7880GS-8 Series
User Manual

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Version 1.0, February 2015

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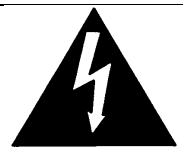
IMPORTANT SAFETY INSTRUCTIONS

	The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “Dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the product.

- Read these instructions
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC – SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE

WARNING
DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS ARE PLACED ON THE EQUIPMENT

WARNING
TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE

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

INFORMATION TO USERS IN EUROPE

NOTE

CISPR 22 CLASS A DIGITAL DEVICE OR PERIPHERAL

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

CE

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

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

INFORMATION TO USERS IN THE U.S.A.

NOTE

FCC CLASS A DIGITAL DEVICE OR PERIPHERAL

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

WARNING

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

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

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Figures

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REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	First Release	Feb 2015

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1. OVERVIEW

The 7880GS is an eight port 10/100/1000 Ethernet switch for the modular 7700/7800FR platform, providing Layer 2 MAC address learning and switching. Value-added features and functions for service providers include the ability to pass or add VLAN tagging. Link aggregation is also supported, enabling multiple ports to be grouped in parallel for increased bandwidth and/or redundancy. These functions are fully remotely controllable through SNMP or the Evertz VistaLINK® monitoring and control software.

Features and Benefits

Support for:

- Layer 2 switching, learning of MAC addresses
- VLANs, VLAN tagging (passing or adding)
- Port-based link aggregation
- Jumbo frames
- Extensive port by port monitoring of Ethernet parameters
- Remote control and monitoring through VistaLINK®

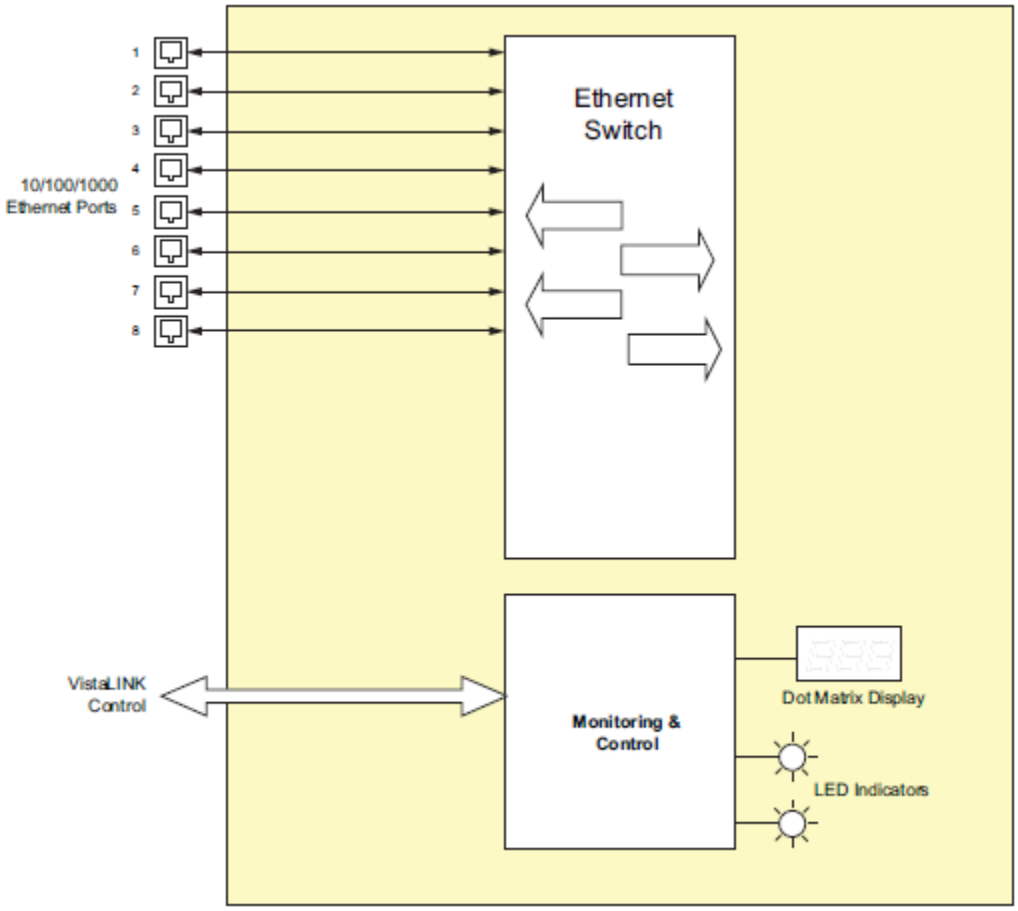

Figure 1-1 : 7880GS-8 Block Diagram

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2. GETTING STARTED

2.1. REAR PLATE DESCRIPTION

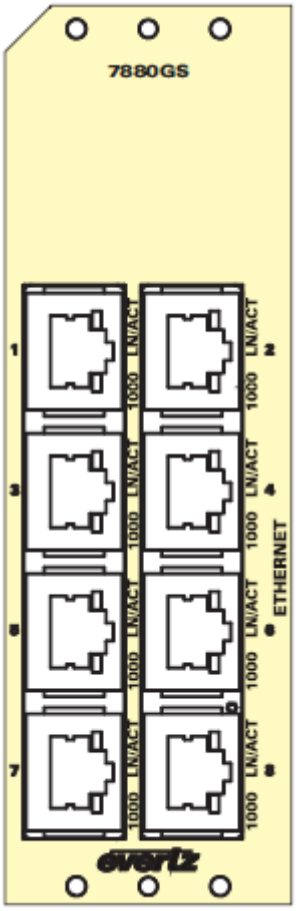

Figure 2-1 : 7880GS Rear Plate

1000 LN/ACT: Each of these Ethernet connections are bi-directional, allowing for 1Gb of data to move through the module.

2.2. HARDWARE INSTALLATION

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

Locate on the chassis 2 adjacent vacant slots. Unpack the 7880GS and separate the rear panel from the main card. Locate on the rear of the rack the two slots and remove the blank panels. Insert the rear panel into the back of the chassis and secure using the screws provided.

Before linserting the card, connect the serial cable to the board using the serial cable provided. Now insert the 7880GS card into the corresponding front slots ensuring the card lines up with the slot runners on the bottom and the top of the chassis. Push the card **firmly** into the slot ensuring that when it mates with the rear card it has been firmly pushed into a seated position. Do not connect any cables to the rear card (failure to do this could cause unwanted network issues) until the initial configuration has been completed.

2.3. CONNECTING TO VLPRO

This chapter assumes that the VistaLINK® PRO server and client are already configured for your network and you have basic knowledge of the VistaLINK® PRO interface. It also assumes that the user or network administrator has already added the appropriate jar file to the server, and both the client and server applications have been restarted. Please refer to the VistaLINK® PRO manual for instructions on how to load a jar file. If you are the network administrator refer to section 5.1 for information on updating the VistaLINK® PRO Server Jar File.

Open VistaLINK® PRO and click on the refresh tree icon. Expand the hardware tree by clicking on the "+" button. Your card should appear as a newly listed device with the IP address. It may take up to a minute to appear.

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

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

3. SPECIFICATIONS

3.1. ETHERNET I/O

Standard	10 BaseT, 100 BaseTX, 1000 BaseTX (auto-negotiating)
Number of Ports	8
Connector	RJ45

3.2. ELECTRICAL

Voltage	12 VDC
Power	20W

3.3. PHYSICAL

Number of Slots	2

3.4. COMPLIANCE

EMI/RFI	Complies with FCC regulations for Class A devices. Complies with EU EMC directive 89/336/EEC

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4. VISTALINK PRO INTERFACE

The 7880GS-8 series products are controlled using VistaLINK® PRO. VistaLINK® PRO operates using Ethernet and SNMP control protocols. The 7880GS-8 series modules DO NOT HAVE card edge controls. As a result, 7700FC/7800FC modules must be installed in all frames that house 7880GS-8 series modules.

The system configuration controls can be accessed by *right-clicking* on the module in the VistaLINK® PRO hardware tree, and selecting *view configuration.* Figure 4-1 illustrates how a 7880GS-8 module will appear in the in the VistaLINK® PRO hardware tree.

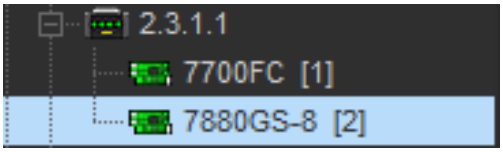

Figure 4-1 : 7880GS-8 in VistaLINK® PRO Hardware Tree

NOTE: When using VistaLINK® PRO it is important to ensure that the most recent 7880GS-8 series ".JAR" control file is installed. See Section 5 for details on how to upgrade the 7880GS-8 series VistaLINK® PRO JAR file.

4.1. VLAN CONTROL

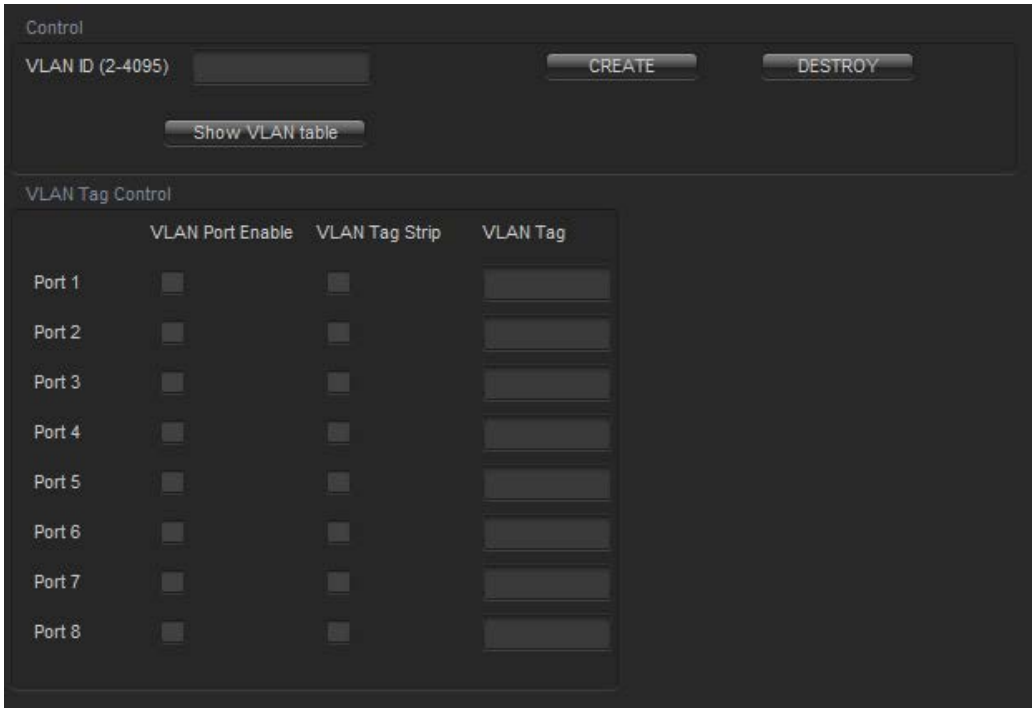

Figure 4-2 : VistaLINK® PRO - VLAN Control Tab

Control

VLAN ID: This control allows the user to enter the VLAN ID they wish to create. When they create the VLAN ID they can assign or modify the parameters associated with that VLAN. To save the changes press *Apply* at the top of the page.

Create: Selecting this button allows the user to create a VLAN after if one does not exist after typing the VLAN ID in the VLAN ID field.

Destroy: Selecting this button allows the user to delete a previously made VLAN after typing the VLAN ID in the VLAN ID field.

Show VLAN Table: Selecting this button will display a chart of VLAN assignments for all 8 ports of the built in Ethernet switch.

VLAN Tag Control

VLAN Port Enable: Placing a checkmark in this box allows the user to enable VLAN for the corresponding port.

VLAN Tag Strip: Placing a checkmark in this box allows the user to enable the VLAN tag strip for the corresponding port.

VLAN Tag: This control allows the user to set the VLAN tagging on the port. Each port can only tag to one of the VLANs that the port has membership of.

4.2. TRUNK CONTROL

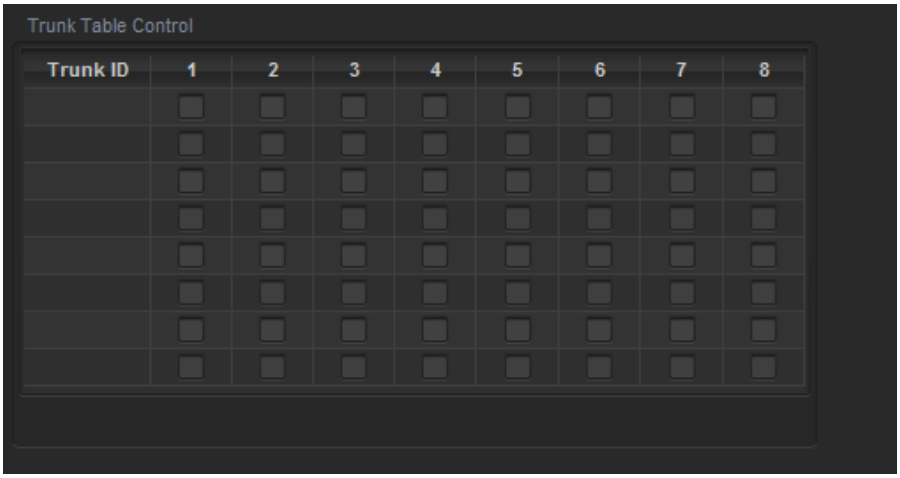

Figure 4-3 : VistaLINK® PRO - Trunk Control Tab

Trunk ID: For every trunk there is a trunk identifier that contains membership information of a particular group of ports on the 7880GS-8.

4.3. SWITCH PORT

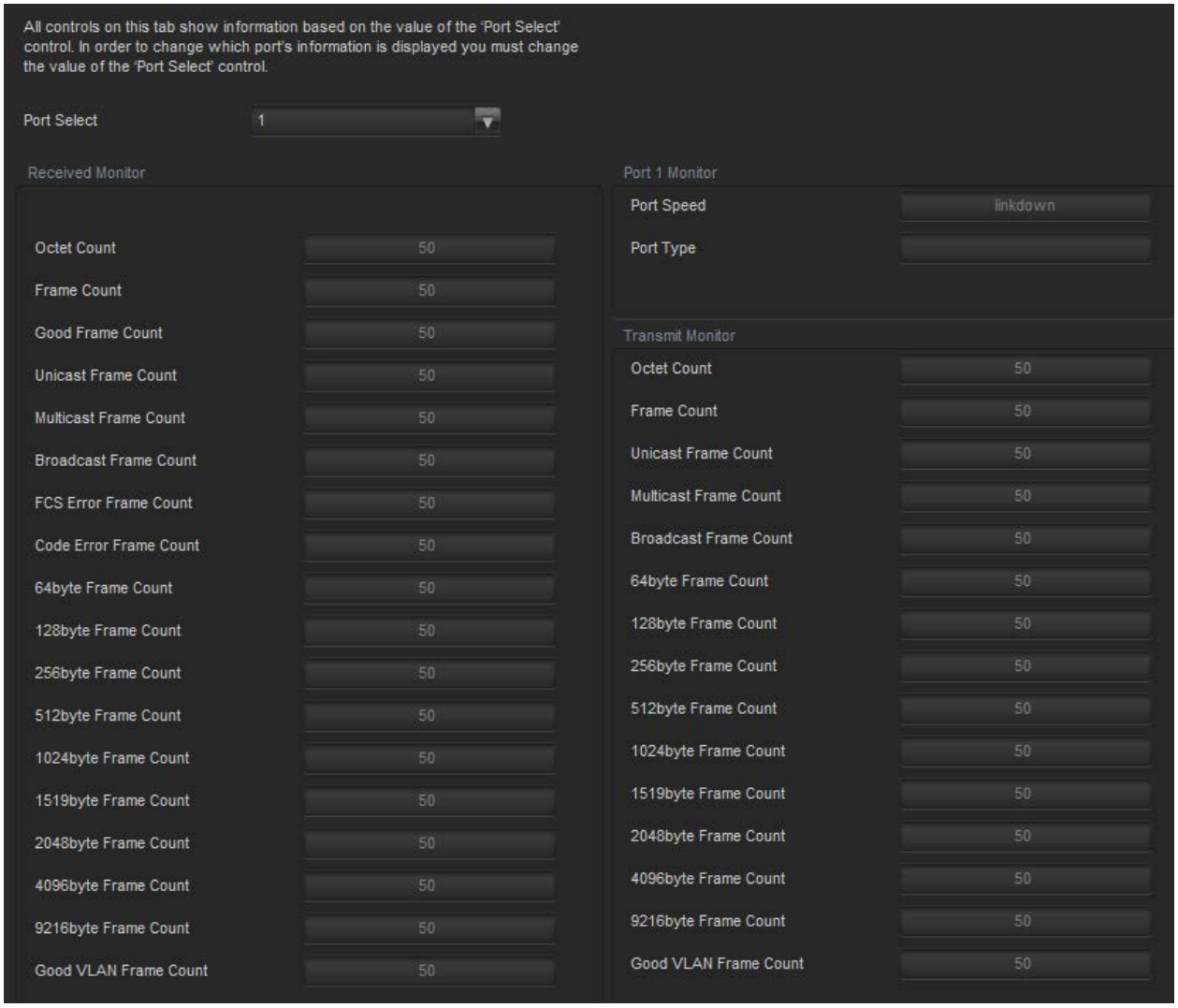

Figure 4-4 : VistaLINK® PRO - Switch Port Tab

Port Select: This drop down menu allows the user to select the port number to view the following details of.

Received Monitor: The fields in this panel display to the user the received frame counts; it also shows the error counts associated with those frames.

Port x Monitor: The fields in this panel display to the user the link and upstate of the selected port.

Transmit Monitor: The fields in this panel display to the user the transmitted frame counts; it also shows the error counts associated with those frames.

4.4. ETHERNET FAULTS

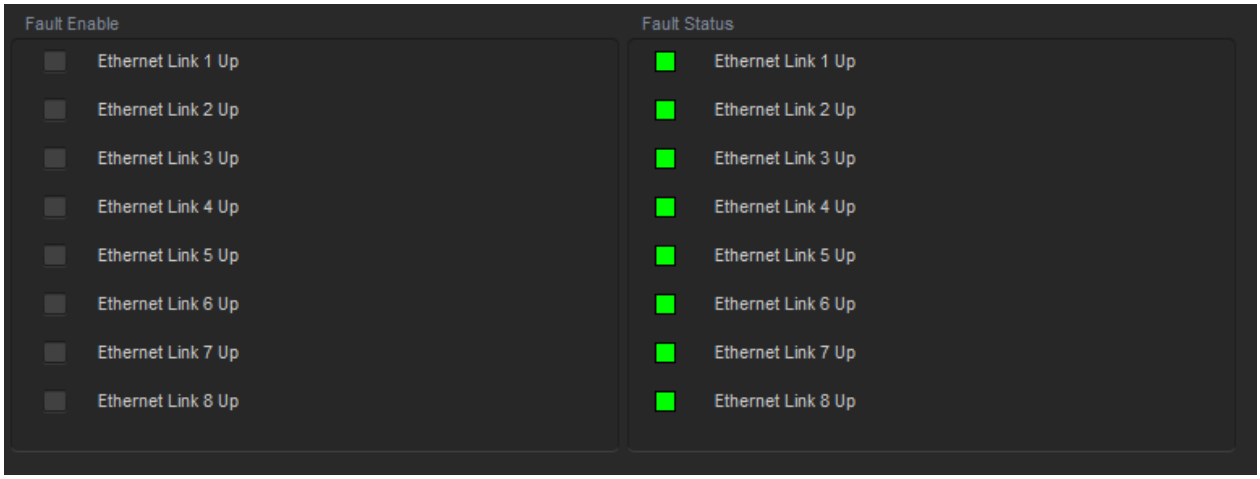

Figure 4-5 : VistaLINK® PRO - Ethernet Faults Tab

Ethernet Link Up: This field displays the Ethernet link up or down status on the external ports. Green indicates that the link is up, and red indicates that the link is down.

4.5. FIRMWARE UPGRADE TARGET

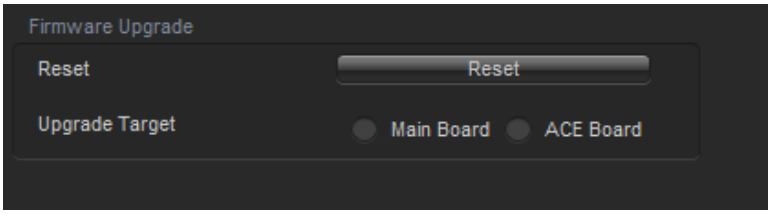

Figure 4-6 : VistaLINK® PRO - Firmware Upgrade Target Tab

Note: The main board is the left most board when looking at it from the front of the frame. The ACE board is the daughter board which is on the right. Upgrading is recommended by the following method: right clicking on the product in the tree and select 'Upgrade Firmware' (common to all products). Then selecting whether the Main or ACE board will need to be upgraded.

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5. UPGRADE PROCEDURE

There are multiple components of the module operation that can be upgraded. These include:

- VistaLINK® PRO Product JAR upgrade
- Firmware upgrade

This section outlines the procedures for performing these module upgrades.

5.1. VISTALINK® PRO UPGRADE PROCEDURE

Open VISTALINK® PRO Server and navigate to *Help* > *Apply Update* > *Product.* When the window opens you want to select the latest .jar file for the 7880GS-8, from its saved location and select ***Open***.

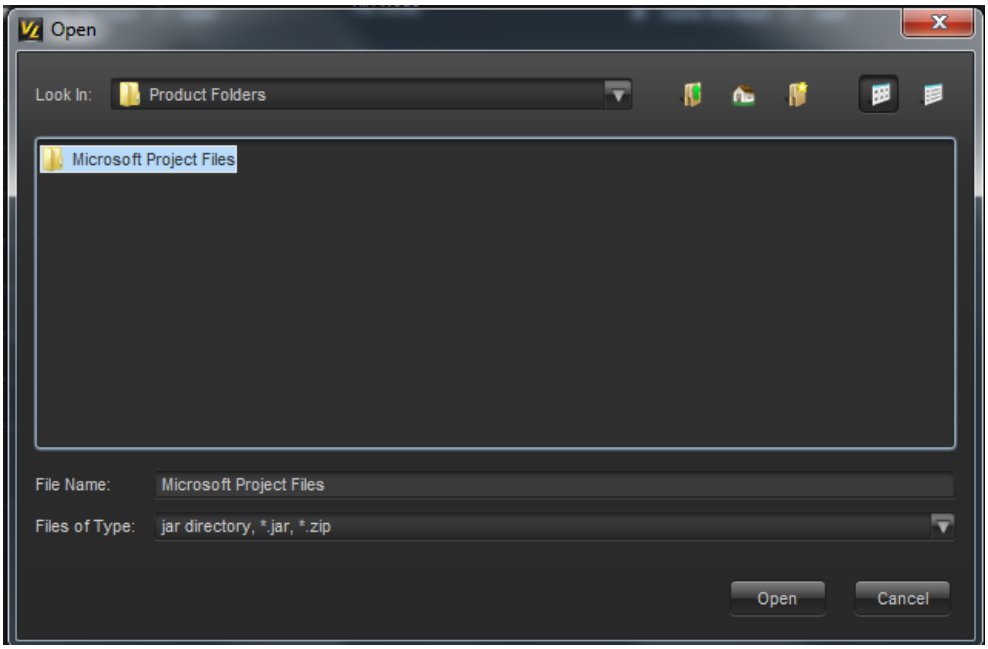

Figure 5-1 : VistaLINK® PRO - Upgrade Window

At this point the VistaLINK® PRO Server will send a message asking to Restart, select ***Yes***. This will apply the updated firmware to the 7880GS-8. Restart VISTALINK® PRO Server followed by VISTALINK® PRO Client.

When VISTALINK® PRO Client has re-opened, verify that the 7880GS-8 is running the correct version, to check this simply right click on the cards address in VistaLINK® PRO Client and select ***Version Information***.

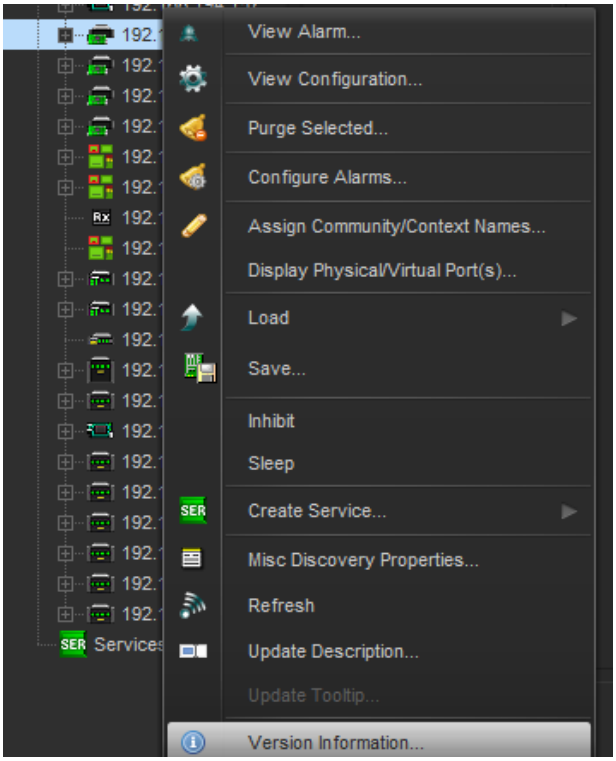

Figure 5-2 : VistaLINK® PRO - Module Dropdown Menu

This will open a window that displays all of the current version information loaded onto the 7880GS-8. Navigate the hardware tree on the left side of the version information window to select the 7880GS-8 module. The *VISTALINK® PRO Product Version* reported in the top right corner of the window should match the new version. If it does not, please contact Evertz for further assistance.

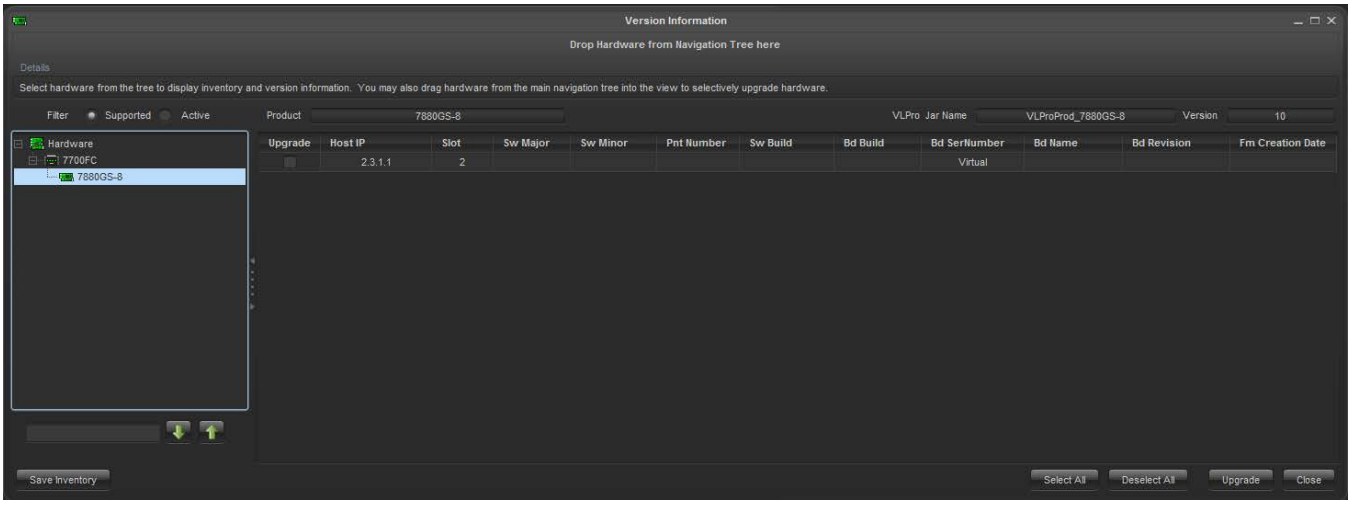

Figure 5-3 : VistaLINK® PRO - Version Information Window

5.2. UPGRADE FIRMWARE

A firmware upgrade can be accomplished through VistaLINK® PRO firmware upgrade facilities. All 7880GS-8 modules within the same 7700FR/7800FR frame can be upgraded simultaneously or one-by-one. However, it is more convenient to upgrade them simultaneously.

Right click on 7700FR/7800FR frame that contains the 7880GS-8 modules, and select *Version Information*

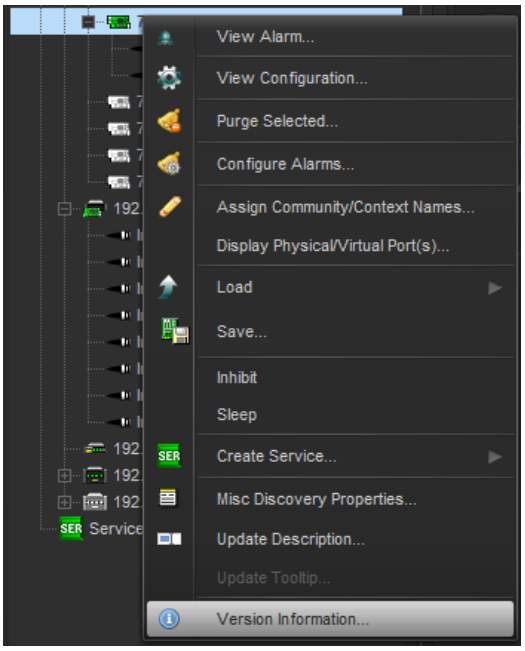

Figure 5-4 : VistaLINK® PRO - Version information selection

Navigate the hardware tree on the left side of the version information window to select the 7880GS-8 module listed. The list on the right side of the window should populate with all 7880GS-8 modules present in the 7700FR/7800FR. Take note of the current firmware version installed on the 7880GS-8 modules to confirm the upgrade has completed successfully.

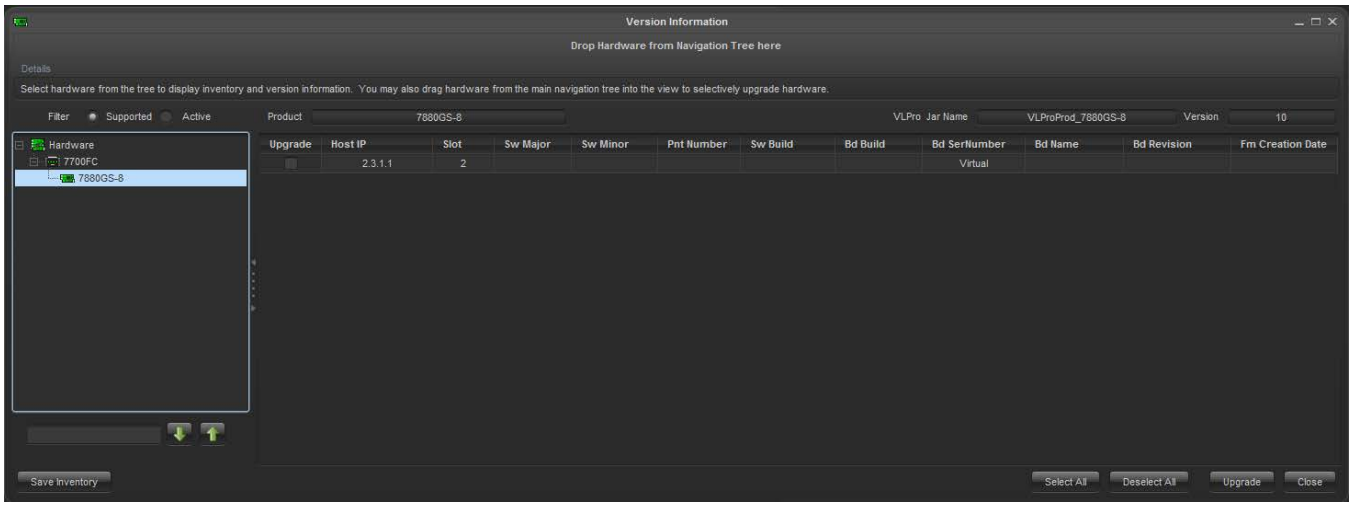

Figure 5-5 : VistaLINK® PRO - Version Information Window

Check the *Upgrade* checkbox for all modules that require the firmware upgrade. Press Upgrade button. This will open a new *Upgrade Firmware* window. Press the Browse button to navigate to the firmware archive provided for upgrading the 7880GS-8 modules (**File extension is .tar.gz**). Once the correct file has been selected, press the *Start* button to begin the upgrade process.

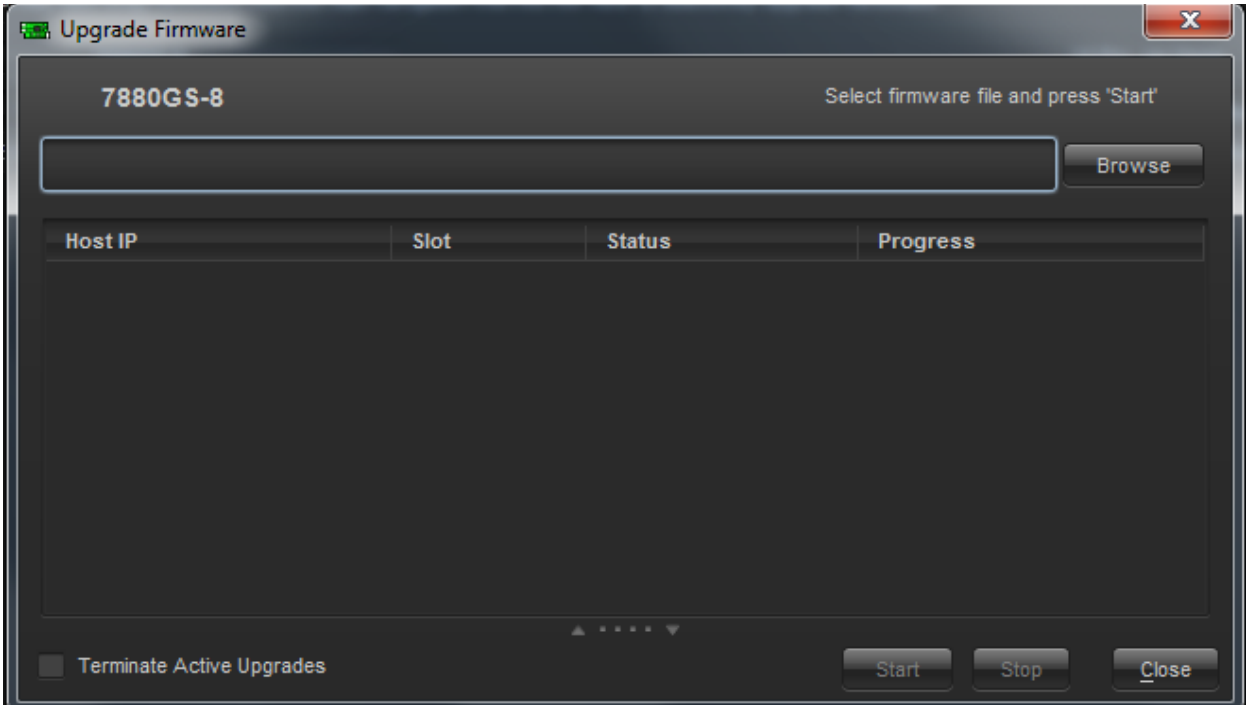

Figure 5-6 : VistaLINK® PRO - Upgrade Firmware Window

After the firmware has been transmitted to the 7880GS-8 module successfully, the module will reboot to complete the firmware upgrade process. Close the *Upgrade Firmware* window and *Version Information* window.

Once the cards have rebooted, ensure all 7880GS-8 modules are still present in the VistaLINK® PRO hardware tree. Right click on 7700FR/7800FR frame that contains the 7880GS-8 modules, and select *Version Information*. Navigate the hardware tree on the left side of the version information window to select the7880GS-8 module listed. The list on the right side of the window should populate with all 7880GS-8 modules present in the 7700FR/7800FR. Verify that all modules that have been upgraded are now reporting the expected firmware version.

NOTE: If any of the 7880GS-8 modules do not properly upgrade the firmware, please power-cycle those boards and retry the procedure exclusively on the failed boards. If the issue still persists, contact Evertz for further assistance.

6. APPENDIX A

6.1. HARDWARE OPTIONS

This manual covers the following hardware options:

- 7880GS-8

6.2. VERSIONS

This manual has been built using the following software information. Should the module you are working with have interfaces that differ in appearance this may be due to difference in software versions.

- JAR File Version: 10
- Firmware Version

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