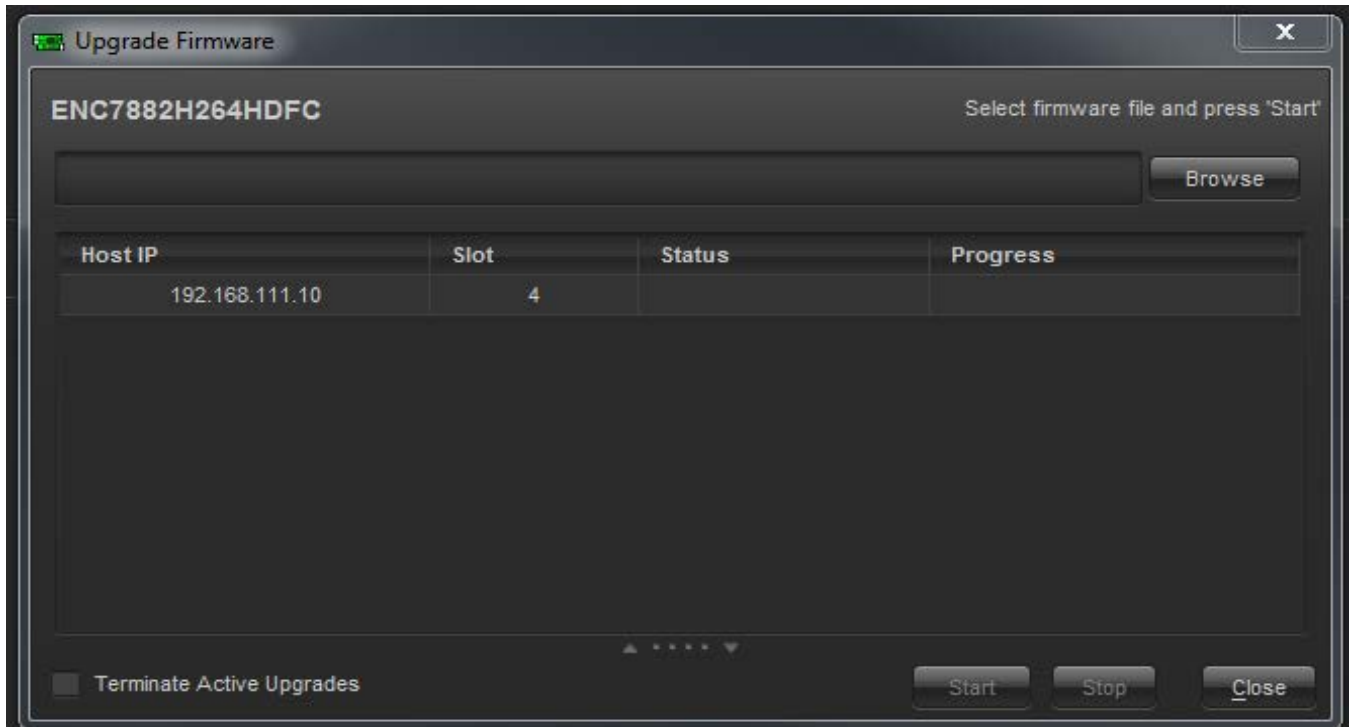


Figure 6-8: Selecting File for Firmware Upgrade

- Upon completion, the 7882ENC-H264HD-IPASI module will reboot automatically and return online in normal "run" mode.

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