7800EMR-IO
32x32 AES & MADI Router/Interface
User manual

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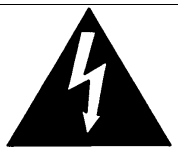
IMPORTANT SAFETY INSTRUCTIONS

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

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

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

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

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

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

INFORMATION TO USERS IN EUROPE

NOTE

CISPR 22 CLASS A DIGITAL DEVICE OR PERIPHERAL

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

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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Tables

REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	First Release	Dec 2015

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1. OVERVIEW

The 7800EMR-IO is a compact modular audio router/interface that can be configured to operate in two different modes depending on the application requirements. The first mode is stand alone mode which the device will function as a standalone router with AES and MADI as input and output. The second mode is ADMX mode which will allow the module to act as an input and output interface and has to be connected to an ADMX crosspoint for integration into an EMR audio router.

7800EMR-IO contains 32 unbalanced AES inputs and 32 unbalanced AES outputs as well as 2 MADI Inputs and 2 MADI output ports, all these IOs are used in both modes. There are 2 additional inputs and output ports that are software programmable to be MADI or TDM for the different modes.

The processing unit interfaces the various control options such as serial and Ethernet, allowing full control of the routing resources. The processing unit also provides a video reference to maintain a clean switch.

1.1. FEATURES & BENEFITS

- Hot-swappable, front-loading modular
- STANDALONE and ADMX Mode
- Low latency TDMV2
- Sample Rate Conversion
- References from Rear Panel or Frame Reference
- Single Network connection
- VISTALINK® Monitoring and SNMP Management System

1.1.1. STANDALONE MODE

- 32 AES Inputs and 32 AES Outputs
- 4 MADI Inputs and 4 MADI Outputs
- 320 Mono or 160 Stereo Channels
- Supports 4:1 Mono Mixing
- Audio Monitoring for AES and MADI Signals
- Changeable Audio Delay Option
- Audio Tone Generator with variable Frequency, Gain and Inversion
- Cross fade in PCM streams when Soft Switch is enabled
- Supports Synergy and Quartz protocol

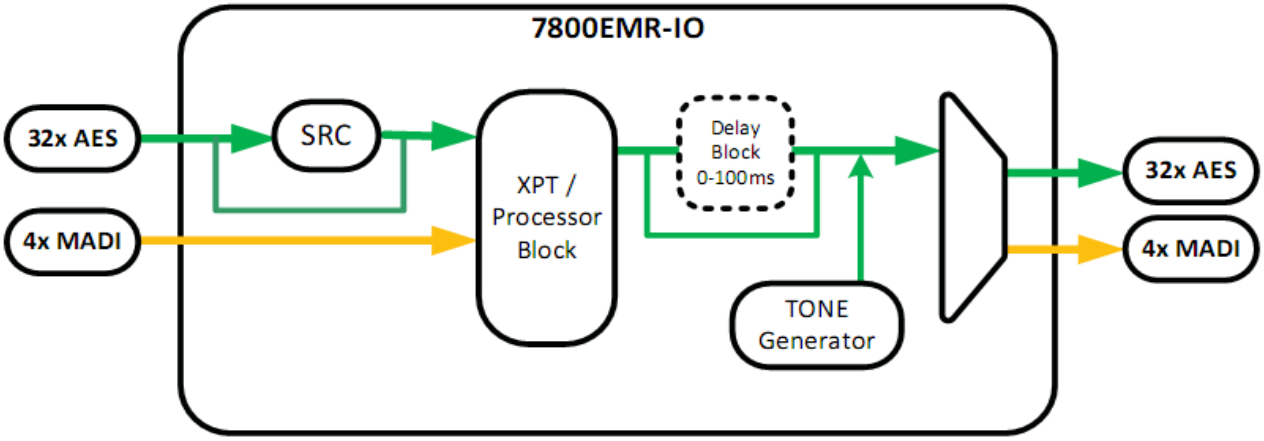

Figure 1-1: Standalone Mode Block Diagram

1.1.2. ADMX MODE

- 32 AES Inputs and 32 AES Outputs
- 2 MADI Inputs and 2 MADI Outputs
- 2 TDM Inputs and 2 TDM Outputs
- Supports 192 Mono or 96 Stereo I/O channels
- Supports TDM Redundancy for TDM Inputs and TDM Outputs ports
- Supports 4:1 Mono Mixing
- Audio Monitoring for AES, MADI and TDM Signals
- Changeable Audio Delay Option
- Audio Tone Generator with variable Frequency, Gain and Inversion

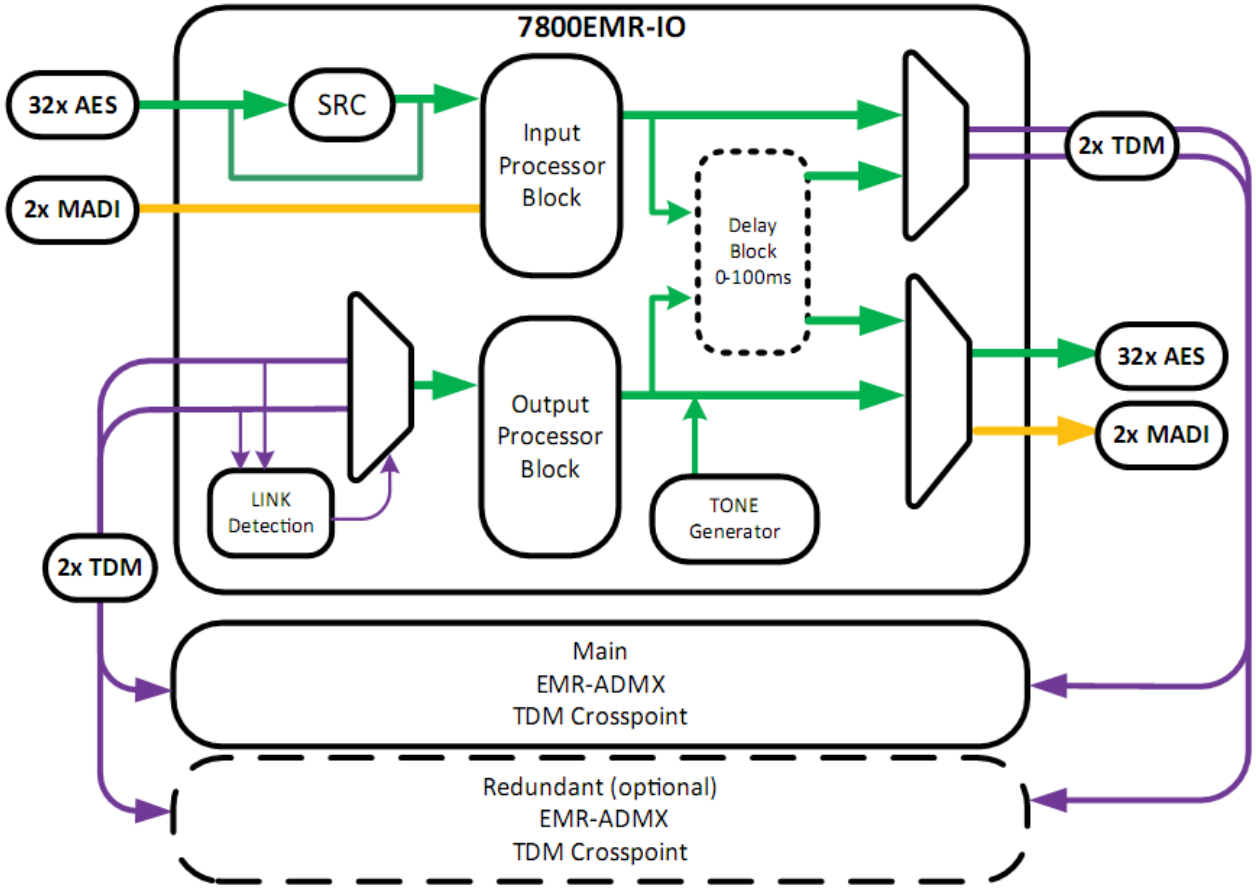

Figure 1-2: ADMX Mode Block Diagram

Note: In ADMX mode, MADI 3 and MADI 4 Inputs & Outputs are changed to TDM 1 and TDM 2 Inputs & Outputs.

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2. SPECIFICATIONS

2.1. AUDIO CONNECTIONS

32 AES DIN Inputs: 32 DIN 1.0/2.3 Connectors
32 AES DIN Outputs: 32 DIN 1.0/2.3 Connectors
MADI 1 Input & Output: 2 BNC per IEC 61169-8 Annex A
MADI 2 Input & Output: 2 DIN 1.0/2.3 Connectors
2 TDM / MADI 3 & 4 Inputs: 2 DIN 1.0/2.3 Connectors
2 TDM/ MADI 3 & 4 Outputs:2 DIN 1.0/2.3 Connectors

2.2. AUDIO INPUTS

Number of AES Inputs: 32 x DIN
Number of AES Outputs: 32 x DIN
Number of MADI Inputs: 4 x DIN/BNC
Number of MADI Outputs: 4 x DIN/BNC
Number of TDM Inputs: 2 x DIN
Number of TDM Outputs: 2 x DIN
Connector: BNC per IEC 61169-8 Annex A, DIN 1.0/2.3
Impedance: 75 Ω terminating

2.3. ELECTRICAL

Voltage: +12VDC
Power Consumption: 10W

2.4. FRAMES

Frame and Slot Occupancy:

7800FR Frame with 5 slot occupancy
7800FR-QT Frame with 5 slot occupancy
7800FR-48VDC Frame with 5 slot occupancy
7800FR-ACDC Frame with 5 slot occupancy

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3. INSTALLATION

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

7800EMR-IO module must have minimum 5 slots vacant in the frame. Each rear plate can house one 7800EMR-IO module.

3.1. INSTALLATION OF 7800EMR-IO ON 7800FR FRAME

Step 1: Install the 7800EMR-IO rear plate to the 7800 frame with screws provided and make sure the orientation of the rear plate is as shown in Figure 3-1.

Figure 3-1: 7800EMR-IO Rear Plate

Step 2: Insert the 7800EMR-IO module in the 7800FR Frame and make sure the orientation of the card is correct and it is pushed all the way into the frame.

4. FRONT CARD EDGE CONTROLS AND LEDS

The 7800EMR-IO front card edges have some key controls and indicators that can help in the installation and debugging processes. Table 4-1 and Figure 4-1 below shows the card edges and describes the expected behavior of each component.

Component	Description	
MADI Present LEDs	Red	No MADI Signal
	Green	MADI Signal Present
TDM Present LEDs	Red	No TDM Signal
	Green	TDM Signal Present
Rotary Switch	Switches the display to view firmware version, IP address and XPT Mode	

Table 4-1: Description of 7800EMR-IO Card Edge

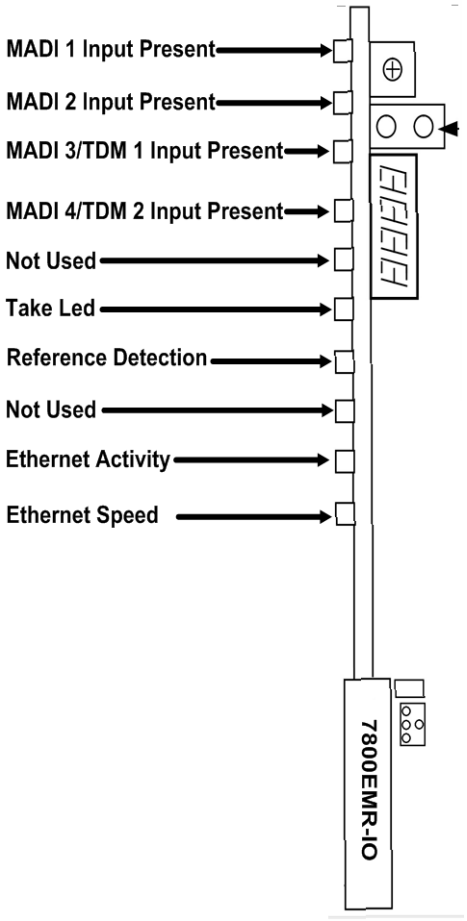

Figure 4-1: Illustration of the Front Card Edge of the 7800EMR-IO

4.1. SERIAL MENU

Through the card-edge's serial port J6 and using the serial upgrade ribbon cable connected to a PC's serial port, start HyperTerminal (or equivalent) application. The upgrade ribbon cable supplied has a six pin header socket on one end and a female 9 pin D connector on the other end (Evertz part number WA-S76).

Configure the port settings of the terminal program as follows:

Baud	**115200**
Data bits	**8**
Parity	**None**
Stop bits	**1**
Flow Control	**None**

Once the card is powered-up, the HyperTerminal connection displays boot-up status information and once complete, ends with the "Main Menu" as shown below:

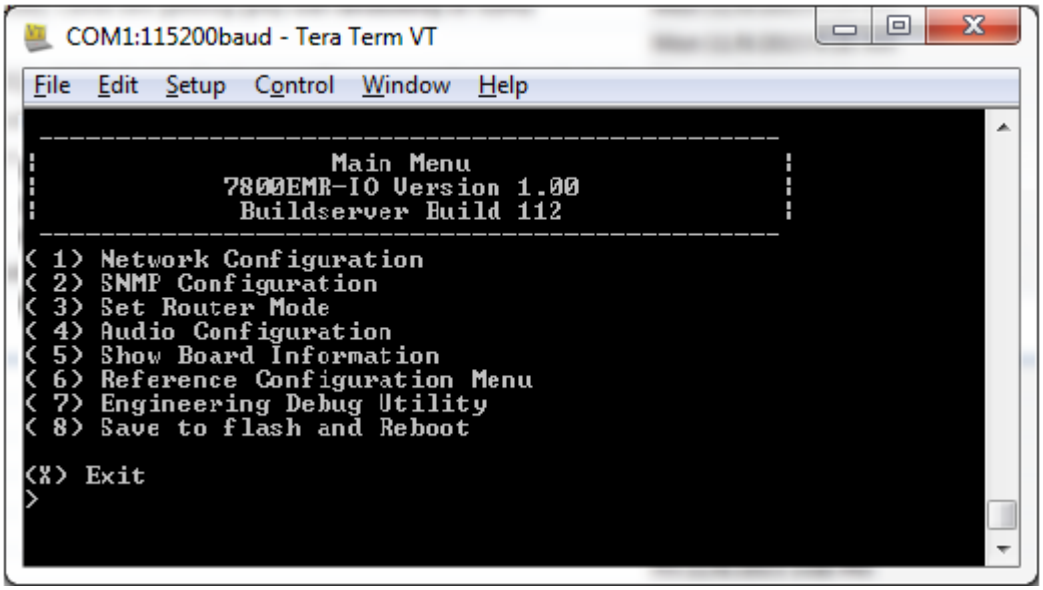

Figure 4-2: Main Menu Prompt

4.1.1. Network Configuration

Set IP Address	Allows the user to set the IP address
Set Netmask	Allows the user to set the Netmask address
Set Gateway	Allows the user to set the Gateway address
Set Broadcast	Allows the user to set the Broadcast address
Set DHCP	Allows the user to enable or disable the DHCP

4.1.2. SNMP Configuration.

Set Trap IP address	Allows the user to set the trap IP address
Remove Trap IP add	Allows the user to remove the trap IP address
Community Strings	Allows the user to set the community strings

4.1.3. Set Router Mode

ADMX Mode	Allows the user to set the module to ADMX mode, which means an external ADMX is required for controlling the routes.
XPT Mode	Allows the user to set the module to XPT mode, which means the card will operate a standalone router.
Exit without change	Allows the user to exit the menu without changing anything.

Note: When the mode is changed, the card will automatically reboot.

4.1.4. Audio Configuration

AES Status info		
	View AES channel Pair Status info	Allows the user to view status of audio in terms of Peak, RMS, Presence, Silence, Over, Phase, etc.
	View Multiple channels Status info	
Routing Menu		
	Set X to Y Route	Allows the user to manually set the routes. (XPT mode only)
	Set X to All Route	
	Set 1 to All Route	
SRC Menu		
	Set SRC Enable	Allows the user to enable or disable the SRC (Sample Rate Converter)
	Set Channel Bit mode	Allows the user to whether preserve or change the C bit
	Set 20/24 Bit Depth	Allows the user to set the bit depth to 20 or 24 bit
Mixer control		
	Set Mono Select Range	Allows the user to select a range of the mono channels
	View Status	Allows the user to view channel source, gain, inversion, mute and fade duration for all channels or the selected range
	Set Mixer source	Allows the user to select a source for the mixer
	Set Gain	Allows the user to set gain per channel or all
	Set Inversion	Allows the user to invert the phase per channel or all
	Set Mute	Allows the user to mute a channel or all
	Set Fade Duration	Allows the user to set the fade duration between 5-200 ms
	Reset Mixer Setting	Allows the user to reset all the settings to factory default.
Tone Generator		
	Set Mono Select Range	Allows the user to select a range mono channels
	View Tone Gen Gain/En	Allows the user to view the gain status of tone generator per channel.
	View Tone Gen Status	Allows the user to view the status of tone gen per channel
	Set Tone Gen Enable	Allows the user to enable or disable the tone gen per channel
	Set Tone Gen Freq	Allows the user to set tone frequency
	Set Tone Gen Gain	Allows the user to set the gain per channel
	Set Tone Gen Invert	Allows the user to invert or uninvert audio phase

Click Suppression		
	Set Mono Select Range	Allows the user to select a range mono channels
	Set Click Suppression	Allows the user to enable and disable click suppression to all channels or selected range
Audio Fault Menu		
	Set Mono Select Range	Allows the user to select a range of mono channels
	Set Stereo Sel. Range	Allows the user to select a range of stereo channels
	View Fault configuration	Displays the fault for Silence ,Over Amplitude, Same/Anti phase, Loss and Non PCM
	Set Fault Enabled	Allows the user to enable the above faults per channel or range
	Set Fault Threshold	Allows the user to set threshold for silence, over amplitude, same and anti phase
	Set Fault Duration	Allows the user to set the fault duration for Silence, Over amplitude and phases, between 1-128 ms
	Set Fault Reset Duration	Allows the user the set the trap reset time for Silence, over amplitude, phase, loss and non PCM.
TDM/MADI Port Info		
	Reset TDM IP Error Count	Displays whether TDM/MADI inputs are present with number of channels also allows the user to reset the TDM/MADI input error count

4.1.5. Show Board Information

Displays all the information about the I/Os and LEDs

4.1.6. Reference Configuration Menu

Set Primary Ref.	Allows the user to set Reference 1 or Reference 2 as primary reference
Set Ref. input 1 source	Allows the user to select the reference source to be the Frame or Rear Plate
Set Ref. Swap Mode	Allows the user to swap the reference manually or set it to Auto upon failure
Reset Ref. Swap count	Allows the user to reset the swap counter
Reset PLL Drop count	Allows the user to reset the PLL drop count
Set Ref. format	Allows the user to select the reference format (Audio or Video)
Set Video Ref. Standard	Allows the user to select the reference standard if it is Video
Reset Ref. Drop count	Allows the user to reset the reference drop count

4.1.7. Engineering Debug Utility

This menu is used for debugging purposes only.

4.1.8. Save to the Flash and Reboot

When changes are made, this option is selected to save the changes to the flash and reboot the card.

5. VISTALINK® PRO CONFIGURATION

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

Communication with VLPro to is only made possible to the 7800EMR-IO's control port. The 7800EMR-IO cannot be controlled by the 7800 or 7700 frame controller. Make sure all proper network communications have been configured for the module in section 4.1.1.

If the module is not auto discovered, Open VistaLINK® PRO client and click on the *Tree* drop down menu and select "*Add/Update Agent*".

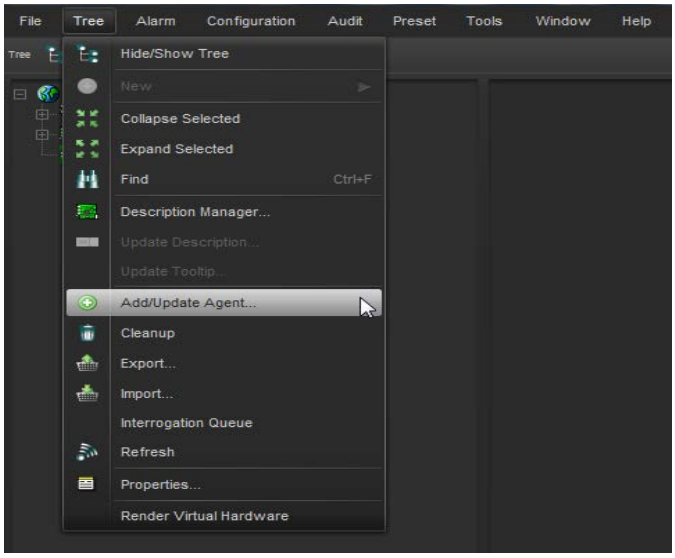

Figure 5-1: VistaLINK® - Adding the 7800EMR-IO's as an Agent

Enter in the IP address for the 7800EMR-IO.

Figure 5-2: VistaLINK® - Adding the 7800EMR-IO's IP Address

Expand the hardware tree by clicking on the "+" button and the IP address of the 7800EMR-IO module should appear with a green icon to indicate proper communication.

Select 7800EMR-IO and right click to "***View Configuration...".***

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

5.1. GENERAL TAB

The General tab displays the information about the Card, Frame Reference, Reference Port 1 & 2 and Frame Reference trap status.

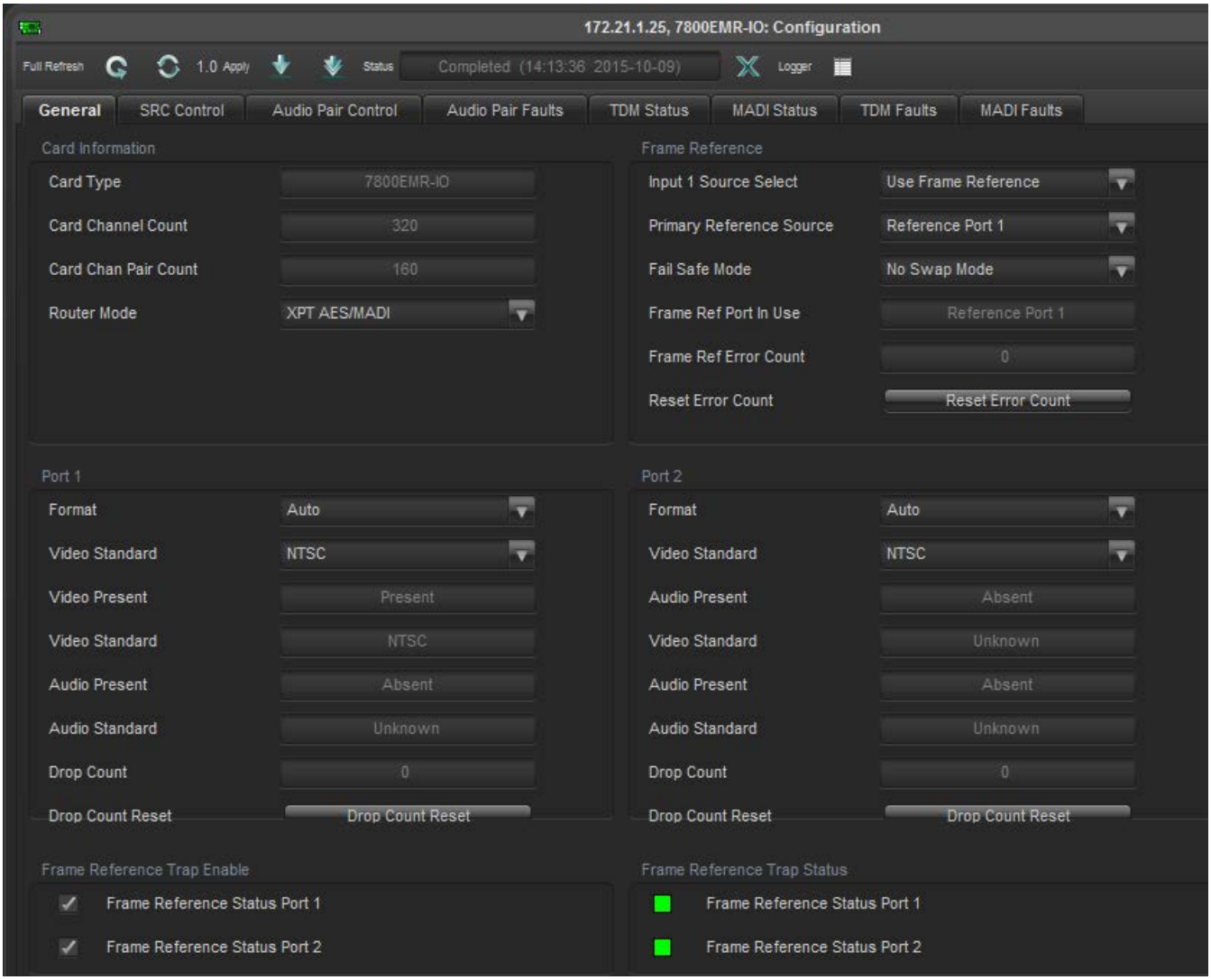

Figure 5-3: VistaLINK® - General Tab

Card Information

Card Type: Displays the name of the card.

Card Channel Count: Displays the number of mono channels on the card.

Card Channel Pair Count: Displays the number of stereo channels on the card.

Router Mode: Allows the user to configure the Router Mode. Options are ADMX or XPT AES/MADI.

Frame Reference

Input 1 Source Select: Allows the user to select the source reference. Options are Frame or Rear Plate.

Primary Reference Source: Allows the user to select the primary reference source. Options are Reference Port 1 or Reference Port 2

Fail Safe Mode: Allows the user to configure the fail safe mode for when the primary source reference fails. Options are:

- **No Swap Mode** - No action is taken when the reference fails for Ref 1 and Ref 2
- **Single Swap Mode** - The next reference is selected when the primary source reference lost but does not revert back to the primary source reference.
- **Auto Swap Mode** – The next reference is selected when the primary source reference lost but reverts back to the primary source reference when the signal is locked.

Frame Ref Port In Use: Shows which reference port is in use. Options are Reference Port 1 or Reference Port 2.

Frame Ref Error Count: Shows the number of error counts for the reference signal.

Reset Error Count: This click button is used to reset the Frame Reference Error Count.

Port1 and Port 2

Format: Allows the user to configure the reference format. Options are Video, Audio or Auto.

Video Standard: Allows the user to select the reference standard. Options are NTSC, PAL or Auto and only applies when Video is selected for the Format.

Video Present: Displays whether the video reference is Present or Absent.

Video Standard: Displays the standard of the video reference.

Audio Present: Displays whether there is a audio reference Present or Absent.

Audio Standard: Displays the frequency of the Audio Reference.

Drop Count: Displays the Drop or Error Count of the Reference.

Drop Count Reset: This click button is used to reset the Drop or Error count of the reference.

Frame Reference Trap Enable

Frame Reference Status Port 1 and Port 2: Trap Enable when selected, allows for trap messages to be send on fault conditions for the Frame Reference.

Fault Status: The status monitor displays fault condition on the Frame Reference. Green indicates no faults while red indicates a triggered fault condition.

5.2. SRC (SAMPLE RATE CONVERTER) CONTROL TAB

The SRC (Sample Rate Converter) Control tab displays the controls for the Audio Bit Resolution, Audio Source Mode, and Audio Channel Bit Mode for 32 AES Stereo Channels.

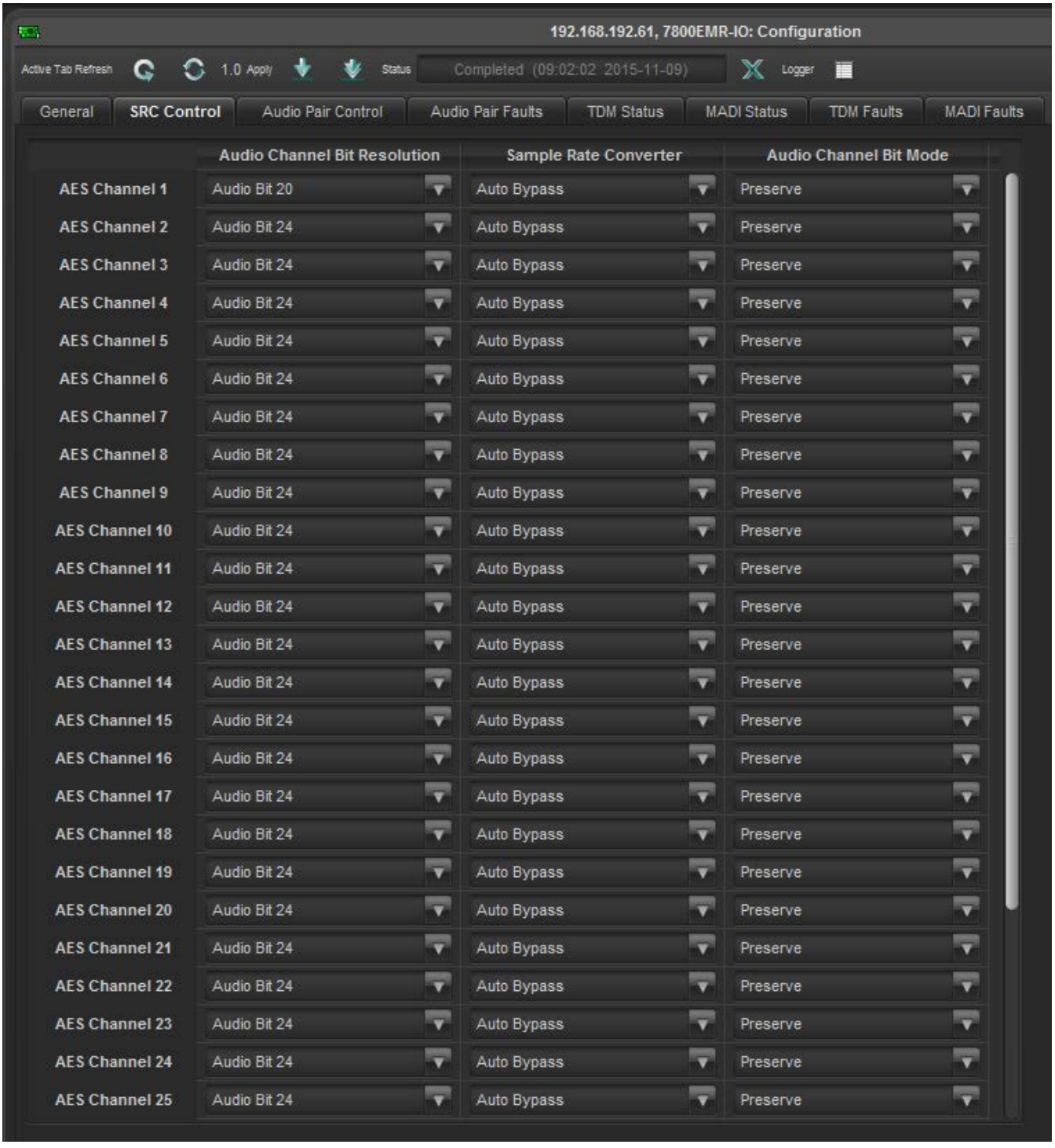

Figure 5-4: VistaLINK® - SRC Control Tab

Audio Channel Bit Resolution : Allows the user to configure the channel bit resolution. Options are 20 or 24 Audio Bit.

Sample Rate Converter: Allows the user to enable or the SRC to be Enabled, Bypassed or Auto Bypassed for each Audio Channel.

Audio Channel Bit Mode: Allows the user to make configurations on the Audio Channel Bit. Options are Preserve or Replace.

5.3. AUDIO PAIR CONTROL TAB

The Audio Pair Control tab displays and allows for configurations on each audio pair for fault conditions.

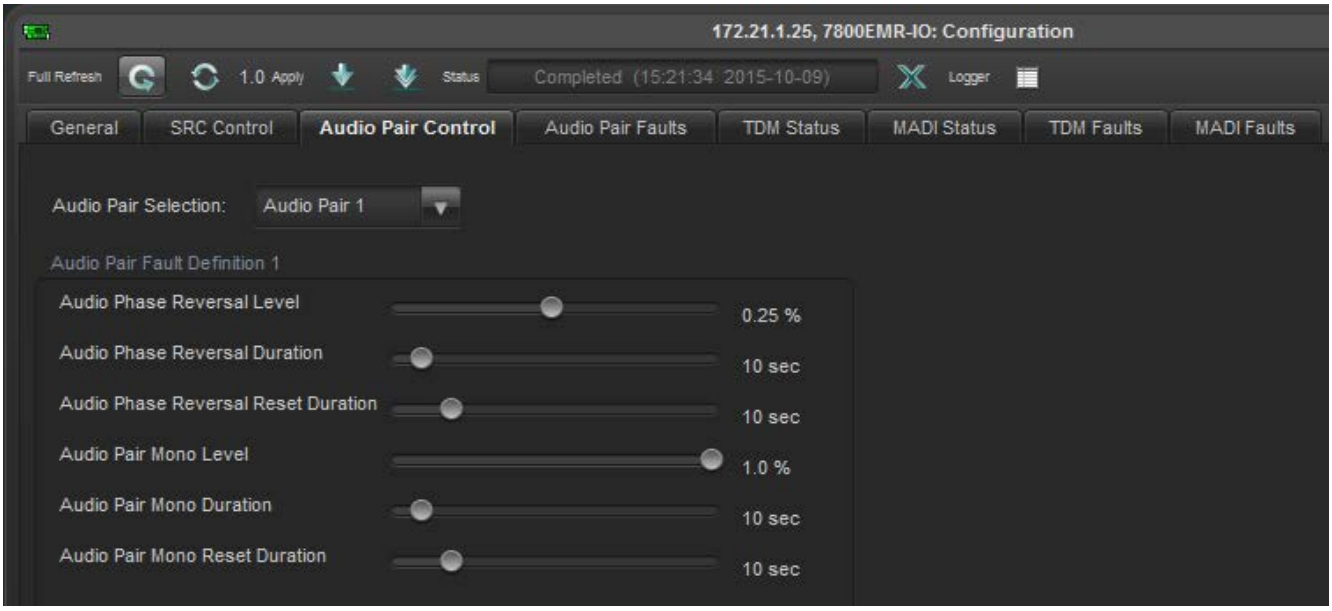

Figure 5-5: VistaLINK® - Audio Pair Control Tab

Audio Pair Selection: This drop down menu allows the user to select the Audio Pair for configurations.

Audio Pair Fault Definition 1

Audio Phase Reversal Level: Sets the ratio of the audio pair at which it is declared out of phase. Range is between 0.01% to 0.50%.

Audio Phase Reversal Duration: Sets the duration before the signal is declared out of phase. Range is between 1 sec to 128 sec.

Audio Phase Reversal Reset Duration: Sets the duration before the phase detection begins monitoring again. Range is between 0 sec to 60 sec.

Audio Pair Mono Level: Sets the ratio of the pair at which it is declared mono. Range is between 0.5% to 1.0%.

Audio Pair Mono Duration: Sets the duration before the signal is declared mono. Range is between 1 sec to 128 sec.

Audio Pair Mono Reset Duration: Sets the duration before the mono detection begins monitoring again. Range is between 0 sec to 60 sec.

5.4. AUDIO PAIR FAULTS

The Audio Pair Faults tab allows the user to Enable or Disable the Phase Reversal traps and Mono traps for 160 stereo channels.

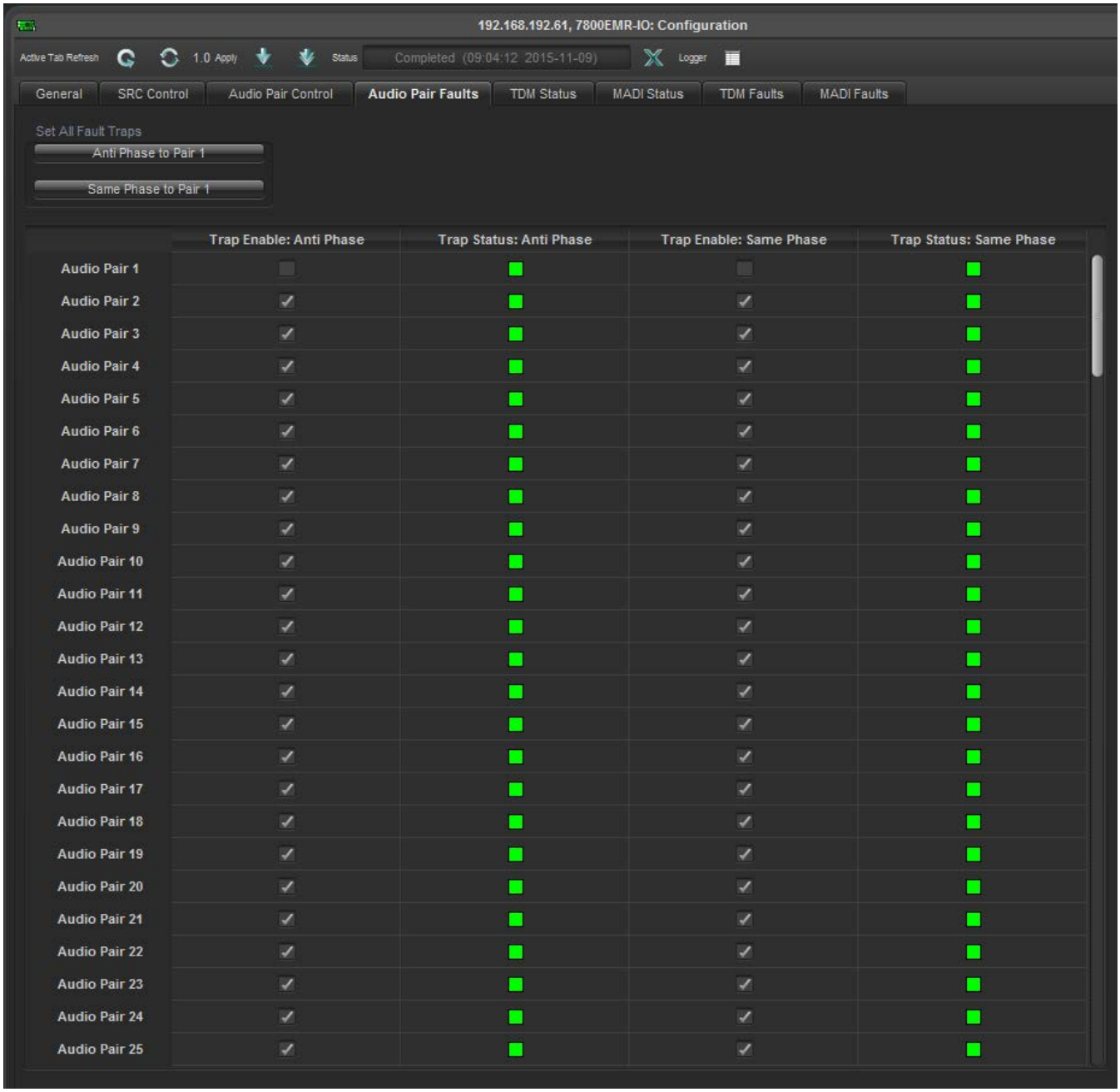

Figure 5-6: VistaLINK® - Audio Pair Faults Tab

Anti Phase to Pair 1: This click button control is used to set all Audio Pairs to the same trap enable settings selected for Audio Pair 1 - Anti Phase .

Same Phase as Pair 1: This click button control is used to set all Audio Pairs to the same trap enable settings selected for Audio Pair 1 - Phase.

Trap Enable: Anti Phase: This control allows the user to enable traps to be sent out on faults on phase reversal on the audio pair selected.

Trap Status: Anti Phase: The status monitor displays fault condition on the audio pairs. Green indicates no faults while red indicates a triggered fault condition.

Trap Enable: Same Phase: This control allows the user to enable traps to be sent out on faults on a same phase on the audio pair selected.

Trap Status: Same Phase: The status monitor displays fault condition on the audio pairs. Green indicates no faults while red indicates a triggered fault condition.

5.5. TDM STATUS TAB

The TDM Status tab displays the status of the TDM Input 1 & TDM Input 2.

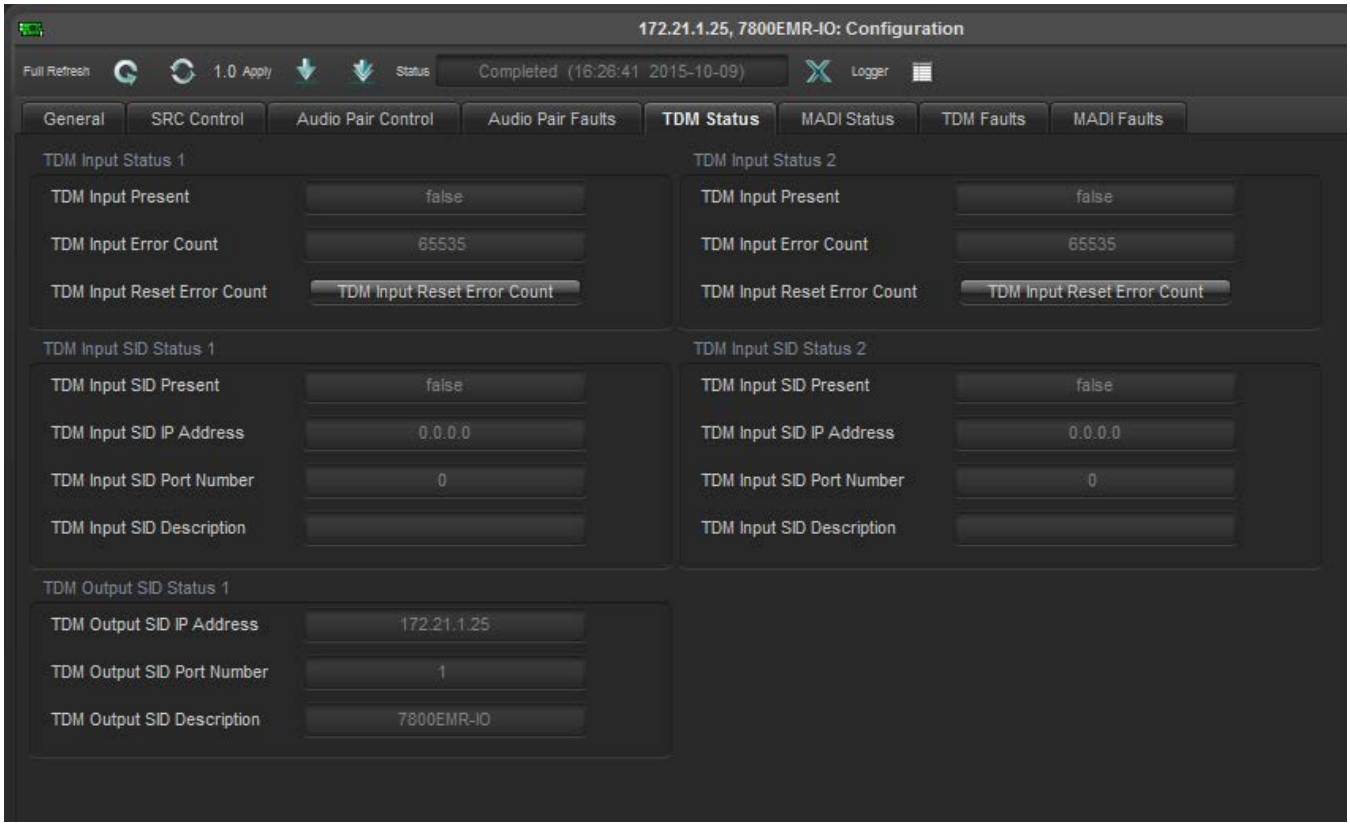

Figure 5-7: VistaLINK® - TDM Status Tab

TDM Input Status 1 & 2

TDM Input Present: Displays *False* or *True* on whether the TDM signal is detected on TDM Input.

TDM Input Error Count: Displays the number of error counts on the TDM signal.

TDM Input Reset Error Count: The click button is used to reset the TDM Input Error Count.

TDM Input SID Status 1 & 2

TDM Input SID Present: Displays *False* or *True* on whether the TDM Signal has Source ID or not.

TDM Input SID IP Address: Displays the source IP Address of the TDM input.

TDM Input SID Port Number: Displays the port number of the TDM input.

TDM Input SID Description: Displays the source ID name of the TDM input.

TDM Output SID Status 1

TDM Output SID IP Address: Displays the IP Address of 7800EMR-IO.

TDM Output SID Port Number: Displays the TDM Output Port Number of 7800EMR-IO.

TDM Output SID Description: Displays the Source ID name of 7800EMR-IO.

5.6. MADI STATUS TAB

The MADI Status tab displays the status for the MADI Inputs.

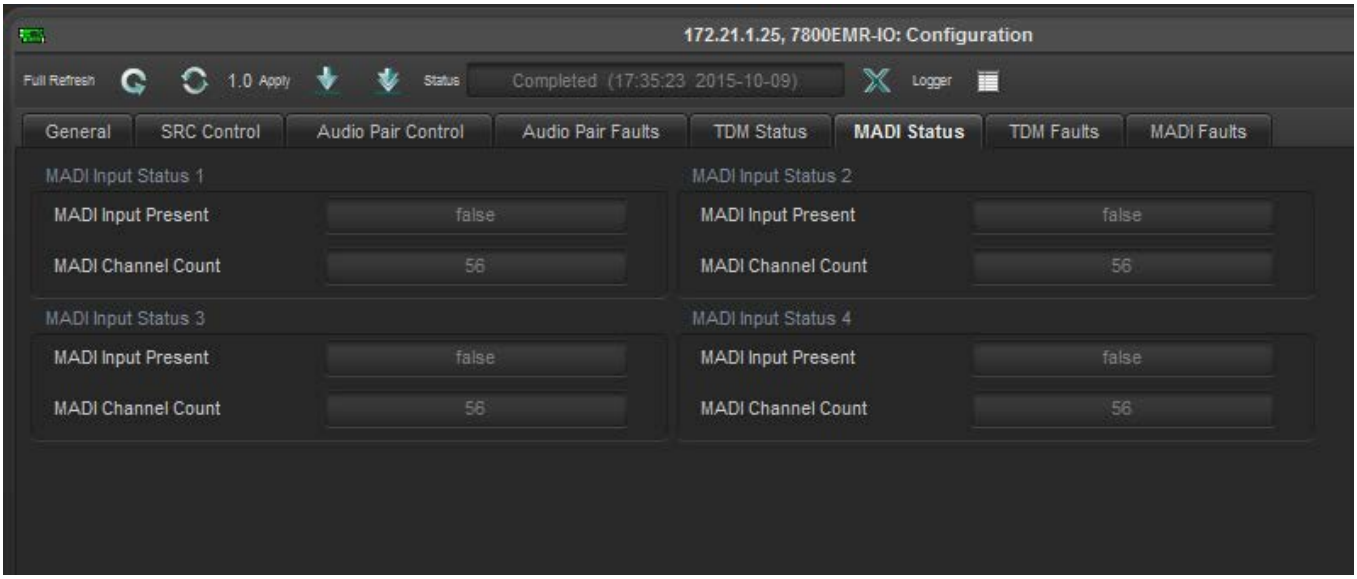

Figure 5-8: VistaLINK® - MADI Status Tab

MADI Input Status 1 to 4

MADI Input Present: Displays *True* or *False* on whether the MADI Signal is present or not.

MADI Channel Count: Displays whether the in coming MADI has 56 or 64 channels.

5.7. TDM FAULTS TAB

The TDM Faults Tab displays the fault status for the TDM ports and also allows the user to enable or disable sending out traps for TDM presence and error.

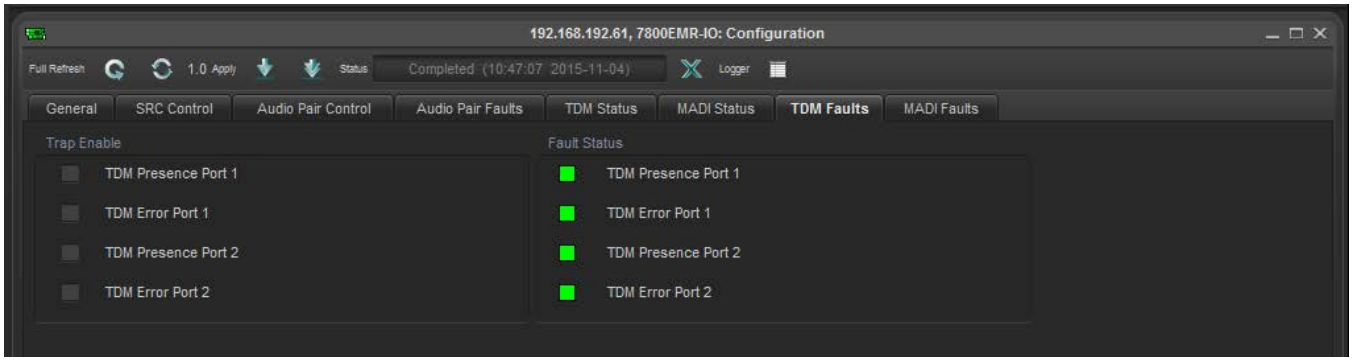

Figure 5-9: VistaLINK® - TDM Faults Tab

Trap Enable

TDM Presence Port 1 and Port 2: Trap Enable, when selected, allows for trap messages to be send on fault conditions when the TDM signal is not present.

TDM Error Port 1 and Port 2: Trap Enable, when selected, allows for trap messages to be send on fault conditions when there is errors on TDM signal.

Fault Status: The status monitor displays fault condition on the TDM Ports. Green indicates no faults while red indicates a triggered fault condition.

5.8. MADI FAULTS TAB

The MADI Faults tab displays the fault status for the MADI inputs and allows for traps messages to be sent on triggered fault conditions.

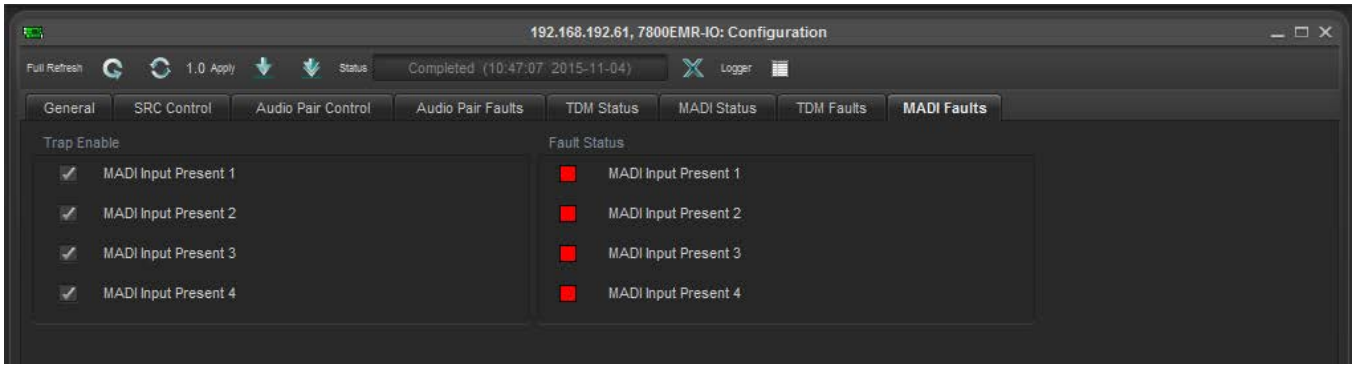

Figure 5-10: VistaLINK® - MADI Faults Tab

Trap Enable

MADI Input Present 1 to 4: Trap Enable, when selected, allows for trap messages to be send on fault conditions when the MADI signal is not present.

Fault Status: The status monitor displays fault condition on the MADI Inputs. Green indicates no faults while red indicates a triggered fault condition

5.9. MONITORING TAB FOR INDIVIDUAL CHANNELS OF 7800EMR-IO

Expand the 7800EMR-IO node by clicking on the "+" button (192.168.192.61) and all 320 channels of 7800EMR-IO should appear individually with a BNC icon to indicate each channel as seen in Figure 5-11.

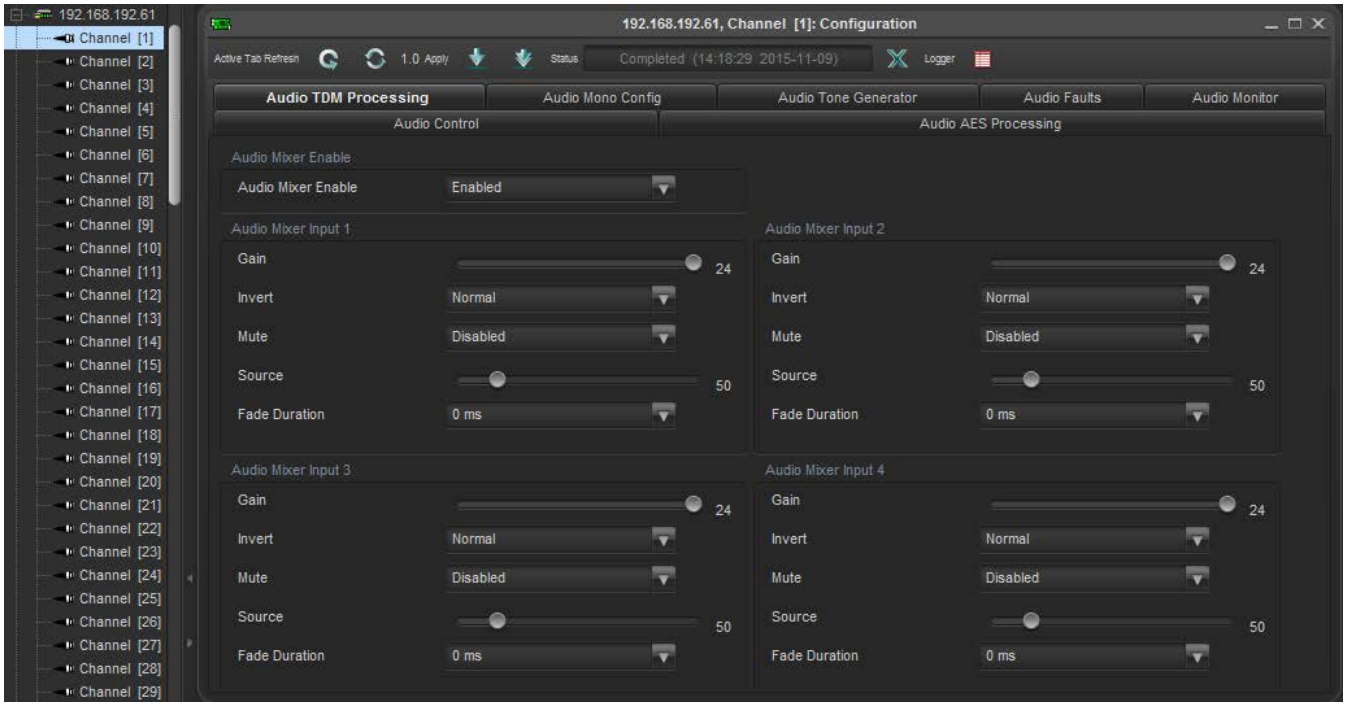

Figure 5-11: VistaLINK® - Individual Channel Tab

Monitoring tab for channel 1 to 320 provides access to Mixer parameter for TDM audio, Tone Generator and Audio Faults for each channel. The Mixer provides the option of mixing up to four channels of audio into one.

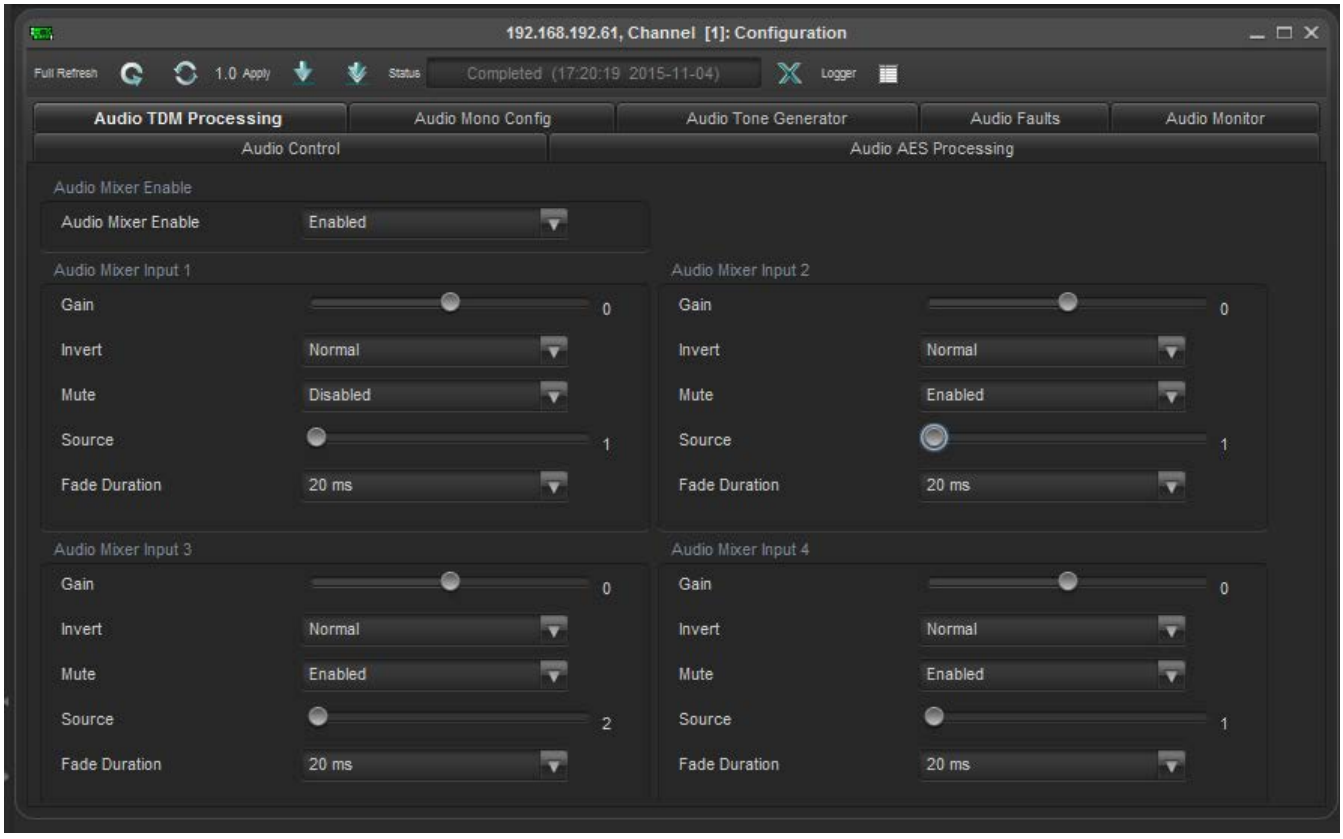

Figure 5-12: VistaLINK® - Audio TDM Processing Tab

5.9.1. Audio TDM Processing Tab

Audio Mixer Enable

Audio Mixer Enable: The drop down menu allows the user to *Enable* or *Disable* the Audio Mixers.

Audio Mixer Input 1 to 4

Gain: This control is used to increase or decrease input gain.

Invert: This control is used to *Invert* or set to *Normal* the input phase.

Mute: This control is used to mute or un-mute audio input.

Source: This control is used to select input source for each mixer.

Fade Duration: This control is used to set fade duration per input in “ms”.

5.9.2. Audio Mono Config Tab

Audio Mono Config tab allows the user to set the Audio Fault Definitions.

Figure 5-13: VistaLINK® - Audio Mono Config Tab

Audio Fault Definition

Audio Non PCM Reset Duration: Sets the duration, after a Non PCM fault condition, before the fault condition can be reset.

Audio Loss Reset Duration: Sets the duration, after an audio loss fault condition, before the fault condition can be reset.

Audio Silence Level: Sets the audio level for silence.

Audio Silence Duration: Sets the duration for audio silence before a fault is triggered.

Audio Silence Reset Duration: Sets the duration, after an audio silence fault condition, before the fault condition can be reset.

Audio Over Level: Sets the threshold for maximum audio level.

Audio Over Duration: Sets the duration for audio silence before a fault is triggered.

Audio Over Reset Duration: Sets the duration, after an audio over fault condition, before the fault condition can be reset.

5.9.3. Audio Tone Generator Tab

Audio Tone Generator tab provides access to tone generator parameters

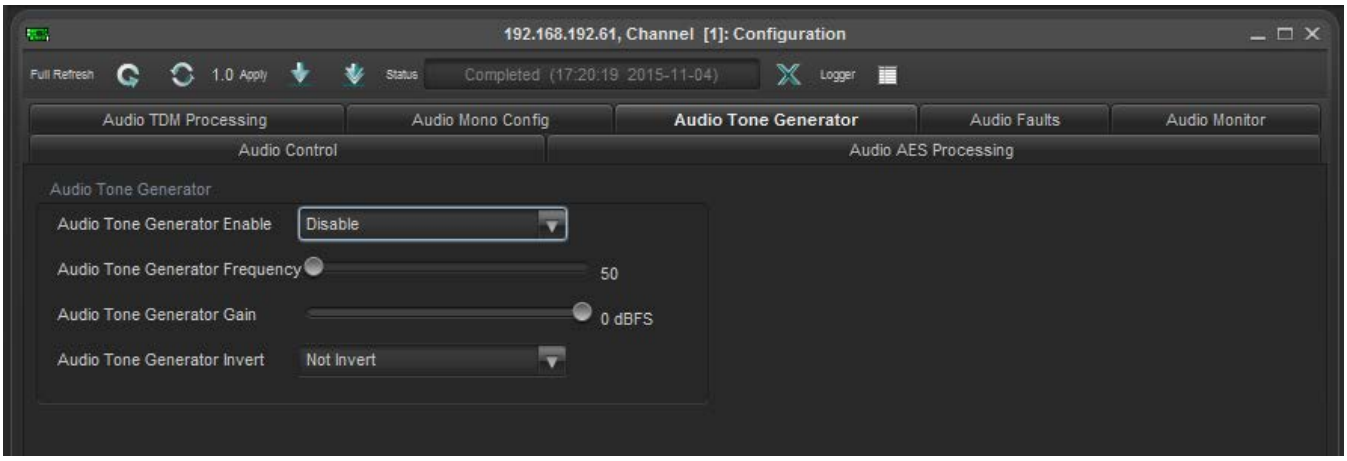

Figure 5-14: VistaLINK® - Audio Tone Generator Tab

Audio Tone Generator

Audio Tone Enable: This control is used to enable or disable the tone gernerator.

Audio Tone Generator Frequency: This control is used to select the tone generator frequency.

Audio Tone Generator Gain: This control is used to select the gain on the tone frequency generator.

Audio Tone Generator Invert: This control is used to invert the tone frequency.

5.9.4. Audio Faults Tab

The Audio Faults tab displays the status of Audio Channel Loss, Audio Channel Silent, Audio Channel Over and Audio Channel Non PCM and also allows the user to enable or disable traps for the mentioned parameters.

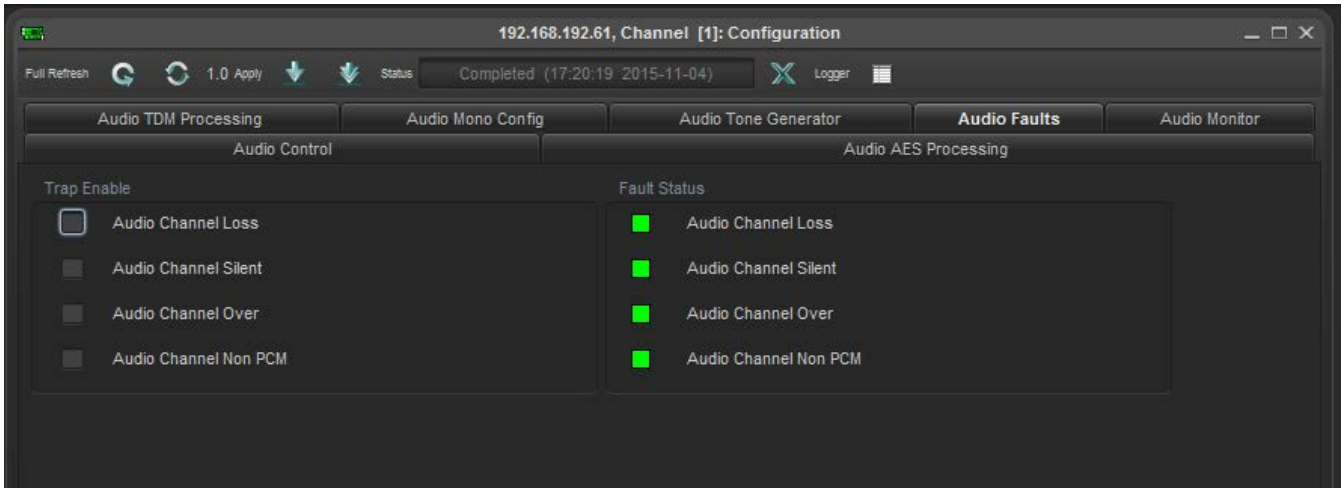

Figure 5-15: VistaLINK® - Audio Faults Tab

Trap Enable

Audio Channel Loss: Trap Enable, when selected, allows for trap messages to be send on fault conditions when the Audio signal is not present.

Audio Channel Silent: Trap Enable, when selected, allows for trap messages to be send on fault conditions for Audio Silent.

Audio Channel Over: Trap Enable, when selected, allows for trap messages to be send on fault conditions for Audio Channel Over.

Audio Channel Non PCM: Trap Enable, when selected, allows for trap messages to be send on fault conditions for Audio Channel Non PCM.

Fault Status: The status monitor displays fault condition on the Audio Channel inputs. Green indicates no faults while red indicates a triggered fault condition

5.9.5. Audio Monitor Tab

Audio Monitor tab displays the presence, type, mode and sample rate of audio per channel.

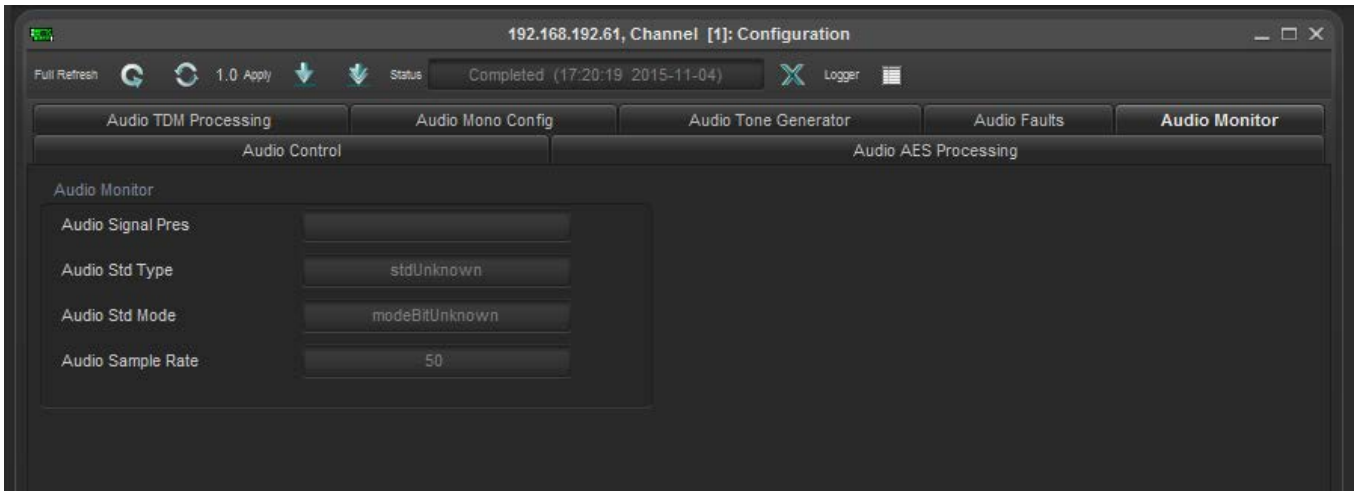

Figure 5-16: VistaLINK® - Audio Monitor Tab

Audio Monitor

Audio Signal Pres (Present): Displays whether the audio signal is present or missing.

Audio Std (Standard) Type: Displays whether the audio signal is PCM or non PCM.

Audio Std (Standard) Mode: Displays whether the audio signal is 20 bit or 24 bit.

Audio Sample Rate: Displays the audio sample rate.

5.9.6. Audio Control Tab

Audio Control tab provides access to audio setting parameters.

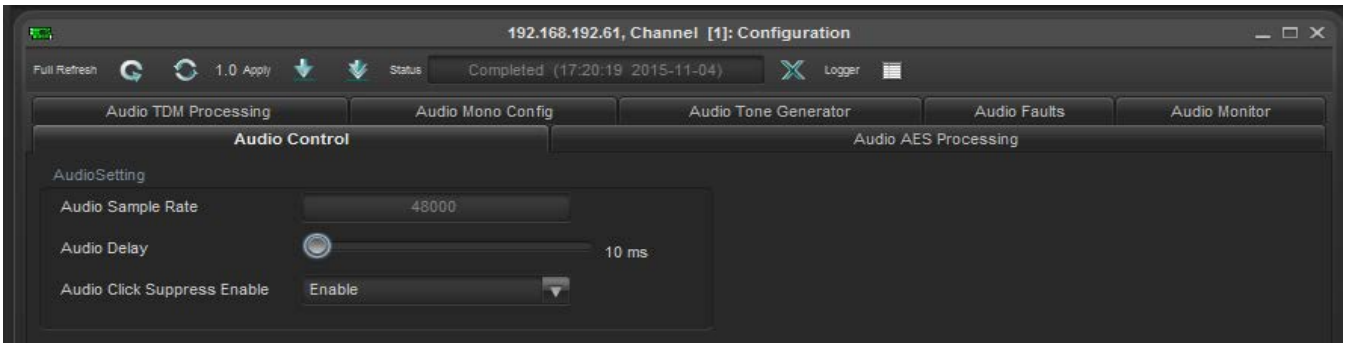

Figure 5-17: VistaLINK® - Audio Control

Audio Setting

Audio Sample Rate: Displays the audio sample rate.

Audio Delay: This control is used to select the amount of delay for the audio input.

Audio Click Suppress Enable: This control is used to enable or disable Audio Click Suppress.

5.9.7. Audio AES Processing

Audio AES Processing provides access to Mixer parameter for AES audio.

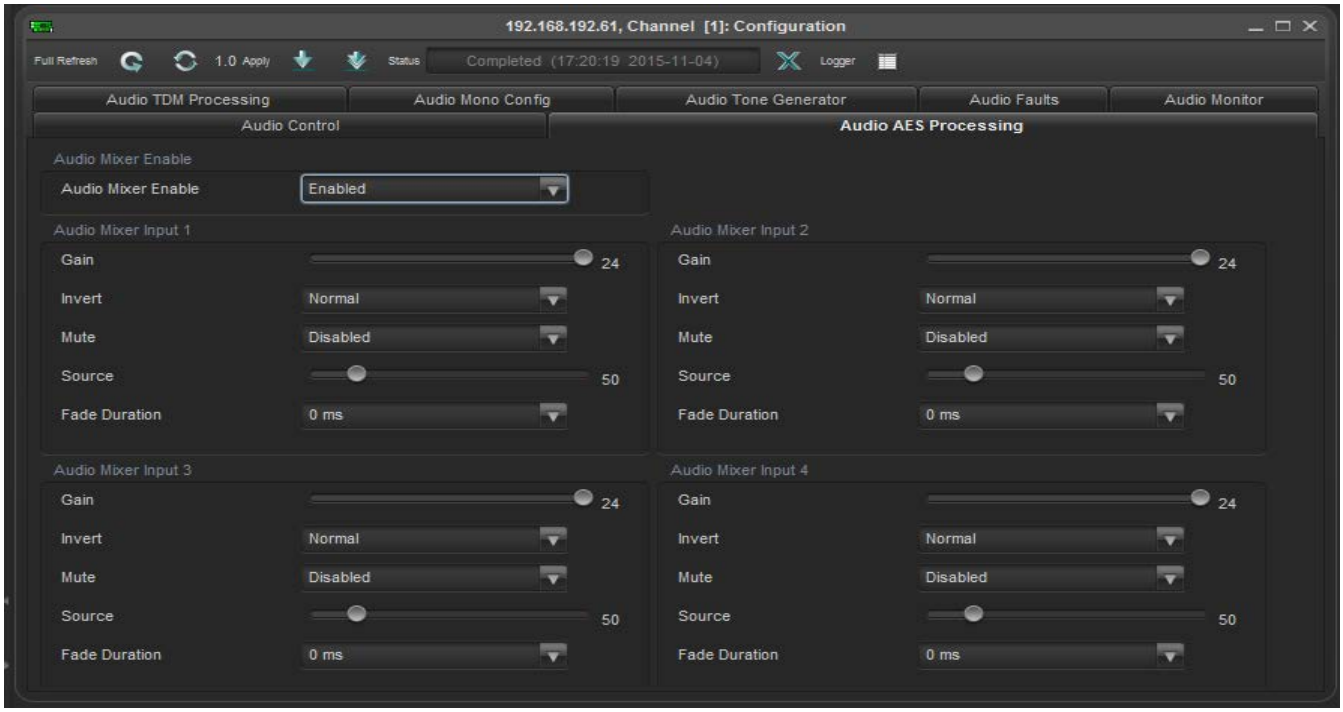

Figure 5-18: VistaLINK® - Audio AES Processing

Audio Mixer Enable

Audio Mixer Enable: This control is used to enable or disable the Audio Mixer.

Audio Mixer Input 1 to Input 4

Gain: This control is used to set the amout of gain on the Audio Mixer.

Invert: This control is used to invert or set to normal the input phase per mixer.

Mute: This control is used to mute or un-mute audio input per mixer.

Source: This control is used to select the input source for the Audio Mixer.

Fade Duration: This control is used to select the fade duration per input in “ms”.

Note: Audio AES and TDM Processing, both provide the option of mixing up to four channels of audio into one and has separate controls for Gain, Phase, etc. for each channel.

6. UPDATING VLPRO SERVER JAR FILE

Products from Evertz are constantly evolving and new features are often added. It is therefore important to update the JAR files in use to provide access to all the latest features or enhancements. It will also necessary to add JAR files for new products. If your new product has not appeared even after waiting a few minutes for the Ethernet switch negotiation to complete then it is possible that your JAR file may be old or missing.

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

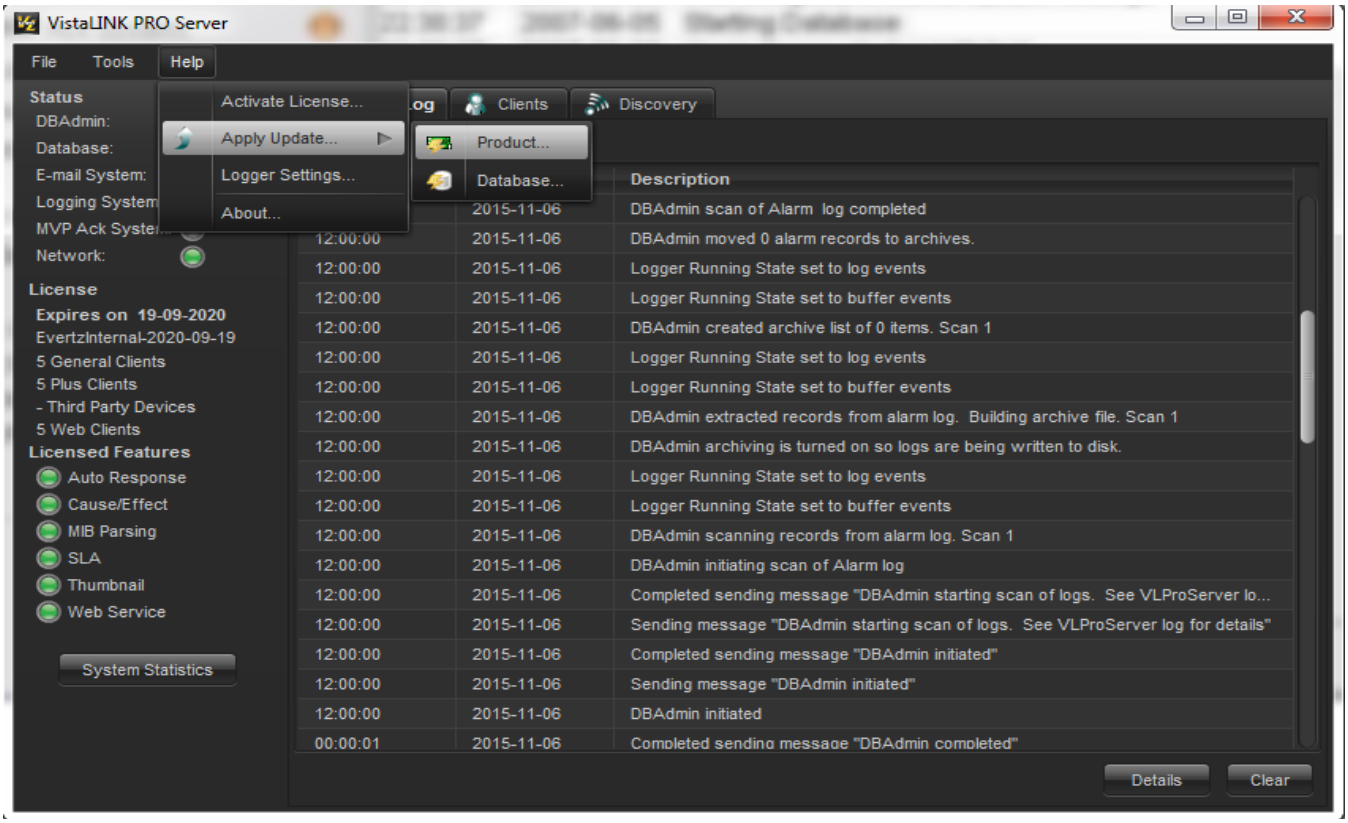

Figure 6-1: VistaLink® PRO Server

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

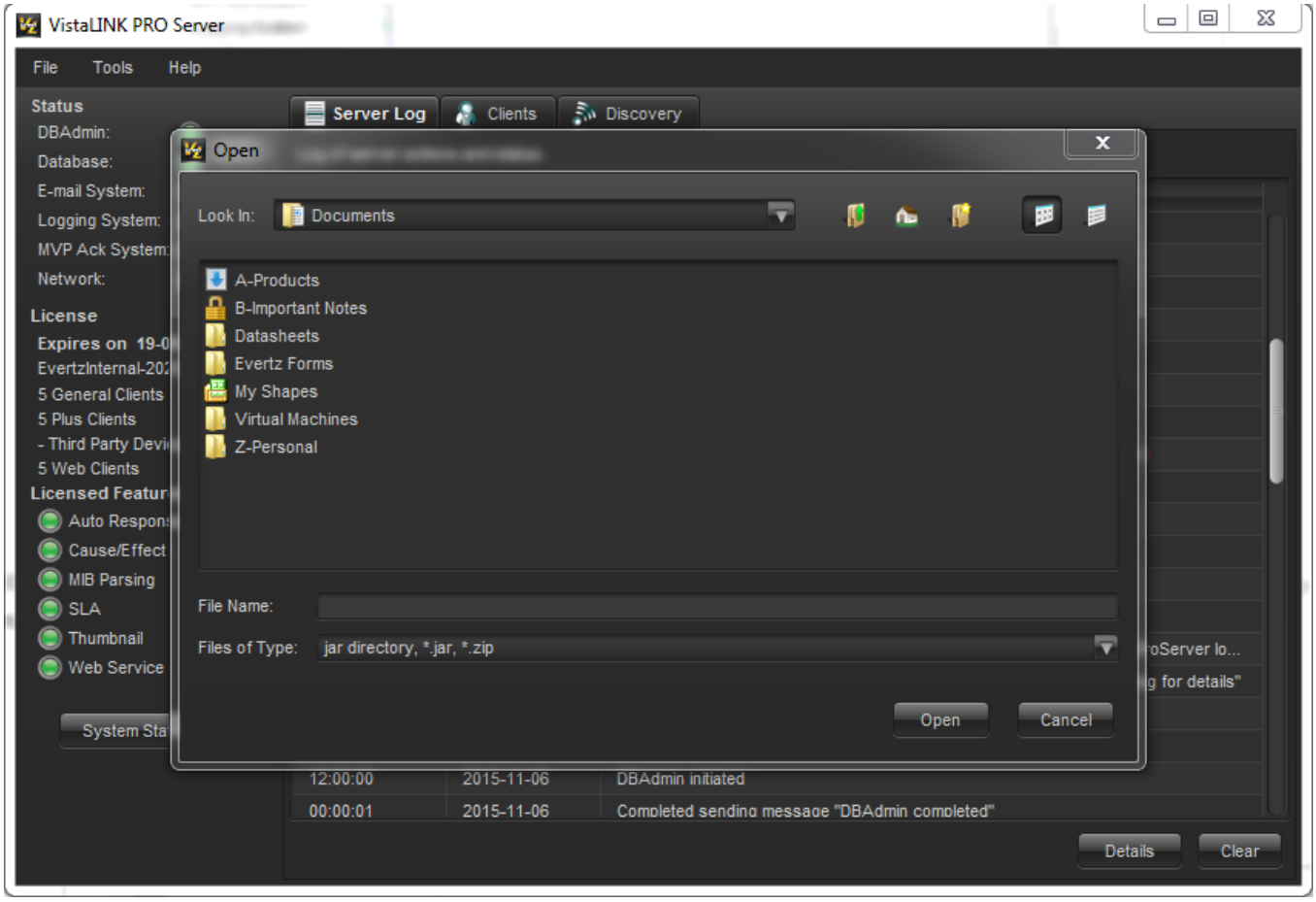

Figure 6-2: VistaLink® PRO – Applying JAR File Updates

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

By clicking *Yes*, server will automatically restart, but it is normal for the startup to take marginally longer while each individual update is being applied. Once complete, you may restart the VLPro Clients. As the clients restarts you will experience a short delay while the update is applied. A prompt will appear confirming that the updates have been applied.

7. UPGRADING THE FIRMWARE ON 7800EMR-IO THROUGH FTP

1. Identify and confirm the IP Addresses of the module and PC/laptop, and ensure that they are on same subnet.

2. Obtain the new firmware and copy to any directory on your computer. (C:\temp)

3. Open a DOS window by selecting **Start → Run**, and typing "**cmd**" in the window that appears,

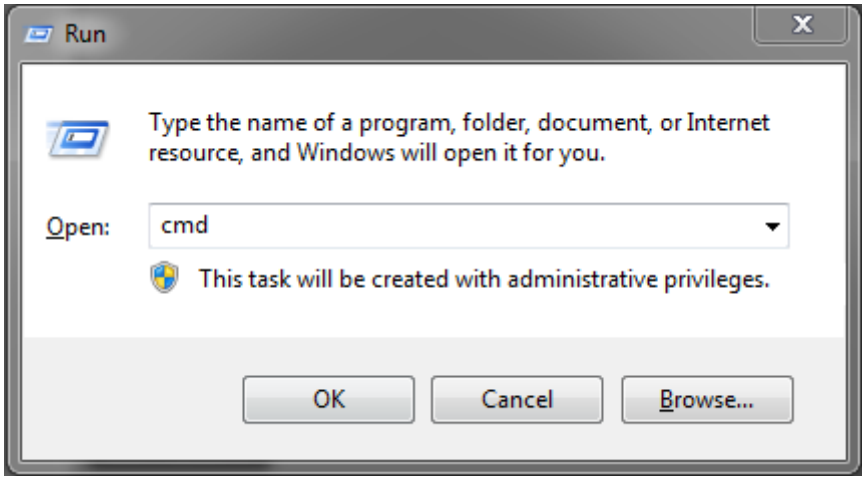

Figure 7-1: Run Window for FTP Access

4. In the DOS window type: ***ftp xxx.xxx.xxx.xxx*** (where the x's represent the module's IP Address)

5. Press <ENTER> when prompted for a "**Username**". And again when prompted for a "**Password**"

6. At the "**ftp>"** prompt, type "**hash**", toggles number sign (#) printing for each data block that is transferred.

7. At the "**ftp>"** prompt, type "**put x.bin**", where x represents the name of the firmware (.bin)

Note: If the firmware file is not local to where you are performing the FTP, then include the path with the name:

(eg: "put c:\temp\emrio\firmware.bin")

8. Once the upgrade is complete, send the command ""bye" to exit ftp connection (see the figure below) and the module will reboot itself. Don't remove the module during this process or it could corrupt the firmware code.

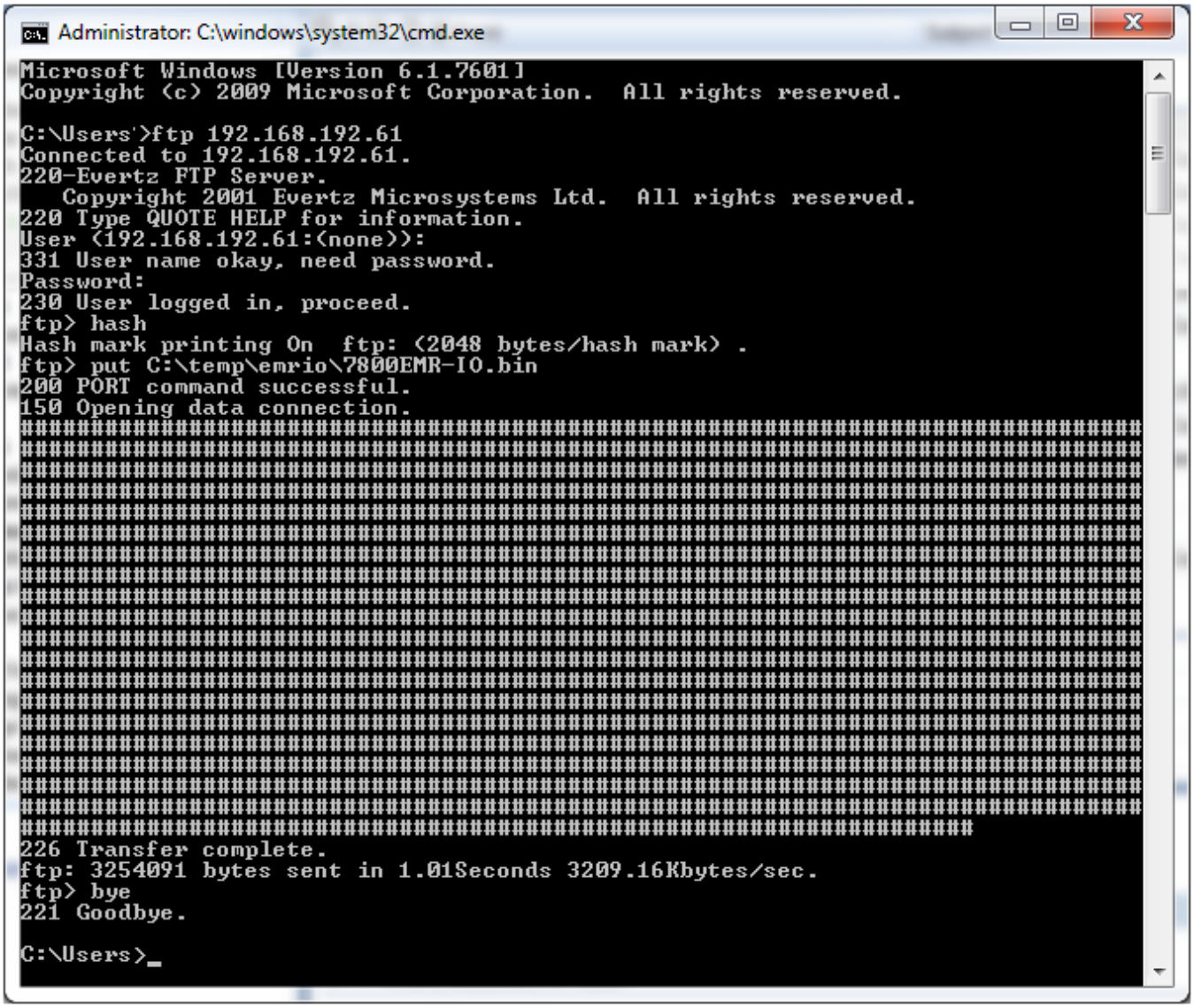

Figure 7-2: Sample - FTP Upgrade Window