7880IPG8-10GE2 Hybrid Baseband/Ethernet Infrastructure – Media Gateway User Manual

© Copyright 2015

EVERTZ MICROSYSTEMS LTD.

5292 John Lucas Drive, Burlington, Ontario, Canada L7L 5Z9

Phone:+1 905-335-3700Sales:sales@evertz.comTech Support:service@evertz.comWeb Page:http://www.evertz.com

Fax: +1 905-335-3573 Fax: +1 905-335-7571

Version 1.0, February 2015

The material contained in this manual consists of information that is the property of Evertz Microsystems and is intended solely for the use of purchasers of the 7880IPG8-10GE2 product. Evertz Microsystems expressly prohibits the use of this manual for any purpose other than the operation of the 7880IPG8-10GE2 product. Due to on going research and development, features and specifications in this manual are subject to change without notice.

All rights reserved. No part of this publication may be reproduced without the express written permission of Evertz Microsystems Ltd. Copies of this manual can be ordered from your Evertz dealer or from Evertz Microsystems.

This page left intentionally blank

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

<u>NOTE</u>

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.



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



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

INFORMATION TO USERS IN THE U.S.A.

<u>NOTE</u>

FCC CLASS A DIGITAL DEVICE OR PERIPHERAL

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

WARNING

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

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



TABLE OF CONTENTS

1.	OVE	RVIEW	.1
2.	GET	TING STARTED	.3
	2.1.	REAR PLATE DESCRIPTION	.3
	2.2.	INSTALLATION OF THE 7880IPG8-10GE2 INTO 7800 FRAME	. 4 .4
		2.2.2. When connecting without a frame controller	.4
	2.3.	HARDWARE INSTALLATION WITHOUT FRAME CONTROLLER	.5
	2.4.	CONFIGURING BASIC NETWORK SETTINGS WITHOUT FRAME CONTROLLER	.6
	2.5.	CONNECTING TO VLPRO.2.5.1. Connecting to VLPRO through the frame controller.2.5.2. Connecting to VLPRO without the frame controller.	. 7 .7 .7
3.	TEC	HNICAL SPECIFICATIONS	.9
	3.1.	 SERIAL DIGITAL VIDEO	.9 .9 .9 .9
	3.2.	ELECTRICAL	.9
	3.3.	ENCLOSURES	.9
	3.4.	CONTROL1	10
4.	ENC	ODER - VISTALINK® PRO INTERFACE1	11
	4.1.	SYSTEM CONFIGURATION 1 4.1.1. System 4.1.2. Product Features 4.1.3. Configuration 4.1.4. System Notify 4.1.5. Video Notify 4.1.6. Encoder Control	1 4 5 7 18
5.	ENC	ODER - WEB EASY® INTERFACE	21
	5.1.	SYSTEM CONFIGURATION 2 5.1.1. System 2 5.1.2. Product Features 2 5.1.3. Configuration 2 5.1.4. Encoder Control 2 5.1.5. Video Notify 2 5.1.6. System Notify 2	21 24 25 27 29

7880IPG8-10GE2 Hybrid Baseband/Ethernet Infrastructure – Media Gateway



6.	DEC	:ODER - VISTALINK _® PRO INTERFACE	31
	6.1.	SYSTEM CONFIGURATION	31
		6.1.1. System	31
		6.1.2. Product Features	33
		6.1.3. Input Control	34
		6.1.4. Output Control	36
		6.1.5. Stream Monitor Control (for future implementation)	38
		6.1.6. Video Notify	39
		6.1.7. Audio Notify	40
		6.1.8. System Notify	43
		6.1.9. Decoder Control	43
		6.1.10. Decoder Input Program Control	44
		6.1.11. Decoder Input Monitor	45
		6.1.12. Decoder Program Monitor: (for future implementation)	48
		6.1.13. PID Monitor (for future implementation)	49
		6.1.14. Decoder Input Notify	50
7.	DEC	ODER - WEB EASY® INTERFACE	51
	7.1.	SYSTEM CONFIGURATION	51
		7.1.1. System	51
		7.1.2. Product Features	54
		7.1.3. Input Control	55
		7.1.4. Output Control	58
		7.1.5. Decoder Input Monitor	59
		7.1.6. Decoder Program Monitor	62
		7.1.7. Decoder Notify	64
		7.1.8. Video Notify	65
		7.1.9. Audio Notify	66
		7.1.10. System Notify	68
8.	UPG	RADING THE FIRMWARE 7880IPG8-10GE2	69
	8.1.	CHECKING FIRMWARE VERSION ON THE 7880IPG8-10GE2	69
		8.1.1. 7880IPG8-10GE2 Connected to the Frame Controller	69
		8.1.2. 7880IPG8-10GE2 Connected to the Control Port	69
		8.1.3. Downloading the 7880IPG8-10GE2 Image	69
	8.2.	REMOTE UPGRADE PROCEDURE USING VISTALINK®	70
		8.2.1. Upgrading 7880IPG8-10GE2 through Frame Controller or Control Port	70
		8.2.2. Upgrading 7880IPG8 using the Control Port	71



Figures

Figure 1-1: 7880IPG8-10GE2 Encoder Block Diagram	2
Figure 1-2: 7880IPG8-10GE2 Decoder Block Diagram	2
Figure 2-1: 7880IPG8-10GE2 Rear Panel Diagram	3
Figure 3-1: Tera Term Main Menu	5
Figure 3-2: Tera Term Network Setup	6
Figure 3-3: VistaLINK PRO Adding New Agent	8
Figure 3-4: VistaLINK PRO Adding New Agent IP Address	8
Figure 4-1: VistaLINK PRO System Configuration	11
Figure 4-2: VistaLINK PRO System Configuration continued	
Figure 4-3: VistaLINK PRO Product Features	
Figure 4-4: VistaLINK PRO Configuration	15
Figure 4-5. Vistal INK PRO System Notiv	17
Figure 4-6: Video Notify	17
Figure 4-7. Vistal INK PRO Encoder Individual Controls	18
Figure 4-8: Vistal INK PRO Encoder Control	18
Figure 5-1: Web Easy System Configuration	21
Figure 5-2: Web Easy System Configuration continued	21
Figure 5-3: Web Easy System Configuration continued	22
Figure 5-4: Web Easy System Configuration continued	23
Figure 5-5: Web Easy Product Features	20
Figure 5-6: Web Easy Configuration	24
Figure 5-7: Configuration continued	20
Figure 5-8: Web Easy Encoder Control	20
Figure 5-9: Web Easy Encoder Control continued	27
Figure 5-10: Web Easy Video Notify	20
Figure 5-11: Web Easy System Notify	20 30
Figure 6-1: Vietal INK, PRO System Configuration	30
Figure 6-2: VistaLINK _e PRO Product Features	31
Figure 6-2: VistaLINK® PRO Input Control	30 34
Figure 6-4: VistaLINK, PPO Input Control continued	25
Figure 6-5: VistaLINK _e PRO Output Control	36
Figure 6-6: VistaLINK _e PRO Output Control continued	37
Figure 6-7: Vistal INK, PRO Stream Monitor Control (for future implementation)	07 38
Figure 6-8: VistaLINK, PRO Video Notify	30 30
Figure 6-9: VistaLINK, PRO Audio Notify	00
Figure 6-10: Vistal INK, PRO Audio Notify continued	40
Figure 6-11: Vistal INK, PRO Audio Notify continued	4 0 //1
Figure 6-12: Vistal INK, PRO Audio Notify continued	1
Figure 6-13: Vistal INK, PRO Audio Notify continued	
Figure 6-14: Vistal INK, PRO Audio Notify continued	72
Figure 6-15: Vistal INK _® PRO System Notify	<u>-</u> 43
Figure 6-16: Vistal INK, PRO Individual Decoder Selection	+5
Figure 6-17: Vistal INK _® PRO Decoder Input Control	4 5 44
Figure 6-18: Vistal INK _® PRO Decoder Input Control	 45
Figure 6-19: Vistal INK, PRO Decoder Program Monitor (for future implementation)	40
Figure 6-20: Vistal INK, PRO PID Monitor	40 40
Figure 6-21: Vistal INK PRO Decoder Input Notify	45
Figure 7-1: Web Fasy System	50
Figure 7-2: Web Easy System continued	
Figure 7-3: Web Easy System continued	57
Figure 7-4: Web Easy Droduct Features	52 51
Figure 7-5: Web Easy Inout Control	54
Figure 7-6: Web Easy Input Control continued	56
Figure 7-7: Web Easy Input Control continued	50 57
	57



Figure 7-8: Web Easy Output Control	58
Figure 7-9: Web Easy Decoder Input Monitor	59
Figure 7-10: Web Easy Decoder Input Monitor continued	60
Figure 7-11: Web Easy Decoder Input Monitor	60
Figure 7-12: Web Easy Decoder Program Monitor	62
Figure 7-13: Web Easy Decoder Input Monitor continued	63
Figure 7-14: Web Easy Decoder Notify	64
Figure 7-15: Web Easy Video Notify	65
Figure 7-16: Web Easy Audio Notify	
Figure 7-17: Web Easy System Notify	
Figure 8-1: Version Information	
Figure 8-2: Selected Cards for Upgrade	70
Figure 8-3: Selecting File for Firmware Upgrade	71
Figure 8-4: Firmware Upgrade Tab	72
Figure 8-5: Firmware Upgrade Page for 7880IPG8-10GE2	72



REVISION HISTORY

REVISION

DESCRIPTION

<u>DATE</u>

1.0 First Release

Feb 2015

Information contained in this manual is believed to be accurate and reliable. However, Evertz assumes no responsibility for the use thereof nor for the rights of third parties, which may be affected in any way by the use thereof. Any representations in this document concerning performance of Evertz products are for informational use only and are not warranties of future performance, either expressed or implied. The only warranty offered by Evertz in relation to this product is the Evertz standard limited warranty, stated in the sales contract or order confirmation form.

Although every attempt has been made to accurately describe the features, installation and operation of this product in this manual, no warranty is granted nor liability assumed in relation to any errors or omissions unless specifically undertaken in the Evertz sales contract or order confirmation. Information contained in this manual is periodically updated and changes will be incorporated into subsequent editions. If you encounter an error, please notify Evertz Customer Service department. Evertz reserves the right, without notice or liability, to make changes in equipment design or specifications.



This page left intentionally blank



1. OVERVIEW

The 7880IPG8-10GE2 is the optimal Media Gateway SDI interface access points for next generation Hybrid Baseband/IP broadcast infrastructures. With direct conversion of up to 6 signals to direct mezzanine compression via JPEG2000, the 7880IPG8 series delivers unparalleled processing densities. With support for up to 2 dedicated signal paths which can carry either A-Link, TDM or P-Link_© data.

The 7880IPG8-10GE2 also supports HD/SDI, SD/SDI, and ASI encapsulation over 10G and user configurable 1G. This product features Evertz 3rd generation ultra low latency, high density JPEG2000 codec technology over 10GE and user configurable 1G Ethernet. The 7880IPG8-10GE2 also provides per input AVM monitoring, auto-timing, time stamped Ethernet outputs and multi-resolution JPEG2000 streaming outputs.

The 7880IPG8 series incorporates a multi-path, multiflow packet merge based network bit error resilience for 100% QoS. A HOT Redundant (HTR) is also available providing 100% uptime under all electronic circuitry faults. 7880IPG8-10GE2 can be managed via an Integrated HTTP web interface as well as through Evertz's VistaLink Professional© SNMP management system via a Frame Controller.

Features & Benefits

- 6 x 3G/HD/SD JPEG2000 Encoder/Decoder Standards Supported: 1080p/59.94, 1080p/50, 1080i/59.94, 1080i/50, 720p/59.94, 720p/50, 525i/59.94, 625i/50
- 2x A-Link / TDM / PLink[™] data paths
- 3G/HD/SD/ASI Encapsulation over 10Gig
- SD/ASI Encapsulation over 1Gig

Mezzanine Encode Processing and encapsulation over IP:

- Video JPEG2000 encoded to native resolution
- 4 groups of audio encapsulated
- Full VANC encapsulation without delay

Mezzanine Decode Processing:

- Video JPEG2000 decoded from native resolution
- 4 groups of audio de-encapsulated
- Full VANC de-encapsulation and embedding on SDI outputs
- Integrated Cross Connect for regeneration of SDI outputs

Control and Baseband Processing

- Modules support control over frame Ethernet
- Modules have on board AVM on all base band signals
- SNMP control from Vistalink
- 7880IPG8-10GE2+CK6+J2KD features re-direction of received J2K signal for Network Operations Center (NOC) Monitoring





Figure 1-1: 7880IPG8-10GE2 Encoder Block Diagram



Figure 1-2: 7880IPG8-10GE2 Decoder Block Diagram



2. GETTING STARTED

2.1. REAR PLATE DESCRIPTION



Figure 2-1: 7880IPG8-10GE2 Rear Panel Diagram

- Mini-Din IN: Mini-Din connectors on the input 1-8 all support encapsulation and Mini-Din 1-6 for encoding only. Output Mini-Dins are not used for encapsulators / encoder.
- Mini-Din Out: Mini-Din connectors on the output 1-8 all support de-encapsulation and Mini-Din 1-6 for decoding only. Input Mini-Dins are not used for de-encapsulators / decoder.
- SFP: Dual 10GE or user configurable 1Gig SFP+ connectors (SFP modules are to be ordered separately) supporting MPEG2 TS over IP and Multicast IGMP V2/V3 (SSM Support). 1Gig Module part number is SFPTR-RJ45-SGM-AV and optical 10Gig SFP part number is SFP10G-TR13.



2.2. INSTALLATION OF THE 7880IPG8-10GE2 INTO 7800 FRAME

The 7880IPG8-10GE2 can be controlled by the Ethernet direct control port or frame controller.

The following materials are required to successfully install the 7880IPG8-10GE2:

2.2.1. When connecting with a frame controller

- 1. 7800FC configured (refer to 7800FC manual) on a 7800 frame
- 2. Latest jar FC build file for the 7880IPG8-10GE2



Please contact Evertz for FC jar file if it's not available on Evertz web site.

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 7800 chassis two adjacent vacant slots. Unpack the 7880IPG8-10GE2 and separate the rear plate from the main card. Locate on the rear of the rack the two slots and remove the blanking panels. Insert the rear plate into the back of the chassis and secure using the screws provided.

Insert the 7880IPG8-10GE2 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 is has been firmly pushed into a seated position. This can be confirmed when the connectivity lights for the Ethernet port are illuminated. *Skip to section 3.7 Connecting To VLPRO.*

2.2.2. When connecting without a frame controller

- 1. Unused IP address on the network or a DHCP server
- 2. 7800 frame
- 3. VLPro Server IP address to connect to
- 4. Latest jar file for the 7880IPG8-10GE2
- 5. Evertz serial cable



Please contact Evertz for 7880IPG8-10GE2 jar build file if it's not available on Evertz web site.

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 7800 chassis two adjacent vacant slots. Unpack the 7880IPG8-10GE2 and separate the rear plate from the main card. Locate on the rear of the rack the two slots and remove the blanking panels. Insert the rear plate into the back of the chassis and secure using the screws provided.

Before inserting the front card, connect the serial cable to the board using the rainbow coloured serial cable provided. Insert the 7880IPG8-10GE2 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 is has been firmly pushed into a seated position. This can be confirmed when the connectivity lights for the Ethernet port are illuminated. 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.

Connect the 9-pin d-type end of the serial cable to the serial port of your computer. Open a Terminal session and configure the port for the following configuration:

Bits per second	115200
Data Bits	8
Parity	None
Stop Bits	2
Flow Control	None

2.3. HARDWARE INSTALLATION WITHOUT FRAME CONTROLLER

To successfully install the 7880IPG8-10GE2 you will require the following:

- 1. Unused IP address on the network or a DHCP server.
- 2. VistaLINK_® PRO Server IP address.
- 3. Latest jar file for the 7880IPG8-10GE2
- 4. 7800 or 7801 Series Frame

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

Ensure that the device is powered up and the green LED is on. Connect the device via the COM port.

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

**** Main Menu **** (1) Network Setup (2) SNMP Setup (3) Engineering Debug Tool (4) Build In System Test (X) Save and Exit (W) Exit without Saving

Figure 3-2: Tera Term Main Menu



2.4. CONFIGURING BASIC NETWORK SETTINGS WITHOUT FRAME CONTROLLER

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

***** * WAF * Imp * net * cou * net * val * dep *****	WXXXXXXXXXXXX NING: work configu d potential work. It is idity of all wartments pri	es to IP addresses may affect tration. Incorrect IP addresses ly affect other devices on the good practice to confirm IP addresses with your IT/IS for to configuration.	*** * * * * * * * * * *
** (1) (2) (3) (4) (X)	*** Network S IP Address Netmask Gateway Broadcast Exit	<pre>Setup **** [192.168.78.22] [255.255.255.0] [192.168.78.1] [192.168.78.255]</pre>	

Figure 3-3: Tera Term Network Setup

Power Cycle the 7880IPG8-10GE2 to ensure all changes are applied and saved to the card. Verify the network connectivity by opening the command window and try to ping the 7880IPG8-10GE2 using the IP address that was set.



2.5. CONNECTING TO VLPRO

2.5.1. Connecting to VLPRO through the frame controller

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 7880IPG8-10GE2 FC jar file to the server, and both the client and server applications have been restarted. Please refer to the VistaLINK_® PRO manual for instructions on how to load a jar file.

Note: Separate Jar files for using the 7880IPG8-10GE2 with or without Frame Controller.



Please contact Evertz for 7880IPG8-10GE2 FC jar file if it's not available on Evertz web site.

Open VistaLINK_® PRO and click on the refresh tree icon. Expand the hardware tree by clicking on the "+" button. Your card should appear as a newly listed device under the 7800FC.

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.

2.5.2. Connecting to VLPRO without the frame controller

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

The 7880IPG will be communicating with VLPRO through the control port of the module. The module must be added to Vistalink. The user must follow these steps to connect.

Right click on Hardware and click to add a new agent.





Figure 3-4: VistaLINK_® PRO Adding New Agent

User must give and IP address assigned in the previous section.



Figure 3-5: VistaLINK_® PRO Adding New Agent IP Address

For multiple modules, the user can also use the discovery option. Please refer to VistaLINK $_{\odot}$ PRO user manual for more information.

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.



Note: Separate Jar files for using the 7880IPG8-10GE2 with or without Frame Controller.

Please contact Evertz for 7880IPG8-10GE2 jar file if it's not available on Evertz web site.



3. TECHNICAL SPECIFICATIONS

3.1. SERIAL DIGITAL VIDEO

Standards:	SMPTE 424M(3Gb/s),	SMPTE 292M(1	l.5Gb/s),	SMPTE	259M(270Mb	/s),
	DVB-ASI					

3.1.1. Serial Video Input on the Encoder:

Number of Inputs:	6
Connector:	DIN
Input Equalization:	Automatic to 100m @ 3Gb/s, 150m @ 1.5Gb/s & 350m @ 270Mb/s
	>15dB up to .5GHz, >10dB up to 3 GHz

3.1.2. Serial Video Output on the Decoder:

Number of Outputs:	6
Connector:	DIN
Rise and Fall Time:	Per SMPTE spec

3.1.3. A-Link / TDM / PLink[™] data:

Number of Inputs:	2 on the encoder
Connector:	DIN
Number of Outputs:	2 on the decoder
Connector:	DIN
Ethernet Interface:	Dual 10GE or 1GE from SFP10G-TR13, SFPTR-RJ45-SGM-AV
Encapsulation:	MPEG2 TS over IP
Ethernet/IP Signalling:	Multicast IGMP V2/V3 (SSM Support)

3.1.4. Embedding of HANC & VANC

4 x Groups Audio Pass through per encoder All type of VANC data pass through

3.2. ELECTRICAL

Power:	40W
Voltage:	12VDC
EMI/RFI:	Complies with FCC Part 15, Class AEU EMC directive

3.3. ENCLOSURES

7800FR:	3RU chassis
7801FR:	1RU chassis

Physical number of slots: 2



3.4. CONTROL

Standard CAT5 cable (not included)



4. ENCODER - VISTALINK_® PRO INTERFACE

4.1. SYSTEM CONFIGURATION

4.1.1. System

-		192.16 8	.77.183, 7880IPG8-10GE2+CK6+J2I	KE [12]: Configuration
Full Reffest 💽 💲 1.0 Apply 🕚	🖢 😻 status 🛛 Completed (17:4		-01-22) 🛛 🗙 Logger 🔳	
System Product Features	Configuration System Notify	Video	o Notify	
			Control Port Configuration	
			IP Address	192.168.77.80
Alias	7880IPG		Netmask	255.255.255.0
			Gateway	192.168.77.1
Port Configuration - SFP 10G Main			Port Configuration - SFP 10G Back	
IP Address	10.10.77.10		IP Address	10.10.87.10
Netmask	255.255.255.0		Gateway	10.10.87.1
Gateway	10.10.77.1		Netmask	255.255.255.0

Figure 4-1: VistaLINK_® PRO System Configuration

System

Alias: This control allows the user to input alias name for the card.

Control Port Configuration

IP Address: This setting will allow the user to set an IP address for the control port on the device. This is the for direct control of the unit via VLPRO or web interface.

Netmask: This control allows the user to define the Netmask/Subnet the device will be joined to.

Gateway: This control allows the user to define the Gateway/Router address, which will allow the card to communicate with devices on other networks.

Port Configuration

These options are for both the SFP1G-10G Main and SFP1G-10G Backup.

IP Address: This setting will allow the user to set an IP address for the data port on the device.

Netmask: This control allows the user to define the Netmask/Subnet the device will be joined to.

Gateway: This control allows the user to define the Gateway/Router address, which will allow the card to communicate with devices on other networks.

7880IPG8-10GE2 Hybrid Baseband/Ethernet Infrastructure – Media Gateway



Data Port Speed		Temperature Monitor	
Port Speed		Fpga Temperature	45
Port Switch	Ready		
Data Port Monitor - SFP 10G Main		Data Port Monitor - SFP 10G Back	up
Port Link Status	Up	Port Link Status	Up
Total Ethernet Rx Bit Rate		Total Ethernet Rx Bit Rate	0
Total Ethernet Tx Bit Rate	95200	Total Ethernet Tx Bit Rate	95380
Clear Ethernet Status	Clear Ethernet Status	Clear Ethernet Status	Clear Ethernet Status
Bandwith Left	298262	Bandwith Left	298262
MTP Select		Card Control	
MTP Select	Main		Reboot Card
			Load Factory Config
Time Reference - SFP1G 10G Main		Time Reference - SFP1G 10G Bac	:kUp
Time Reference IP Address	127.0.0.1	Time Reference IP Address	127.0.0.1
Time Reference Port Number	1234	Time Reference PCR PID	500
Time Reference PCR PID	500	Time Reference Port Number	1234

Figure 4-2: VistaLINK_® PRO System Configuration continued

Data Port Speed

Port Speed: This will display the data port speed.

Port Switch: Speed Switch will configure the link to be either 1G or 10Gig. The card will automatically reboot after the link speed is configured.

Temperature Monitor

FPGA Temperature: This control will display the FPGA temperature in degrees Celsius.

Data Port Monitor

This monitor display will reflect the port status of the Main and Backup Port

Port Link Status: This field displays the current state for the Main and Backup data ports as either **'Up'** or **'Down'**.

Total Ethernet Rx Bit Rate: This field displays the current bit rate being received on the Main and Backup Ethernet ports. This value is displayed in kilobits per second (kbps) and can range from 0 to 1000000 kbps.

Total Ethernet Tx Bit Rate: This field displays the current bit rate being transmitted on the Main and Backup Ethernet ports. This value is displayed in kilobits per second (kbps) and can range from 0 to 1000000 kbps.



Clear Ethernet Status: This control allows the user to reset the Ethernet monitoring status.

Bandwidth Left: This parameter returns the amount of bandwidth left. It provides the user with an indication of how much bandwidth is remaining on the configured link. This gives the user better manageability of the link.

MTP Selection

MTP Select: This control allows the user to select either the Main or Backup MTP connection which will be configured for time referencing.

Time Reference on Main and Backup

Time Reference IP Address: This control allows the user to set the IP Address for the time reference on the Main and Backup MTP.

Time Reference PCR PID: This control allows the user to set the program clock reference packet identifier (PCR PID) for the Main and Backup MTP time reference. Range for this value can be set from 16 to 80190.

Time Reference Port Number: This control allows the user to set the UDP Port Number for the Main and Backup MTP time reference. Range for this value can be set from 1 to 65535.

Card Control

Reboot Card: This control is used to reboot the module.

Load Factory Config: This control is to load factory configuration to each encoder.



4.1.2. Product Features

System Product Features	Configuration	n Natify Video Natify			
Product reduies	Configuration Syste	in Noury Niceo Noury			
Licence Control					
Product License					
Product Serial Number	4165740008				
Droduct MAC Address	00-50-54-55-64-10				
Froduct MAC Address					
Prod Feature					
#	Product Feature Name	Product Feature Support			
Product Feature 1:	J2K ENCODER	Enabled			
Product Feature 2:	J2K ENCODER	Enabled			
Product Feature 3:	J2K ENCODER	Enabled			
Product Feature 4:	J2K ENCODER	Enabled			
Product Feature 5:	J2K ENCODER	Enabled			
Product Feature 6:	J2K ENCODER	Enabled			

Figure 4-3: VistaLINK_® PRO Product Features

License Control

Product License: This control specifies the product license key file. A product license channel key can be provided to enable J2K encode/decode functionality. It is applied using this control and unlocks feature functionality.

Product Serial Number: Displays the card serial number.

Product Mac Address: Displays the card MAC address.

Product Features Supported

Product Feature Name <1-6>: This parameter displays product features supported by this card.

Product Feature Supported <1-6>: This parameter displays the product support status as either enabled or disabled. This will highlight the license keys available. Features would be referencing J2K encode channel keys. For example each J2K encode key will enable 1 j2K encode channel.



4.1.3. Configuration

System P	roduct Features Configu	uration System Notify	Video Notify			
Input Status						
	Input Mode	Video Standard Detected	Input Alias	Input Select	ASI Max Bitrate	ASI Bitrate
Input 1				MSD 🔽		
Input 2				MSD 🔽		
Input 3				MSD 🔽		
Input 4				MSD 🔻		
Input 5				MSD 🔽		
Input 6				MSD 🔽		
Input 7				MSD 🔽		
input 8				MSD 🔻		
Input 1	Encode	T	Input 7	Encap	T	
Input 2	Encode	-	Input 8	Encap		
Input 3	Encode					
Input 4	Encode					
Input 5	Encode					
Input 6	Encode	-				
Input 1	Input 2	ut 3 Input 4	Input 5	nut 6 Input 7	Innut 8	
Eacon Control 4	nipor 2 nip		input o in		mparo	
Elicap collutor i	Destination IP Address	Destination UDP Port Nu	mber TTL	DSCP		
SFP1G 10G Ma	ain			Defult(Best Effort) T	
SFP1G 10G Ba	ickup			Defult(Best Effort		

Figure 4-4: VistaLINK_® PRO Configuration

Input Status

Input Mode: This monitor will display the input mode as either SDI or ASI. This reflects whether the input connected is ASI or SDI "3G/HD/SD –SDI".

Video Standard Detected: This control gets the detected video standard of SDI Input; not applicable if ASI is on the input.

Input Alias: This control allows the user to input alias name on each input.

Input Select: This parameter configures the Max Link Rate for the specified channel path. It is used only when the channel paths are set for Encapsulation. The user can select the following modes SDI-SD, SDI-HD, 3G-SDI or ASI. When configured to SD the max encapsulation on the link can handle up to 270Mbps. If a HD input is provided, the signal will be clipped. If the Input select is configured to HD, the max encapsulation on the link can handle up to 1.5Gbps. If a 3G input is provided the signal will be clipped. When the input select is configured to 3G, the max encapsulation on the link can handle up to 3G, the max encapsulation on the link can handle up to 3G, the max encapsulation on the link can handle up to 3Gbps.



ASI Max Bitrate: This parameter allows the user to set the max bitrate for ASI input. This is the maximum threshold for ASI encapsulation bitrate. If the incoming ASI bitrate exceeds the threshold, the signal will be clipped and no output ASI signal will be encapsulated.

ASI Bitrate: This parameter reflects ASI bitrate on the input.

Configuration

Input 1 to 6: This control allows the user to define the processing mode on the inputs. Options are Encode, Encapsulate or Disable. HD-SDI, SD-SDI and 3G-SDI can be encoded and encapsulated. ASI input can only be encapsulation

Configuration

Input 7 to 8: This control allows the user to define processing mode on the inputs, options are Encapsulate or Disable.

Encap Control

Destination IP Address <1-8>: This parameter allows user to select output IP address / multicast address.

Destination UDP Port Number <1-8>: This parameter allows user to select the output UDP port number.

TTL <1-8>: This parameter allows the user to set TTL (Time To Live) field of the IP packets that are sent out.

DSCP <1-8>: This parameter allows the user to set DSCP (Differentiated Services Code Point) values field of the IP packets that are sent out.



4.1.4. System Notify

System	Product Features	Configuration	System Notify	Video Notify
Temperatu	ure Warning Threshold		•	50 degrees
	perature Trap Enable			Over Temperature Fault
Te Te	emperature Overheat			Temperature O
SFP1G-100				SFP1G-10G Main - Fault
0	Iver Bandwidth			Over Bandwidt
SFP1G-100	G Backup - Trap Enable			
0	ver Bandwidth			Over Bandwid

Figure 4-5: VistaLINK_® PRO System Notiy

System Notify

Temperature Warning Threshold: This control is to set the threshold for the temperature overheat.

Over Temperature Trap Enable

Temperature Overheat: This control is used to enable/disable traps on a temperature overheat condition. When enabled, a fault will be generated on the right if temperature exceeds threshold limit.

SFP1G-10G Main and Backup – Trap Enable

Over Bandwidth: This control is used to enable/disable traps on Over Bandwidth conditions for the Main and Backup SFP1G-10G. When enabled, a fault will be generated on the right for over bandwidth conditions.

4.1.5. Video Notify



Figure 4-6: Video Notify

Video Trap Enable and Video Faults SDI Input 1-8

Video Present: This control allows the user to enable or disable faults on video present. When enabled, a fault will be generated on the right for no video signal on the input.

ASI Over Bandwidth: This control allows the user to enable or disable faults on exceeding the bandwidth on the ASI input set by the user under the configuration tab. When enabled, a fault will be generated on the right for the ASI input exceeding the bandwidth.



4.1.6. Encoder Control

In the Hardware Tree under the 7880IPG8 the user can view each available encoder by opening the sub-tree.

🖻 📟 7880IPG8-10GE2+CK6+J2KE [7]
Encoder 2
Encoder 3
Encoder 4
Encoder 5
Encoder 6

Figure 4-7: VistaLINK_® PRO Encoder Individual Controls

Right-clicking on the desired Encoder and selecting *View Configuration* will open the Configuration window below that is associated to the desired Encoder.

E		192.168.77.30,	7880IPG8-10GE2+	CK6+J2KE [7], Er	ncoder 1: Configuration
Full Refresh 😋 🕤 1.0 A	Apply 🛨 😻 Statu	s Completed (11:	55:30 2015-01-2	🗙 Logger 🔳	
Encoder Control					
Encoder Output Port					
Destination	n IP Addres®estinatio	on UDP Port Num	TTL	DSCP	
Full 232.0.77	.9 1234	64		Defult(Best 🔻	
Backup Full 232.0.87	.9 1234	64		Defult(Best 🔽	
Bit Rate			Advance Control		
Total TS Bit Rate	100000		Latency Mode	Ultra Lov	v
Video Bit Rate					
Encoder Audio Enable			Program Descrip	tion Control	
Audio 1	Enable		Progam Number		
Audio 2	Enable	-	Transport Strea	m ID 0	
Audio 3	Enable	V	Program Name	evertz	
Audio 4	Enable	~	Provider Name	evertz	
			Service Type	Digital T	V
			Network ID		
Encoder Restart					
	Encoder Res	tart			

Figure 4-8: VistaLINK_® PRO Encoder Control



Encoder Output Port (Full and Backup Full)

Destination IP Address: This parameter allows user to select output destination IP address.

Destination UDP Port Number: This parameter allows user to select the output UDP port number.

TTL: This parameter allows the user to set TTL (Time To Live) field of the IP packets that are sent out.

DSCP: This parameter allows the user to set DSCP (Differentiated Services Code Point) values field of the IP packets that are sent out.

Bit Rate

Total TS Bit Rate: This parameter allows the user to select the output transport stream bitrate in kbps. NOTE: Card will adjust the bitrate for video & other PIDs based on this settings.

Video Bit Rate: This parameter allows the user to read back the video transport stream bitrate in kbps.

Advance Control

Latency Mode: The 7880IPG8-10GE2 has two in-built encoding latency modes i.e. ultra low and standard. The user can select any of these modes as needed.

Encoder Audio Enable

Audio 1-4: This control allows the user to enable or disable audio encoding. Each audio PID supports 4 channels of audio encoding.

Program Description Control

Program Number: This parameter sets the Program Number. The default value is 1.

Transport Stream ID: This parameter allows user to set the Transport Stream ID number.

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

Provider Name: This parameter allows the user to enter the title of the provider name.

Service Type: This parameter sets the service type. Options are Digital TV, Digital Radio, Teletext, Nvod Reference, Nvod Timeshifted, Mosaic, Pal Signal, Secam Signal, D Mac, Fm Radio, NTSC Signal and Data Broadcast.

Network ID: This parameter sets the network ID of origin.



This page left intentionally blank



5. ENCODER - WEB EASY_® INTERFACE

5.1. SYSTEM CONFIGURATION

5.1.1. System

System			
System			
Card Alias			
Control Port Configuration			
IP Address)		
Netmask			
Gateway			

Figure 5-1: Web Easy System Configuration

System

Card Alias: This control will return the card type.

Control Port Configuration

IP Address: This setting will allow the user to set an IP address for the control port on the device.

Netmask: This control allows the user to define the Netmask/Subnet the device will be joined to.

Gateway: This control allows the user to define the Gateway/Router address, which will allow the card to communicate with devices on other networks.

Data Port Configuration					
SFP1G-10G Main SFF	IG-10G Backup				
IP Address					
Netmask					
Gateway					
Mac Address					
Data Port Speed					
Speed Status	16				
	Speed Switch				





Data Port Configuration

These options are for both the SFP1G-10G Main and SFP1G-10G Backup.

IP Address: This setting will allow the user to set an IP address for the data port on the device.

Netmask: This control allows the user to define the Netmask/Subnet the device will be joined to.

Gateway: This control allows the user to define the Gateway/Router address, which will allow the card to communicate with devices on other networks.

Mac Address: Displays the card MAC address.

Data Port Speed

Speed Status: This will display the data port speed.

Speed Switch: Speed Switch will configure the link to be either 1G or 10Gig. The card will automatically reboot after the link speed is switched.

SFP1G-10G Main	SFP1G-10G Backup		
Port Link Status		Down	
Received Data Ether	met Total Bitrate		packet/s
Transmitted Data Ethernet Total Bitrate			packet/s
Bandwidth Left		0	Kbps
		Clear Status	

Figure 5-3: Web Easy System Configuration continued

Data Port Monitor

These options are for both the SFP1G-10G Main and SFP1G-10G Backup.

Port Link Status: This parameter returns the link status for the data port.

Received Data Ethernet Total Bitrate: This field displays the current bit rate being received on the Main and Backup Ethernet ports. This value is displayed in kilobits per second (kbps) and can range from 0 to 1000000 kbps.

Transmitted Data Ethernet Total Bitrate: This field displays the current bit rate being transmitted on the Main and Backup Ethernet ports. This value is displayed in kilobits per second (kbps) and can range from 0 to 1000000 kbps.



Bandwidth Left: This parameter returns the amount of bandwidth left.

Temperature Monitor

Temperature: This monitor gets the FPGA temperature and displays it in degrees Celsius.

Card Control		
Load Factory Config	Load	
Reboot Card	Ready	
MTP Select		
Time Reference Data Port Select	Main	
Time Reference		
SFP1G-10G Main SFP1G-10G Backup		
Time Reference IP Address		
Time Reference UDP Port Number	1234	(1 to 65535)
Time Reference PCR PID	500	(16 to 80190)

Figure 5-4: Web Easy System Configuration continued

Card Control

Load Factory Config: This control is to load factory configuration to each encoder.

Reboot Card: This control is used to reboot the module.

MTP Select

Time Reference Data Port Select: This control is used to select MTP for time reference on either the main or backup.

Time Reference

These options are for both the SFP1G-10G Main and SFP1G-10G Backup.

Time Reference IP Address: This control allows the user to set the IP Address for the time reference on the Main and Backup MTP.

Time Reference Port Number: This control allows the user to set the UDP Port Number for the Main and Backup MTP time reference. Range for this value can be set from 1 to 65535.

Time Reference PCR PID: This control allows the user to set the program clock reference packet identifier (PCR PID) for the Main and Backup MTP time reference. Range for this value can be set from 16 to 80190.



5.1.2. Product Features

In Sector 2010 Sector Sector	License Control																		
onfiguration																			
ncoder Control	Pro	Product License File					Choose File No file chosen									Upload			
ideo Notify	Pro	Product Serial Number														- opious			
System Notify																			
	Pito	duct mac A	aaress																
	F	Product	Featur	res Su	pport	ed													
	Proc 1	Product	Featur 4	res Su 5 6	pport	ed 8	9	10	11	12	13	14	15	16	17	18	19	20	
	Proc 1 Proc	Product	Featur 4 e Name	5 6	pport	ed 8	9	10	11	12	13	14	15	16	17	18	19	20	

Figure 5-5: Web Easy Product Features

License Control

Product License File: This control specifies the product license key file and allows the user to upload a new license key.

Product Serial Number: Displays the card serial number.

Product Mac Address: Displays the card MAC address.

Product Features Supported

Product Feature Name <1-20>: This parameter displays product features supported by this card.

Product Feature Supported <1-20>: This parameter displays the product support status as either enabled or disabled. This will highlight the license keys available. Features would be referencing J2K encode channel keys. For example each J2K encode key will enable 1 j2K encode channel.



5.1.3. Configuration

System	Configuration													
Product Features		Input Status												
Configuration	input													
Encoder Control		Input Mode	Input Soloct	ASI Max Bitrate	ASI Bitrate	Video Standard Detected	Innut Aliae							
Video Notify		mputmoue	niput select	(0 to 213000)Kbps	Kbps	video Standard Detected	input Anas							
System Notify	Input 1	SDI	SD	100000			(
				Kbps	Kbps									
	Input 2	SDI	SD	100000										
				Kbps	Kbps									
	Input 3	SDI	SD	100000			1							
				Кыра	Kbps									
	Input 4	SDI	SD	100000										
				Kbps	Kbps									
	Input 5	SDI	SD	100000										
	input 5			Kbps	Kbps									
	Input 6	SDI	SD	100000										
	mpur o			Kbps	Kbps									
	Input 7	SDI	Sn	100000		(() () () () () () () () () ()							
	input /	J		Kbps	Kbps									
	Input 9		Sn	100000		(Participant)								
	input o	SU		Kbps	Kbps									

Figure 5-6: Web Easy Configuration

Input Status

Input mode: This monitor will display the input mode as either SDI or ASI.

Input Select: This parameter configures the Max Link Rate for the specified channel path. It is used only when the channel paths are set for Encapsulation. The user can select the following modes SDI-SD, SDI-HD, 3G-SDI or ASI. When configured to SD the max encapsulation on the link can handle up to 270Mbps. If a HD input is provided, the signal will be clipped. If the Input select is configured to HD, the max encapsulation on the link can handle up to 1.5Gbps. If a 3G input is provided the signal will be clipped. When the input select is configured to 3G, the max encapsulation on the link can handle up to 3Gbps.

ASI Max Bitrate: This parameter allows the user to set the max bitrate for ASI input. This is the maximum threshold for ASI encapsulation bitrate. If the incoming ASI bitrate exceeds the threshold, the signal will be clipped and no output ASI signal will be encapsulated

ASI Bitrate: This parameter reflects ASI bitrate on the input.

Video Standard Detected: This control gets the detected video standard of SDI Input; not applicable if ASI is on the input.

Input Alias: This control allows the user to input alias name on each input.

7880IPG8-10GE2 *ier* Hybrid Baseband/Ethernet Infrastructure – Media Gateway Configuration Encode Input 1 Input 2 Encode Input 3 Encode Input 4 Encode Input 5 Encode Input 6 Encode Configuration Disable Input 7 Input 8 Disable Encap control Input 6 7 8 2 **Destination UDP Port Number** TTL **Destination IP Address** DSCP (1 to 65535) (1 to 128) SFP 1 G-10 G Main Defult(Best Effort) SFP 1 G-10 G Backup Defult(Best Effort)

Figure 5-7: Configuration continued

Configuration

Input 1 to 6: This control allows the user to define the processing mode on the inputs. Options are Encode, Encapsulate or Disable.

Configuration

Input 7 to 8: This control allows the user to define processing mode on the inputs. Options are Encapsulate or Disable.

Encap Control

Destination IP Address <1-8>: This parameter allows user to select output IP address / multicast address.

Destination UDP Port Number <1-8>: This parameter allows user to select the output UDP port number.

TTL <1-8>: This parameter allows the user to set TTL (Time to Live) field of the IP packets that are sent out.

DSCP <1-8>: This parameter allows the user to set DSCP (Differentiated Services Code Point) values field of the IP packets that are sent out.


5.1.4. Encoder Control

Encoder Conti	rol				
Encoder Output Port					
Encoder Output Fort					
Encoder					
1 2 3 4 5 6					
Destination	IP Address	Destination UD (1 to 6	P Port Number 5535)	TTL (1 to 128)	DSCP
Full		1			Defult(Best Effort)
Backup Full		1		1	Defult(Best Effort)
Encoder Output Port					
Encoder					
Total TS Bit Pate	100000		(50000 to 300000)Kb		
Video Bit Rate	67450		Kbps		
Encoder Output Port					
Encoder					
1 2 3 4 5 6					
Audio 1				Enable	
Audio 2				Enable	
Audio 3				Enable	
Audio 4				Enable	
	Encoder Contu Encoder Output Port Encoder I 2 3 4 5 6 Pull Destination Encoder Output Port I 2 3 4 5 6 Total TS Bit Rate Video Bit Rate Encoder Output Port I 2 3 4 5 6 Total TS Bit Rate Video Bit Rate I 2 3 4 5 6 Audio 1 Audio 2 Audio 3 Audio 3 Audio 3	Encoder Control Encoder Output Port 1 2 3 4 5 6 Destination IP Address Full Backup Full Destination IP Address Forder 1 2 3 4 5 6 Total TS Bit Rate 10000 Video Bit Rate 10000 Video Bit Rate 67450 Encoder 1 2 3 4 5 6 Audio 1 Audio 2 Audio 3 Audio 3 Audio 3 Audio 3 Audio 3	Encoder Control Encoder Encoder Encoder Encoder Encoder Encoder Encoder Encoder Encoder Encoder Encoder Encoder Encoder Encoder Encoder Encoder Encoder Encoder Encoder Enc	Encoder Control Encoder 1 2 3 4 5 6 Destination UDP Port Number (t to 65539) Ful 1 1 Backup Full 1 1 Encoder 1 2 3 4 5 6 Total TS Bit Rate 10000 pooco to 300000/kbp 60000 to 300000/kbp Video Bit Rate 100000 pooco to 300000/kbp 67450 kbpa Encoder 1 2 3 4 5 6 Mudio 1 Audio 2 Audio 3 Audio 3 Audio 4	Encoder Output Port Funder 1 2 3 4 5 6 1 2 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 1 1 1 1 1 1

Figure 5-8: Web Easy Encoder Control

Encoder Output Port

These options are configurable for encoder 1 to 6.

Destination IP Address: This parameter allows user to select output IP address / multicast address.

Destination UDP Port Number: This parameter allows user to select the output UDP port number.

TTL: This parameter allows the user to set TTL (Time To Live) field of the IP packets that are sent out.

DSCP: This parameter allows the user to set DSCP (Differentiated Services Code Point) values field of the IP packets that are sent out.

Encoder Output Port

These options are configurable for encoder 1 to 6.

Total TS Bit Rate: This parameter allows the user to select the output transport stream bitrate in kbps. NOTE: Card will adjust the bitrate for video & other PIDs based on these settings.

Video Bit Rate: This parameter allows the user to read back the video transport stream bitrate in kbps.



Encoder Output Port

These options are configurable for encoder 1 to 6.

Audio 1-4. This parameter enables/ulsables the audi	Audio 1-4: This	parameter	enables/disables	the audic
---	-----------------	-----------	------------------	-----------

A CONTRACTOR OF			
Advanced Control			
ncoder			
1 2 3 4 5 6			
Latency Mode	Standard		
Program Description Contro)I		
ncoder			
1 2 3 4 5 6			
Progam Number	1	(1 to 65535)	
Transport Stream ID		(0 to 65535)	
Program Name			
Provider Name			
Service Type	Digital Tv		
Network ID		(1 to 65535)	
Encoder Control			
2 3 4 5 6			
Encoder Restart	Ready		

Figure 5-9: Web Easy Encoder Control continued

Advanced Control

These options are configurable for encoder 1 to 6.

Latency Mode: This control allows the user to set the latency on the outputs to either Standard or Ultra Low.

Program Description Control

These options are configurable for encoder 1 to 6.

Program Number: This parameter sets the Program Number. The default value is 1.

Transport Stream ID: This parameter allows user to set the Transport Stream ID number.

Program Name: This parameter allows the user to enter the title of the program

Provider Name: This parameter allows the user to enter the title of the provider.



Service Type: This parameter sets the service type. Options are Digital TV, Digital Radio, Teletext, Nvod Reference, Nvod Timeshifted, Mosaic, Pal Signal, Secam Signal, D Mac, Fm Radio, NTSC Signal and Data Broadcast.

Network ID: This parameter sets the network ID of origin.

Encoder Control

These options are configurable for encoder 1 to 6.

Encoder Restart: This control is to restart the individual encoder selected.

5.1.5. Video Notify

	video Notity	
roduct Features	Video Notify	
Configuration	these nearly	
Encoder Control	SDI Input	
Video Notify	1 2 3 4 5 6 7 8	
system Notify	Vie	ideo Traps Video Faults
	Video Present F	False
	ASI Over Bandwidth	False

Figure 5-10: Web Easy Video Notify

Video Notify

These options are configurable for SDI Input 1 to 8.

Video Present: This control is used to turn traps on and off for video signal present. When enabled, a fault will be generated to the right if there is no video present.

ASI Over Bandwidth: This control is used to enable trap indication when input ASI bitrate has exceeded the configured threshold. Status indication will be generated on the right if bandwidth limit has exceeded.



5.1.6. System Notify

System	System Notify	y .	
Product Features Configuration	System Notify		
Encoder Control Video Notify	Temperature Warning Threshold	75	(-100 to 100)degrees
System Notify	System Notify		
	Temperature Overheat	Over Temperature Traps False	Over Temperature Faults
	System Notify		
	SFP1G-10G Main SFP1G-1	0G Backup	
		Over Bandwidth Traps	Over Bandwidth Faults
	Over Bandwidth	False	
		1 dise	

Figure 5-11: Web Easy System Notify

System Notify

Temperature Warning Threshold: This control is to set the threshold for the temperature overheat.

System Notify

Temperature Overheat: This control is used to enable/disable traps on a temperature overheat condition. When enabled, a fault will be generated on the right if temperature exceeds threshold limit.

System Notify

Over Bandwidth: This control is used to enable/disable traps on Over Bandwidth conditions for the Main and Backup SFP1G-10G. When enabled, a fault will be generated on the right for over bandwidth conditions.



6. DECODER - VISTALINK_® PRO INTERFACE

6.1. SYSTEM CONFIGURATION

6.1.1. System

		192.168.77	7.183, 7880IPG8-10GE2+CK6+J2KD [14]: C	Config
Refres) 😋 💲 1.0 Apply	👲 봧 status Completed (16:43:08 2	015-01-22) 🛛 💥 Logger 🧮		
System Product Feature	s Input Control Output Control	Stream Monitor Control Video	Notify Audio Notify System Notif	fy
		Control Port Configuration		
Card Type		IP Address	192.168.77.184	
Card Alias	N/A	Netmask	255.255.255.0	
	Reboot	Gateway	192.168.77.1	
SFP1G-10G Main		SFP1G-10G Backup		
IP Address	10.10.77.11	IP Address	10.10.87.11	
Gateway	10.10.77.1	Gateway	10.10.87.1	
Netmask	255.255.255.0	Netmask	255.255.255.0	
Data Port Speed		Temperature Monitor		
Data Port Speed		FPGA Temperature		
Data Port Switch	Ready 🗸			
Main		Backup		
Port Link Status		Port Link Status		
Port Link Info		Port Link Info		
Total Ethernet RX Bitrate	0 kbps	Total Ethernet RX BitRate	0 kt	ops
Total Ethernet TX Bitrate	0 kbps	Total Ethernet TX Bitrate	0 kt	ps

Figure 6-1: VistaLINK_® PRO System Configuration

System

Card Type: This control returns the card type.

Card Alias: This control allows the user to input alias name for the card.

Reboot: This control allows the user to reboot the card.

Control Port Configuration

IP Address: This setting will allow the user to set an IP address for the control port on the device. This is for direct control of the unit via VLPRO or web interface.

Netmask: This control allows the user to define the Netmask/Subnet the device will be joined to.

Gateway: This control allows the user to define the Gateway/Router address, which will allow the card to communicate with devices on other networks.



SFP1G-10G Main and SFP1G-10G Backup

IP Address: This setting will allow the user to set an IP address for the data port on the device.

Gateway: This control allows the user to define the Gateway/Router address, which will allow the card to communicate with devices on other networks.

Netmask: This control allows the user to define the Netmask/Subnet the device will be joined to.

Data Port Speed

Data Port Speed: This parameter allows user to read back speed for the data port.

Data Port Switch: This control will allow the user to switch the data port speed.

Temperature Monitor

FPGA Temperature: This control will display the FPGA temperature in degrees Celsius.

Main and Backup

Port Link Status: This parameter returns the link status for the data port. It will provide an indication if the LINK is UP or Down.

Port Link Info: This parameter returns link status for data port that indicates the link speed, whether the link is 1Gig or 10Gig.

Total Ethernet RX Bitrate: This monitoring parameter returns the received input Bitrate on the link. It provides the user with a clear indication of how much input traffic is received on the link.

Total Ethernet TX Bitrate: This monitoring parameter reflects the transmitted bitrate on the link.

Clear Ethernet: Reset the Ethernet monitor statistics.



6.1.2. Product Features

10				192.1	68.77.183, 788	30IPG8-10GE2+CK	6+J2KD [14]: Configuration
Full Reffest 😋 💲 1.0 Apply	🛨 😻 status 🛛 Complet		×	Logger	Ĩ		
System Product Features	Input Control Output	t Control Stream Monitor (Control		/ideo Notify	Audio Notify	System Notify
Licence Control							
Serial Number							
Mac Address	d0:39:72:3d:ff:8c						
License File							
Dred Fasture							
+rou reature	Droduct Feature Name	Broduct Fasture Support					
rr -							
Product Feature 1:	J2K DECODER						
Product Feature 2:	J2K DECODER						
Product Feature 3:	J2K DECODER						
Product Feature 4:	J2K DECODER	enabled					
Product Feature 5:	J2K DECUDER						
Product Feature 6:	J2K DECODER						

Figure 6-2: VistaLINK_® PRO Product Features

License Control

Serial Number: Displays the card serial number

Mac Address: Displays the card MAC address.

License File: This control specifies the product license key file. A product license channel key can be provided to enable J2K encode/decode functionality. It is applied using this control and unlocks feature functionality.

Prod Feature (1-6)

Product Feature Name: This parameter returns the product features supported on this card.

Product Feature Supported: This parameter displays the product support status as either enabled or disabled. This will highlight the license keys available. Features would be referencing J2K decode channel keys. For example each J2K decode key will enable 1 j2K decode channel.



6.1.3. Input Control

2				192.168.77.183, 788	0IPG8-10GE2+CK6+J2KD	[14]: Configuration				
full Reffes i	💲 1.0 Apply 👲	😻 status Completed (16		💥 Logger 📕						
System Pr	oduct Features	put Control Output Contr	ol Stream Monito	r Control Video Notify	Audio Notify Syste	rn Notify				
Inputs	IP Address	IP Port Number	IGMPV3 Mode	IGMPV3 SSM Control 1	IGMPV3 SSM Control 2	IGMPV3 SSM Control 3	IGMPV3 SSM Control 4	IGMPV3 SSM Control 5	IGMPV3 SSM Control 6	
			Include 🛛 🔻	10.10.87.10	192.168.0.11		192.168.0.1		192.168.0.1	
			Include 🛛 🔻		192.168.0.1	192.168.0.1	192.168.0.1		192.168.0.1	
			Include 🛛 🔻		192.168.0.1		192.168.0.1		192.168.0.1	
			Include 🛛 🔻	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	
			Include 🛛 🔻	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	
			Include 🛛 🔻	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	
			Include 🛛 🔻		192.168.0.1		192.168.0.1		192.168.0.1	
			Include 🛛 🔻		192.168.0.1				192.168.0.1	
	rt Control	ID Dort Number	ICMPV3 Mode	IQMDV/3 SSM Control 1	IQMDV/3 SSM Control 2	IGMPV3 SSM Control 3	IGMPV/3 SSM Control 4	IQMPV3 SSM Control 5	IGMPV3 SSM Control 6	
Backup Input 1	239.0.0.127	1234		10.10.87.10	192.168.0.11	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	
Backup Input 2	239.0.0.129	1234	Include 🛛 🔻	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	
Backup Input 3	239.0.0.131		Include 🛛 🔻	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	
Backup Input 4			Include 🛛 🔻	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	
Backup Input 5			Include 🛛 🔻	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	
Backup Input 6			Include 🛛 🔻	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	
Backup Input 7			Include 🛛 🔻	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1		192.168.0.1	
Backup Input 8	239.0.0.141		Include 🛛 🔻	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	192.168.0.1	
Inputs	Input Stream Active	Input Stream Alias	Link Select							
	Enable 🔻	default	Auto 🔻							
	Enable 🔻	default	Auto 🔻							
	Enable 🔻	default	Auto 🔻							
	Enable 🔻	default	Auto 🔻							
	Enable 🔻 🔻	default	Auto 🔻							
	Enable 🔻		Auto 🔻							
	Enable 🔻		Auto 🔻							
	Enable	default	Auto 🔻							



Main Input Port Control and Backup Input Port Control

These options are configurable for SDI Input 1 to 8.

IP Address: This parameter allows user to select input IP address / multicast address that should be received.

IP Port Number: This parameter allows user to select the input UDP port number.

IGMPV3 mode: This parameter is used in conjunction with the IGMPV3 SSM controls. It allows the user to include the specified SSM sources or to exclude them.

IGMPV3 SSM Control (1-6): This control allows user to set IP addresses which is to be used while forming the source filter for IGMPV3 communications.



Input Control			
Inputs	Input Stream Active	Input Stream Alias	Link Select
1	Enable 🔻	default	Auto 🔽
2	Enable	default	Auto 🔽
3	Enable 🔻	default	Auto
4	Enable 🔻	default	Auto 🔽
5	Enable 🔻	default	Auto 🔽
6	Enable	default	Auto 🗸
7	Enable	default	Auto
8		detault	

Figure 6-4: VistaLINK_® PRO Input Control continued

Input Control

These options are configurable for Inputs 1 to 8.

Input Stream Active: This control allows the use to activate or deactivate receiving the input stream. The user needs to confirm that these are enabled in order to have decoded or de-encapsulated output.

Input Stream Alias: This control allows the user to input an alias name on the stream.

Link Select: This parameter allows user to select which physical port to receive data from. Options are Auto, Main or Backup SFP10G. In Auto mode, it takes input from both the main and backup. The network path with bad packets are disregarded. If both paths are good it will disregard the extra good path packet. This provides network resilience

Decoder Input Port Control

Backup Same As Main: This parameter allows user to default the backup port setting to the same settings as the main port.



6.1.4. Output Control

System DIN Output	Product Featu	res Input C	ontrol	itput Control	Stream I	Monitor Control	Video I	Notify A	udio Notify	System Notify				
Output	Output Int	erface Format	Output AS	Status	Output SDI	Status	Output Por	rt Status	Loss Of	Video	Output Timi	ng Locked	Output Timing Referenc	e
	SDI	V		T		V		V	Black	v		T	Genlock Reference	v
	SDI	V						-	Black	v		v	Genlock Reference	
	SDI	T		-				V	Black	-		V	Genlock Reference	
	SDI	T		-		-		-	Black	-		T	Genlock Reference	T
	SDI	V		T		T		V	Black	v		V	Genlock Reference	v
	SDI	V						-	Black	v		v	Genlock Reference	
	SDI	-						V	Black	-		V	Genlock Reference	
	SDI	-		T		T		-	Black	V		-	Genlock Reference	-

Figure 6-5: VistaLINK_® PRO Output Control

Din Output

These options are configurable for Outputs 1 to 8.

Output Interface Format: This control allows user to select SDI or ASI on the output. When decoding, this control needs to be configured to SDI. When de-encapsulating an SDI source, this control needs to be configured to SDI. When de-encapsulating an ASI source, this control needs to be configured to ASI.

Output ASI Status: This will tell the user if the input ASI is J2K or if it is an unknown ASI "H264 or MPEG 2" or a SDI encapsulation.

Output SDI Status: This control lets the user know if there is a valid SDI signal on output.

Output Port Status: This control returns the port status as valid or invalid.

Loss of Video: This control allows the user to select between black and freeze for when there is no input detected on the configured path. It will output Black video or will default to frozen image of the last valid frame received.

Output Timing Locked: This control lets the user know if the output PCR is locked.

Output Timing Reference: This control sets the output timing reference either on the genlock or input video.



Phase Adjustmer	nt			
Output	H Phase		V Phase	
1				
2				
3				
4				
5				
6				
7				
8				
Genlock				
Genlock Refere	nce	genlockRef1		•
Genlock Refere	nce			

Figure 6-6: VistaLINK_® PRO Output Control continued

Phase Adjustment

These options are configurable for Inputs 1 to 8.

H Phase: This control allows the user to set the horizontal phase, default is 0.

V Phase: This control allows the user to set the vertical phase, default is 1.

Genlock

Genlock Reference: This control allows the user to select lock to genlock reference 1 or 2. The genlock source for the 7880IPG8-10GE2 is the frame reference inputs. The user can specify which source is required Reference 1 or Reference 2.

Genlock Reference: This will display the detected genlock reference. If no reference is found, this parameter will reflect unsupported.



6.1.5. Stream Monitor Control (for future implementation)

System Product Features	Input Control Ou	tput Control	Stream Monitor Control	Video Notify Audio	Notify System Notify	y l
Ionitor Control						
Decoder Select	Video 1	-				
NAT Input IP Address						
NAT Input IP Port Number						
NAT Output IP Address	239.0.0.1					
NAT Output IP Port Number	1234					

Figure 6-7: VistaLINK_® PRO Stream Monitor Control (for future implementation)



6.1.6. Video Notify

-		192.168.77.30, 7880IPG8J2K10GE2FC [9]: Configuration
Full Refresh 😋 💲 1.0 Apply	🔸 😻 Status Completed (1	6-05:37-201502-05) 🗙 Logger 📕
System Product Features	Input Control Output Cont	rol Stream Monitor Control Video Notify Audio Notify System Notify
Video Control		
Black Duration		(1 to 2499)frames
Picture Noise Level		
Freeze Duration		(1 to 2499)frames
Video Error Duration		
Output 1 Output 2	Output 3 Output 4	Output 5 Output 6 Output 7 Output 8
Video Trap Enable 1		Video Faults 1
Video Present	×	Video Present
Picture Black	Z	Picture Black
Picture Freeze		Picture Freeze

Figure 6-8: VistaLINK_® PRO Video Notify

Video 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 black video.

Picture Noise Level: This control allows the user to set Noise tolerance. This control works in conjunction to the Freeze duration. The lower the sensitivity video noise will be interpreted as motion, higher sensitivity will provide better resilience to picture noise.

Freeze Duration: This control allows the user to set the duration, in frames of video after which the signal will be considered frozen.

Video Error Duration: For future implementation. Output (Tabs 1-8) Video Trap Enable and Video Faults

Video Present: This control allows the user to enable or disable faults on video present. When enabled, a fault will be generated when no video signal is present on the output.

Picture Black: This control allows the user to enable or disable fault on picture black. When enabled, a fault will be generated for exceeding the allowable picture black duration set by the user.

Picture Freeze: This control allows the user to enable or disable fault on picture freeze. When enabled, a fault will be generated for exceeding the allowable picture freeze duration set by the user.



6.1.7. Audio Notify

System	Product Features	Input Control	Output Control	Stream Monitor Control	Video Notify	Audio Notify	System Notify
Audio Monit	oring Control						
Audio Ove	r Level						
Audio Ove	r Duration						
Audio Siler	ice Level						
Audio Siler	nce Duration						

Figure 6-9: VistaLINK_® PRO Audio Notify

Audio Monitoring Control

Audio Over Level: This control sets the audio level over in dB full scale (dBFS) which is considered to be over level. This fault is triggered when consecutive audio samples are over the configured threshold level.

Audio Over Duration: This control sets the duration, in number of consecutive samples that are at or above the Over level before a fault condition exists.

Audio Silence Level: This control sets the audio level under which it is considered to be silent. This value is expressed in dB full scale (FS).

Audio Silence Duration: This control sets the amount of time the audio is silent in seconds before a fault occurs.

Audio Notify					
Audio Pair Fault	Audio Channel Over Fault	Audio Channel Silence Fault	Phase Reversal Fault	Mono Fault	
Name		Fault Enable		Fault Present	
Audio Pair 1 SDI Outp	ut 1				
Audio Pair 1 SDI Outp	ut 2				
Audio Pair 1 SDI Outp	ut 3				
Audio Pair 1 SDI Outp	ut 4				
Audio Pair 1 SDI Outp	ut 5				
Audio Pair 1 SDI Outp	ut 6				
Audio Pair 1 SDI Outp	ut 7				
Audio Pair 1 SDI Outp	ut 8				
Audio Pair 2 SDI Outp	ut 1				
Audio Pair 2 SDI Outp	ut 2				
Audio Pair 2 SDI Outp	ut 3				
Audio Pair 2 SDI Outp	ut 4				

Figure 6-10: VistaLINK_® PRO Audio Notify continued

Audio Notify

Audio Pair Fault

Name: This lists all the audio pairs on all the SDI outputs for controlling.



Fault Enable: This control allows the user to enable or disable faults on the audio pairs for the SDI outputs.

Fault Present: This monitor will display faults on the selected audio groups on the SDI output for the conditions that are set under *Audio Monitoring Control*.

Audio Pair Fault	Audio Channel Over Fault	Audio Channel Silence Fault	Phase Reversal Fault	Mono Fault	
Name		Fault Enable		Fault Present	
Audio Channel 1 Ov	ver SDI Output 1				
Audio Channel 1 Ov	ver SDI Output 2				
Audio Channel 1 Ov	ver SDI Output 3				
Audio Channel 1 Ov	ver SDI Output 4				
Audio Channel 1 Ov	ver SDI Output 5				
Audio Channel 1 Ov	ver SDI Output 6				
Audio Channel 1 Ov	ver SDI Output 7				
Audio Channel 1 Ov	ver SDI Output 8				

Figure 6-11: VistaLINK_® PRO Audio Notify continued

Audio Channel Over Fault

Name: This lists all the audio channels on all the SDI outputs for controlling.

Fault Enable: This control allows the user to enable or disable faults on the audio channel over for the SDI outputs.

Fault Present: This monitor will display faults on the selected audio groups on the SDI output for the conditions that are set under *Audio Monitoring Control*.

Audio Pair Fault	Audio Channel Over Fault	Audio Channel Silence Fault	Phase Reversal Fault	Mono Fault
Name		Fault Enable		Fault Present
Audio Channel 1 Sile	ence SDI Output 1			
Audio Channel 1 Sik	ence SDI Output 2			
Audio Channel 1 Sil	ence SDI Output 3			
Audio Channel 1 Sil	ence SDI Output 4			
Audio Channel 1 Sil	ence SDI Output 5			
Audio Channel 1 Sik	ence SDI Output 6			
Audio Channel 1 Sil	ence SDI Output 7			
Audio Channel 1 Sil	ence SDI Output 8			
Audio Channel 2 Sil	ence SDI Output 1			

Figure 6-12: VistaLINK_® PRO Audio Notify continued

Audio Channel Silence Fault

Name: This lists all the audio channel silences on all the SDI outputs for controlling.

Fault Enable: This control allows the user to enable or disable faults on the audio channel silence for the SDI outputs.



Fault Present: This monitor will display faults on the selected audio groups on the SDI output for the conditions that are set under *Audio Monitoring Control*.

Audio Pair Fault	Audio Channel Over Fault	Audio Channel Silence Fault	Phase Reversal Fault	Mono Fault	
Name		Fault Enable		Fault Present	
Group 1 Phase Reve	rsal SDI Output 1				
Group 1 Phase Reve	rsal SDI Output 2				
Group 1 Phase Reve	rsal SDI Output 3				
Group 1 Phase Reve	rsal SDI Output 4				
Group 1 Phase Reve	rsal SDI Output 5				
Group 1 Phase Reve	rsal SDI Output 6				
Group 1 Phase Reve	rsal SDI Output 7				
Group 1 Phase Reve	rsal SDI Output 8				
Group 2 Phase Reve	rsal SDI Output 1				
Group 2 Phase Reve	rsal SDI Output 2				
Group 2 Phase Reve	rsal SDI Output 3				

Figure 6-13: VistaLINK_® PRO Audio Notify continued

Phase Reversal Fault

Name: This lists all the audio groups phase reversal on all the SDI outputs for controlling.

Fault Enable: This control allows the user to enable or disable faults on the audio groups phase reversal for the SDI outputs.

Fault Present: This monitor will display faults on the selected audio groups on the SDI output for the conditions that are set under *Audio Monitoring Control*.

Name Fault Enable Fault Preser
Group 1 Mono SDI Output 1
Group 1 Mono SDI Output 2
Group 1 Mono SDI Output 3
Group 1 Mono SDI Output 4
Group 1 Mono SDI Output 5
Group 1 Mono SDI Output 6
Group 1 Mono SDI Output 7
Group 1 Mono SDI Output 8
Group 2 Mono SDI Output 1

Figure 6-14: VistaLINK_® PRO Audio Notify continued

Mono Fault

Name: This lists all the mono audio on all the SDI outputs for controlling.

Fault Enable: This control allows the user to enable or disable faults on the group's mono for the SDI outputs.

Fault Present: This monitor will display faults on the selected audio groups on the SDI output for the conditions that are set under *Audio Monitoring Control*.



6.1.8. System Notify

-	192.168.77.30, 7880IPG8J2K10GE2FC [9]: Configuration
Full Refreen 😋 🛇 1.0 Apply 🔸 😻 Status Completed (48:05:3)	7 2015-02-05) 🗙 Logger 🧮
System Product Features Input Control Output Control	Stream Monitor Control Video Notify Audio Notify System Notify
Trap Enable	Fault Status
Temperature Overheat	Temperature Overheat
System Notify	
Temperature Warning Threshold 75	

Figure 6-15: VistaLINK_® PRO System Notify

Trap Enable

Temperature Overheat: This control allows the user to enable or disable faults on an overheat condition.

Fault Status

Temperature Overheat: This monitor will display a fault when the temperature has the exceeded the temperature threshold.

System Notify

Temperature Warning Threshold: This control allows the user to set the temperature warning threshold.

6.1.9. Decoder Control

In the Hardware Tree under the 7880IPG8 the user can view each available decoder by opening the sub-tree.

🖻 📟 7880IPG8-10GE2+CK6+J2KD [3]
Decoder 1
Decoder 2
• Decoder 3
Decoder 4
Decoder 5
Decoder 6

Figure 6-16: VistaLINK_® PRO Individual Decoder Selection

Right clicking on the desired Decoder and selecting View Configuration will open the Configuration window below that is associated to the desired Decoder.



6.1.10. Decoder Input Program Control

155			192.16	8.77.30, 7880IPG8J2K10GE2FC [9], Decoder 1: Configuration
Full Refresh G S 1.0 Apply	🚺 😻 Status Co		K Logger	
Decoder Input Control	Decoder Input Monitor	Decoder Program Monitor	PID Montior	Decoder Input Notify
Decoder Input Program Control				
Program Tuning Mode	Automatic PID Selection			
Auto Program Sel Mode	First Program In PAT	.		
Program Number Select				
Main Input Port Control				
Video PID Select				
Audio PID Select 1				
Audio PID Select 2				
Audio PID Select 3				
Audio PID Select 4				
VANC PID Select	40			

Figure 6-17: VistaLINK_® PRO Decoder Input Control

Decoder Input Program Control

Program Tuning Mode: This parameter allows user to select the program tuning mode of the decoder. *Auto PID Select* automatically tunes to the incoming transport stream. When *Manual PID Select is configured, the user has to manually enter the required video and audio PIDs to tune to.* The recommended setting is Auto PID select with Auto Program Sel Mode configured to First Program in PAT.

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

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

Program Number Select: This control allows to the user to select the program which the decoder will decode. This control is only applicable when the *Program Tuning Mode* is set to Auto PID Select

Manual PID Control

NOTE: 0,1 and 8191 are reserved PID in MPEG so these are not included.

Video PID Select: This control allows user to select the Video PID which decoder will decode. This control is only applicable when the *programTuningMode* is set to *manualPidSelect*.

Audio PID Select (1-4): This control allows user to select the required Audio PIDs which the decoder will embed into the output video. This control is only applicable when the *programTuningMode* is set to *manualpidSelect*.

VANC PID Select: This control allows user to select the ANC PID which decoder will decode. This control is only applicable when the *programTuningMode* is set to *manualPidSelect*.



6.1.11. Decoder Input Monitor

etresh 😋 💲 1.0 Apply 🐨	😻 Status Complet	ed (16:09:15 2015-02-05)	🗙 Logger 🔳			
Decoder Input Control Decode	er Input Monitor Dec	coder Program Monitor PID	Montion Decoder Input Notify			
iput Stream			Input Monitor			
Stream Type		X	Input State		×.	
Received Total TS Bitrate			Network ID			
Received TS Null Bitrate			Network Name			
Received TS Packets			Num Of Programs			
TS Packet Size		T	PSD Network ID			
TS Packet Per IP Packet			PSD Program Name			
Num Of Pid In TS			PSD Provider Name			
FEC Input Mode		T	PSD Service Type			
FEC Input Column			Transport Stream ID			
FEC Input Offset		₹				
FEC Input Row			Input IP Packet Monitor			
Num of Corrected FEC Frames			IF	Packet Drop Count	IP Packet Bit Rate	
Numb of UnCorrected FEC Frames			SFP 1G -10 Main			
RTP Protocol Status			SFP 1G -10 Backup 0			
CC Error Count			Hitless Switch 1			
PCR Locked						
Loss Sycn Count						
Clear Input Stream Status	Clear Status					

Figure 6-18: VistaLINK_® PRO Decoder Input Monitor

Input Stream

Stream Type: This monitor displays the type of input stream.

Received Total TS Bitrate: This monitor displays the total bit rate received on this Ethernet port, unit is kbps.

Received NULL Packet Bitrate: This monitor shows total NULL packet bitrate for multicast stream specified.

TS Packet Size: This monitor will display the TS packet size. TS packet can have two different sizes either 188 bytes per packet or 204 bytes per packet.

TS Packet Per IP Packet: How many TS packets per IP packet (Ethernet frame).

Number of PID in TS: This monitor shows the total number of PIDs in the TS stream specified.



FEC Input Mode: This monitoring parameter input FEC status i.e. whether the incoming IP contains FEC.

FEC Input Column: This parameter displays the number of packets per column to be associated with an FEC packet.

FEC input Row: This parameter displays the number of packets per row to be associated with an FEC packet

Num of Corrected FEC: This parameter displays the current value of the corrected packet counters.

Num of Uncorrected FEC: This parameter displays the current value of uncorrected packets.

RTP protocol Status: This monitor shows if the incoming stream is RTP or UDP.

CC Error Count: This monitor shows the total count of continuity counter (CC) error.

PCR Locked: This monitor shows if the input is locked on the program clock reference (PCR).

Loss Sync Count: This monitor shows the total count of sync loss.

Clear Input Stream Status: This control allows the user to reset the Ethernet monitoring status.

Input Monitor

Input State: This parameter returns the status of the input i.e. if the input stream is present or missing.

Network ID: This parameter returns the network ID number of the input.

Network Name: This parameter returns the Network Name of the Input.

Num of Programs: This parameter displays the number of programs associated with the input.

PSD Network ID: This monitor returns the network id read from the Evertz private service descriptor (79) from the PMT.

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

PSD Provider Name: This monitor returns the provider name read from the Evertz private service descriptor (79) from the PMT.

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

- 1. Digital Tv
- 2. Digital Radio
- 3. Teletext
- 4. NOVD Reference
- 5. NVOD Timeshifted
- 6. Mosaic



- 7. PAL Signal
- 8. SECAM Signal
- 9. DMAC
- 10. FM Radio
- 11. NTSC Signal
- 12. Data Broadcast -
- 13. N/A meaning that a valid service type was not found, or there is no private descriptor.

Transport Stream ID: This parameter returns the transport stream ID associated with input.

Input IP Packet Monitor (Main and Backup)

IP Packet Drop Count: This parameter displays the number of IP packets dropped.

IP Packet Bit Rate: This parameter displays the IP Packet Bit Rate on the input.

Hitless Switch: This parameter displays the IP Packet Bit Rate on the hitless switch core.

The 7880IPG8 series incorporates a multi-path, multiflow packet merge "MPPM" based network bit error resilience for 100% QoS. A HOT Redundant (HTR) is also available providing 100% uptime under all electronic circuitry faults.



6.1.12. Decoder Program Monitor: (for future implementation)

The *Decoder Program Monitor* tab is designed for future development and has not currently been implemented.

192.166.77.30, 7880IPG6J2K106E2FC [9], Decoder 1: Configuration									
real Radinson 🔓 🖸 1.0 Appy 🐓 😻 States Completed (18:09:15:20:15:02:05) 💥 (apper 🖬									
Decoder Input Control	Decoder Input Monitor	Decoder Program Mon	itor PID Montior Deco	der Input Notify					
Actual Program Number			Video Bit Rate						
Audio Streams			Video Chroma Format						
Program PCR PID			Video PID Num						
Program PMT PID			Video Profile And Level						
Video Streams			Video Resolution						
	Audio Program Number	Breakaway IP Address	Breakaway IP Port Number	Breakaway Audio Ch	Number Breakaway Audio PID Select	Audio PID Number	Audio Type	Audio Sampling Rate	
Audio Channel 1			239.0.0.1						
Audio Channel 2			239.0.0.1						
Audio Channel 3									
Audio Channel 4									
Audio Channel 5									
Audio Channel 6			239.0.0.1						
Audio Channel 7									
Audio Channel 8									
Audio Channel 9			239.0.0.1						
Audio Channel 10			239.0.0.1						
Audio Channel 11			239.0.0.1						
Audio Channel 12			239.0.0.1						
Audio Channel 13			239.0.0.1						
Audio Channel 14			239.0.0.1						
Audio Channel 15			239.0.0.1						
Audio Channel 16									

Figure 6-19: VistaLINK_® PRO Decoder Program Monitor (for future implementation)



6.1.13. PID Monitor (for future implementation)

The PID Monitor tab is designed for future development and has not currently been implemented.

-		192.168.7	7.30, 7880IPG8J2K10GE2FC [9], Decoder 1: Configuration
Full Refresh 😋 💲 1.0 Apply	🛨 😻 Status Completed (16:09:15:2	015-02-05) 🗙 Logger 👔	
Decoder Input Control	Decoder Input Monitor Decoder Program I	Ionitor PID Montior D	ecoder Input Notify
Audio PID Monitor			
Audio Program Number			
Actual Audio PID			
Audio PID Info			
Video PID Monitor			
Audio Video Number			
Video PID Info			
Ancilliary PID Monitor			
Actual Ancilliary PID Number			
Ancilliary PID Info			

Figure 6-20: VistaLINK_® PRO PID Monitor



6.1.14. Decoder Input Notify

		192.168.77.30, 7880IPG8J2K10GE2FC [9], Decoder 1: Configuration
Full Refresh 😋 💲 1.0 Apply 🖠	🔮 status Completed (16:09:	5.2015-02-05) X Logger 🛅
Decoder Input Control Dec	coder Input Monitor Decoder Progr	am Monitor PID Montior Decoder Input Notify
Send Trap	Fault Prese	
TS Input Missing	т	S Input Missing
TS Sync Byte Missing	Т	S Sync Byte Missing
Video PID Missing	– V	deo PID Missing
🗸 Audio 1 PID Missing	A 🗖	udio 1 PID Missing
Audio 2 PID Missing	A 🗖	udio 2 PID Missing
Audio 3 PID Missing	A 🗖	udio 3 PID Missing
Audio 4 PID Missing	_ A	udio 4 PID Missing
MTP10G Main Fault	— M	TP Main 10G
MTP10G Backup Fault	<mark>.</mark> M	TP Backup 10G

Figure 6-21: VistaLINK_® PRO Decoder Input Notify

TS Input Missing: Transport Stream input signal detection. The alarm is triggered when enabled and the input stream is missing.

TS Sync Byte Missing: Transport Stream Sync Byte 0x47 detection. The alarm is triggered when enabled and the TS Sync Byte 0x47 is missing.

Video PID Missing: Video Packet ID detection. The alarm is triggered when enabled and the video PID is missing.

Audio 1-4 PID Missing: Audio Packet ID detection. The alarm is triggered when enabled and the audio PID is missing.

MTP10G Main Fault: This alarm is triggered when the main data port is down. The status is green when the data port is up.

MTP10G Backup Fault: This alarm is triggered when the backup data port is down. The status is green when the data port is up.



7. DECODER - WEB EASY_® INTERFACE

7.1. SYSTEM CONFIGURATION

7.1.1. System

System			
System			
Card Alias			
Control Port Co	nfiguration		
IP Address Netmask Gateway			

Figure 7-1: Web Easy System

System

Card Alias: This control will return the card type.

Control Port Configuration

IP Address: This setting will allow the user to set an IP address for the control port on the device.

Netmask: This control allows the user to define the Netmask/Subnet the device will be joined to.

Gateway: This control allows the user to define the Gateway/Router address, which will allow the card to communicate with devices on other networks.

Data Port Configurat	ion
SFP1G-10G Main SFP1G	10G Backup
IP Address	
Netmask	
Gateway	
Mac Address	
Date Date Canad	
Data Port Speed	
Speed Status	16
	Speed Switch

Figure 7-2: Web Easy System continued



Data Port Configuration

These options are for both the Main and Backup.

IP Address: This setting will allow the user to set an IP address for the data port on the device.

Netmask: This control allows the user to define the Netmask/Subnet the device will be joined to.

Gateway: This control allows the user to define the Gateway/Router address, which will allow the card to communicate with devices on other networks.

Mac Address: Displays the card MAC address.

Data Port Speed

Speed Status: This will display the data port speed.

Speed Switch: Speed Switch will configure the link to be either 1G or 10Gig. The card will automatically reboot after the link speed is configured.

Data Port Monitor				
SFP1G-10G Main SFP1G-100	Backup			
Port Link Status		Down		
Port Link Info				
Received Data Ethernet Total Bitrat	te		bps	
Transmitted Data Ethernet Total Bitrate			bps	
Temperature Monitor				
Temperature		degrees		
System Control				
Reboot System]			

Figure 7-3: Web Easy System continued

Data Port Monitor

These fields display the following data for both SFP1G-10G Main and SFP1G-10G Backup.

Port Link Status: This parameter returns the link status for the data port.

Port Link Info: This parameter returns link status for data port.

Received Data Ethernet Total Bitrate: This parameter will display the bit rate received on this Ethernet port in packets per second.



Transmitted Data Ethernet Total Bitrate: This parameter will display the bit rate transmitted on this output Ethernet port in packets per second.

Temperature Monitor

Temperature: This control gets the fpga temperature and displays it in degrees.

System Control

Reboot System: This control is to reboot the whole card.



7.1.2. Product Features

System	Product Features
Product Features	Lisanaa Control
Input Control	License Condion
Output Control	Product License File Choose File No file chosen Upload
Decoder Input Monitor	Product Serial Number
Decoder Program Monitor	Product Mac Address
Decoder Notify	
Video Notify	Product Features Supported
Audio Notify	
System Notify	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
	Product Feature Supported Disabled

Figure 7-4: Web Easy Product Features

License Control

Product License File: This control specifies the product license key file. A product license channel key can be provided to enable J2K encode/decode functionality. It is applied using this control and unlocks feature functionality.

Product Serial Number: Displays the card serial number.

Product Mac Address: Displays the card MAC address.

Product Features Supported Prod Feature (1 to 6)

Product Feature Name: This parameter displays product features supported by this card.

Product Feature Supported: This parameter displays the product support status as either enabled or disabled. This will highlight the license keys available. Features would be referencing J2K encode channel keys. For example each J2K encode key will enable 1 j2K encode channel.



7.1.3. Input Control

System	Input Control	
Product Features		
Input Control	input control	
Output Control	Input	
Decoder Input Monitor	1 2 3 4 5 6 7 8	
Decoder Program Monitor	Input Stream State Disable	
Decoder Notify	Input Stream Alias	
Video Notify	Link Select Auto	
Audio Notify		
System Notify	Main Input Port Control	
	Input Input Input Main Input IP Address Main Input IP Port Number Main Input IGMPV3 Mode Main Input IGMPV3 SSM Control Include Include <th></th>	
	Input 1 2 3 4 5 6 7 8	
	Backup Input IP Address 192.168.192.200	
	Backup Input IP Port Number 1234 (1 to 65535)	
	Backup Input IGMPV3 Mode Include	
	IGMP Source 01 02 03 04 05 06	

Figure 7-5: Web Easy Input Control

Input Control

These controls are configurable for Input 1 to 8.

Input Stream State: This control allows the user to enable or disable this stream. By default, all streams are inactive. Only after the stream is activated, traffic can run through it.

Input Stream Alias: This control allows the user to input an alias name on the stream.

Link Select: This parameter allows user to select which physical port to receive data from. Options are Auto, Main or Backup SFP10G. In Auto mode, it takes input from both the main and back. If one path is bad it will decode from the good path. If both paths are good it will disregard the extra good path packet. This provides network resilience.

Main and Backup Input Port Control

These controls are configurable for Input 1 to 8.



Main Input IP Address: This parameter allows user to select input IP address / multicast address that should be received.

Main Input IP Port Number: This parameter allows user to select the input UDP port number.

Main Input IGMPV3 Mode: This parameter is used in conjunction with the IGMPV3 SSM controls. It allows the user to include the specified SSM sources or to exclude them.

Main Input IGMPV3 SSM Control (1-6): This control allows user to set IP addresses which is to be used while forming the source filter for IGMPV3 communications.

Decoder Input Program Control		
Decoder		
1 2 3 4 5 6		
Program Tuning Mode	Auto PID Select	
Auto Program Sel Mode	First Program In PAT	
Program Number Select	1	(0 to 65535)

Figure 7-6: Web Easy Input Control continued

Decoder Input Program Control

Program Tuning Mode: This parameter allows user to select the program tuning mode of the decoder. *Auto PID Select* automatically tunes to the incoming transport stream. When *Manual PID Select is configured, the user has to manually enter the required video and audio PIDs to tune to.* The recommended setting is Auto PID select with Auto Program Sel Mode configured to First Program in PAT.

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

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

Program Number Select: This control allows the user to select the program which the decoder will decode. This control is only applicable when the *Program Tuning Mode* is set to Auto PID Select



Manual PID Control		
Decoder		
1 2 3 4 5 6		
Video PID Select	10	(2 to 8190)
	AudioGroup	
Audio PID Select	01 02 03 04	
	20	
PCR PID Select	30	(2 to 8190)
VANC PID Select	40	(2 to 8190)
Decoder Control		
Decoder		
1 2 3 4 5 6		
Decoder Up Time		

Figure 7-7: Web Easy Input Control continued

Manual PID Control

NOTE: 0,1 and 8191 are reserved PID in MPEG so these are not included.

Video PID Select: This control allows user to select the Video PID which decoder will decode. This control is only applicable when the *programTuningMode* is set to *manualPidSelect*.

Audio PID Select (1-4): This control allows user to select the required Audio PIDs which the decoder will embed into the output video. This control is only applicable when the *programTuningMode* is set to *manualpidSelect*.

PCR PID Select: This control allows user to select the 3rd Audio pad which decoder will embedded into output video. This control is only applicable when the *programTuningMode* is set to *manualpidSelect*.

VANC PID Select: This control allows user to select the ANC pad which decoder will decode. This control is only applicable when the *programTuningMode* is set to *manualPidSelect*.

Decoder Control

These controls are configurable for Decoder 1 to 6.

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



7.1.4. Output Control

System	Output Control		
Product Features	Output Control		
nput Control	Culput Control		
Output Control	DIN Output		
Decoder Input Monitor	1 2 3 4 5 6 7 8		
Decoder Program Monitor	Output Interface Format	SDI	
lecoder Notify	Transport Stream Type	J2K Stream	
/ideo Notify	SDI Output Status	Valid	
Audio Notify	Loss Of Video	Black	
System Notify	Output Timing Locked	Locked	
	Genlock		
	Genlock Reference	GenlockRef1	
	Detected Genlock Reference	Unsupported	
	Phase Adjustment		
	SDI Output		
	H Phase		
	V Phase		

Figure 7-8: Web Easy Output Control

Output Control

These controls are configurable for Output 1 to 8.

Output Interface Format: This control allows user to select SDI or ASI output.

Transport Stream Type: This will tell the user if the input ASI is J2K or if it is an unknown ASI or a SDI encapsulation.

SDI Output Status: This control lets the user know if there is a valid SDI signal on output.

Loss of Video: This control allows the user to select between black and freeze for when there is a loss of video on the output.

Output Timing Locked: This monitor shows if the output timing is locked.

Genlock

Genlock Reference: This control lets the user know if the output is locked.

Detected Genlock Reference: This control lets the user know if the output reference is supported.

Phase Adjustment

These controls are configurable for Output 1 to 8.

H Phase: This control set the horizontal phase, default is 0.

V Phase: This control set the vertical phase, default is 1.



7.1.5. Decoder Input Monitor

System	Decoder Input Mon	tor	
Product Features	Input Stream		
Input Control			
Output Control	Decoder	Decoder	
Decoder Input Monitor	1 2 3 4 5 6		
Decoder Program Monitor	Stream Type	Multicast	
Decoder Notify	Received Total TS Bitrate		bps
Video Notify	Received NULL Packet Bitrate		bps
Audio Notify	Number Of PID in TS		
System Notify	Protocol Status	Unknown	
	TS Packet Per IP Packet		
	TS Packet Size	188	
	Loss Sync Count		
	CC Error Count		
	PCR Locked	Locked	
		Clear Status	

Figure 7-9: Web Easy Decoder Input Monitor

Input Stream

These controls are configurable for Decoder 1 to 6.

Stream Type: This monitor displays the type of input stream. Options are multicast or unicast.

Received Total TS Bitrate: This monitor displays the total bit rate received on this Ethernet port, unit is kbps.

Received NULL Packet Bitrate: This monitor shows total NULL packet bitrate for multicast stream specified.

Number of PID in TS: This monitor shows the total number of PIDs in the TS stream specified.

Protocol Status: It monitor shows if this stream is running on RTP or not.

TS Packet Per IP Packet: How many TS packets per IP packet (Ethernet frame).

TS Packet Size: This monitor will display the TS packet size. TS packet can have two different sizes either 188 bytes per packet or 204 bytes per packet.

Loss Sync Count: This monitor shows the total count of sync loss.

CC Error Count: This monitor shows the total count of continuity counter (CC) error.

PCR Locked: This monitor shows if the input is locked on the program clock reference (PCR).

7880IPG8-10GE2 Hybrid Baseband/Ethernet Infrastructure – Media Gateway



Input IP Packet Monitor		
Decoder		
1 2 3 4 5 6		
	IP Packet Drop Count (0 to 2147483647)	IP Packet Bit Rate (0 to 10000000)Kbps
SFP 1 G-10 G Main		
STP 1 G-10 G Backup		
Hitless Switch		

Figure 7-10: Web Easy Decoder Input Monitor continued

Input IP Packet Monitor

These controls are configurable for Decoder 1 to 6.

SFP 1 G-10 G Main: This monitor reflects the packets dropped from the main data port.

SFP 1 G-10 G Backup: This monitor reflects the packets dropped from the backup data port

Hitless Switch: monitor reflects the packets dropped on the hitless core to maintain MPPM Multi Path Packet Merge.

ecoder 1 2 3 4 5 6	
1 2 3 4 5 6	
Input State	Inactive
Num Programs	
Transport Stream ID	
Network ID	
Network Name	
PSD Service Type	
PSD Provider Name	
PSD Program Name	
PSD Network ID	

Figure 7-11: Web Easy Decoder Input Monitor

Decoder Input Monitor:

These controls are configurable for Decoder 1 to 6.

Input State: This monitor returns whether the card is receiving anything on the input or not

Num Programs: This monitor returns the number of programs detected in the input stream



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

Network ID: This monitor returns the value of network ID read from the transport stream.

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

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

- **1** Digital Tv
- 2 Digital Radio
- **3** Teletext
- 4 NOVD Reference
- **5** NVOD Timeshifted
- 6 Mosaic
- 7 PAL Signal
- 8 SECAM Signal
- 9 DMAC
- **10 -** FM Radio
- **11 -** NTSC Signal
- 12 Data Broadcast –

N/A - meaning that a valid service type was not found, or there is no private descriptor.

PSD Provider Name: This monitor returns the provider name read from the Evertz private service descriptor (79) from the PMT.

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

PSD Network ID: This monitor returns the network id read from the Evertz private service descriptor (79) from the PMT.



7.1.6. Decoder Program Monitor

System	Decoder Program Monitor
Product Features	
Input Control	Decoder Program Monitor
Output Control	Decoder
Decoder Input Monitor	1 2 3 4 5 6
Decoder Program Monitor	Program Num In TS
Decoder Notify	РМТРІО
Video Notify	PCR PID
Audio Notify	Num Video Streams
System Notify	Num Audio Streams
	Program Video Monitor
	Decoder
	1 2 3 4 5 6
	Video PID Num
	Video Frame Rate
	Video Resolution
	Video Profile And Level

Figure 7-12: Web Easy Decoder Program Monitor

Decoder Program Monitor

These controls are configurable for Decoder 1 to 6.

Program Num In TS: This monitor returns the actual program number that is being read from the stream.

PMT PID: This monitors the PID for the PMT, which has information for this program.

PCR PID: This monitor returns the PID which has the PCR information in it for this program.

Num Video Streams: This monitor returns number of video streams in this program.

Num Audio Streams: This monitor returns the number of audio streams in this program.

Program Video Monitor

These controls are configurable for Decoder 1 to 6.

Video PID Num: This monitor returns the PID which carries the PES for Video.

Video Frame Rate: This monitor returns the incoming video frame rate

Video Resolution: This control returns the Resolution of the video

Video Profile And Level: This monitor returns the profile and level of the video read from video PES.


P	rogr	am /	ludi	o Ma	onito	or			
Deco	der								
1	2	3	4	5	6				
						Audio Channel 1			
					1	Audio Channel 2			
						Audio Channel 3			
						Audio Channel 4			
						Audio Channel 5			
					1	Audio Channel 6			
					,	Audio Channel 7			
						Audio Channel 8			
					1	Audio Channel 9			
					4	Audio Channel 1			
					4	Audio Channel 1			
					ŀ	Audio Channel 1	1		

Figure 7-13: Web Easy Decoder Input Monitor continued

Program Audio Monitor (*reserved for future use***)** This panel is designed for futre development and has not yet been implemented.



7.1.7. Decoder Notify

System	Decoder Notify		
Product Features	Decoder Notify		
Input Control	Becoder notify		
Output Control	Decoder		
Decoder Input Monitor	1 2 3 4 5 6		
Decoder Program Monitor		Decoder Input Traps	Decoder Input Faults
Decoder Notify	TS Input Missing	False	
Video Notify	TS Sync Byte Missing	False	
Audio Notify	Video PID Missing	False	
System Notify	Audio 1 PID Missing	False	
	Audio 2 PID Missing	False	
	Audio 3 PID Missing	False	
	Audio 4 PID Missing	False	
	MTP Main 1 G-10 G	False	
	MTP Backup 1 G-10 G	False	

Figure 7-14: Web Easy Decoder Notify

Decoder notify

These controls are configurable for Decoder 1 to 6.

TS Input Missing: This will enable an alarm if transport stream is not detected on incoming multicast.

TS Sync Byte Missing: This will enable a fault on the transport stream on a missing sync byte.

Video PID Missing: This will enable a fault on the transport stream on a missing video PID.

Audio (1-4) PID Missing: This will enable a fault on missing audio (1-4) PID.

MTP Main 1 G-10 G: This will enable fault that highlights the Link status of the Main port. Will be inactive when present and will be active when the port is down.

MTP Backup 1 G-10 G: This will enable fault that highlights the Link status of the Backup port. Will be inactive when present and will be active when the port is down.



7.1.8. Video Notify

	Midae Menitoring On		
	video monitoring Co	nirol	
	Black Duration	500	(1 to 2499)
	Picture Noise Level	1	(1 to 10)
or	Freeze Duration	500	(1 to 2499)
	Video Notify		
	SDI Output		
	1 2 3 4 5	5 7 8	
		Video Traps	Video Faults
	Video Present	False	
	Picture Black	False	

Figure 7-15: Web Easy 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 i.e. that is considered black video.

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.

Video Notify

These controls are configurable for Output 1 to 8.

Video Present: This control allows the user to enable or disable faults on video present. When enabled, a fault will be generated on the right for no video signal on the output.

Picture Black: This control allows the user to enable or disable fault on picture black. When enabled, a fault will be generated on the right for exceeding the allowable picture black duration set by the user.

Picture Freeze: This control allows the user to enable or disable fault on picture freeze. When enabled, a fault will be generated on the right for exceeding the allowable picture freeze duration set by the user.



7.1.9. Audio Notify

System	Audio Notify				
Product Features	Audio Monitoring Cont	trol			
Input Control	Audio Monitoring Con				
Output Control	Audio Over Level	-6		(-45 to 0)dB	
Decoder Input Monitor	Audio Over Duration	5		(1 to 255)samples	
Decoder Program Monitor	Audio Silence Level	-60		(-80 to -40)dB	
Decoder Notify	Audio Silence Duration	10		(1 to 128)seconds	
Video Notify					
Audio Notify	Audio Notify				
System Notify					
		7 8			
			Input Audio Traps		Input Audio Faults
	Audio Pair 1		False		
	Audio Pair 2		False		
	Audia Daia 2		Falsa		
			False		
	Audio Pair 4		False		
	Audio Pair 5		False		
	Audio Pair 6		False		
	Audio Pair 7		False		
	Audio Pair 8		False		
	Audio Ch 1 Over		False		
	Audio Ch 2 Over		False		
	Audio Ch 3 Over		False		

Figure 7-16: Web Easy Audio Notify

Audio Monitoring Control

Audio Over Level: This control sets the audio level over which there is considered to be over level. NOTE: This control is in 0.25dbFS increments, so actual range is -30dbFS to 0dbFS.

Audio Over Duration: This control sets the duration, in number of consecutive samples that are at or above the Over level before a fault condition exists.

Audio Silence Level: This control sets the audio level under which it is considered to be silent. This value is expressed in dB full scale (FS)

NOTE: This control is in 0.25db increments, so actual range is -96db to -20db.

Audio Silence duration: This control sets the amount of time the audio is silent in seconds before a fault occurs. NOTE: This control is in 0.5 sec increments, so actual range is 0.5 to 127 secs.

Audio Notify

These controls are configurable for Output 1 to 8.

Audio Pair (1-8):

Name: This lists all the audio pairs on all the SDI outputs for controlling.

Input Audio Traps: This control allows the user to enable or disable faults on the audio pairs for the SDI outputs.



Input Audio Faults: This monitor will display faults on the selected audio groups on the SDI output for the conditions that are set under *Audio Monitoring Control*.

Audio Ch. Over (1-16):

Name: This lists all the audio channels on all the SDI outputs for controlling.

Input Audio Traps: This control allows the user to enable or disable faults on the audio channel over for the SDI outputs.

Input Audio Faults: This monitor will display faults on the selected audio groups on the SDI output for the conditions that are set under *Audio Monitoring Control*.

Audio Ch Silence (1-16):

Name: This lists all the audio channel silences on all the SDI outputs for controlling.

Input Audio Traps: This control allows the user to enable or disable faults on the audio channel silence for the SDI outputs.

Input Audio Faults: This monitor will display faults on the selected audio groups on the SDI output for the conditions that are set under *Audio Monitoring Control*.

Sel Grp (1-4) Phase Reversal (12,34):

Name: This lists all the audio groups phase reversal on all the SDI outputs for controlling.

Input Audio Traps: This control allows the user to enable or disable faults on the audio groups phase reversal for the SDI outputs.

Input Audio Faults: This monitor will display faults on the selected audio groups on the SDI output for the conditions that are set under *Audio Monitoring Control*.

Sel Grp (1-4) Audio Mono (12,34):

Name: This lists all the audio on all the SDI outputs for controlling.

Input Audio Traps: This control allows the user to enable or disable faults on the group's mono for the SDI outputs.

Input Audio Faults: This monitor will display faults on the selected audio groups on the SDI output for the conditions that are set under *Audio Monitoring Control*.



7.1.10. System Notify

System	System Notify		
Product Features	Sustam Natify		
Input Control	System Notity		
Output Control		Over Temperature Traps	Over Temperature Faults
Decoder Input Monitor	Temperature Overheat	False	
Decoder Program Monitor			
Decoder Notify	System Notify		
Video Notify			
Audio Notify	Temperature Warning Threshold	75	(0 to 100)degrees
System Notify			

Figure 7-17: Web Easy System Notify

System Notify

Overheat Temperature: This control allows the user to enable or disable faults on an overheat condition.

Over Temperature Faults

Temperature Overheat: This monitor will display a fault when the temperature has exceeded the *Temperature Warning Threshold*.

System Notify

Temperature Warning Threshold: This control allows the user to set the temperature warning threshold.



8. UPGRADING THE FIRMWARE 7880IPG8-10GE2

8.1. CHECKING FIRMWARE VERSION ON THE 7880IPG8-10GE2

8.1.1. 7880IPG8-10GE2 Connected to the Frame Controller

The 7800FC Frame Controller facilitates communication between the SNMP-enabled (VistaLINK_®) cards, residing in a frame and the SNMP Manager (VistaLINK_® PRO). From time to time, the 7880IPG8-10GE2 will need to be upgraded with the latest information ("firmware") to maintain the most up-to-date monitoring and control capabilities.

Ensure that the 7880IPG8-10GE2 is running the latest firmware, to check this simply right click on the cards address in VLPro Client and select *Version Information*.

Details												
Select hardware from the tree to display	inventory	and version informat	ion. You	may also drag I	hardware from	the main naviga	ation tree into the	view to selectiv	ely upgrade hardw	are.		
Filter 💿 Supported 🔵 Active	Product	t 7880IPC	G8J2K100	GE2FC				VLPro Ja	r Name ProProd	FC7880DECJ2K1	0GE2 Version	33
🗉 🚟 Hardware	Up	Host IP	Slot	Sw Major	Sw Minor	Pnt Num	Sw Build	Bd Build	Bd SerNum	Bd Name	Bd Revision	Fm Creatio
i⊡ 🗃 7700FC		192.168.77.30			00		0212		7250130004	7880IPG8-1		20141128

Figure 8-1: Version Information

8.1.2. 7880IPG8-10GE2 Connected to the Control Port

The 7880IPG8-10GE2 facilitates communication with the SNMP Manager (VistaLINK $_{\odot}$ PRO) through the control port. From time to time, the 7880IPG8-10GE2 will need to be upgraded with the latest information ("firmware") to maintain the most up-to-date monitoring and control capabilities.

Ensure that the 7880IPG8-10GE2 is running the latest firmware, to check this simply right click on the cards address in VLPro Client and select *Version Information (similar to previous section)*.

8.1.3. Downloading the 7880IPG8-10GE2 Image

1. To retrieve the firmware contact your Evertz sales representative and save the files to the hard drive.



Note: There is different firmware for the Encoder and Decoder on the 7880IPG8-10GE2.

Please contact Evertz for image file if it not available on Evertz web site.

2. Store the .ciu file in a selected sub-directory. Record the location of the stored file.

The 7880IPG8-10GE2 image can be upgraded by a couple different procedures, which are outlined in sections 8.2 and 8.3. Preferred method would be using VistaLINK_®



8.2. REMOTE UPGRADE PROCEDURE USING VistaLINK®

8.2.1. Upgrading 7880IPG8-10GE2 through Frame Controller or Control Port

To perform the remote upgrade for the 7880IPG8-10GE2 you will need the following setup:

A working install of a VistaLINK_® Pro client or VLPRO-C that's version 11.2.0B3365 patch 120 or greater.



The DHCP mode should be disabled before proceeding with the 7800FC Frame Controller or 7880IPG8-10GE2 control port to upgrade.

- Use the right-click mouse button on the '7880IPG8-10GE2' in the tree and select *Version Information* ...' option.
- Open hardware tree and select card to be upgraded (multiple cards can be selected).
- Check mark card or cards to be upgraded.



Figure 8-2: Selected Cards for Upgrade

- Click the 'Upgrade' button on bottom right corner
- Click the 'Browse' button to select the 7880IPG8-10GE2 .ciu file, which was downloaded in section 8.1.3.
- 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.



📟 Upgrade Firmware				×
DEC78	80J2K10GFC			
ſ				Browse
Host IP	Slot	Status	Progress	
192.168.77.30	9			
Terminate Active Upgrad	es		Start Stop	Close

Figure 8-3: Selecting File for Firmware Upgrade

• Upon completion, the 7880IPG8-10GE2 module will reboot automatically and return online in normal "run" mode.

8.2.2. Upgrading 7880IPG8 using the Control Port

The 7880IPG8-10GE2 web interface provides a simple way to upgrade the firmware on the 7880IPG8-10GE2. Clicking on the *Upgrade* button at the top of the home screen as shown in Figure 8-7 will bring the user to the Firmware Upgrade page as shown in Figure 8-8.

7880IPG8-10GE2

Hybrid Baseband/Ethernet Infrastructure – Media Gateway



EVERIZ 7880IPG8-10GE2	🕻 Refresh 👲 A	pply 👲 Dynamic Apply 🎇 Upgrade
System	System	
Product Features		
Input Control	System	
Output Control	Card Alias	7880IPG
Decoder Input Monitor		
Decoder Program Monitor	Control Port	Configuration
Decoder Notify		
Video Notify	IP Address	192.168.77.13
Audio Notify	Netmask	255.255.255.0
System Notify	Gateway	192.168.77.1
	Data Port Con SFP1G-10G Main	hfiguration SFP1G-10G Backup
	IP Address	10.11.77.13
	Netmask	255.255.255.0
	Gateway	10.11.77.1
	Mac Address	00:02:C5:18:3B:DA
	Data Port Spe	bed
	Speed Status	1 G Speed Switch

Figure 8-4: Firmware Upgrade Tab

• Browse and select the .ciu File in section 8.1.3. Once selected, click on the Upgrade button. Upon completion, the 7880IPG8-10GE2 module will reboot automatically and return online in normal "run" mode.

		Firmware Upgrade					
atures	Upgrade						
ol							
itrol							
put Monitor	Firmware Opgrade						
ogram Monitor	Name	Current Version Progress					
otify	7880IPG8-10GE2	V1.0B20141128-0212					
y	Firmware	Browse No file selected.					
ify			Upgrade				
tify y sify	Firmware	Browse No file selected.	Ur				

Figure 8-5: Firmware Upgrade Page for 7880IPG8-10GE2