

**blamp.**

**Tesira Fixed  
Audio Dsp**



## blamp Tesira Fixed Audio Dsp User Guide

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### blamp Tesira Fixed Audio Dsp



### Product Information

## **Specifications:**

- **Product Name:** Tesira
- **Manufacturer:** Biamp

## **Product Usage Instructions**

### **Connecting to a System:**

To connect to a system, follow these steps:

1. Know the subnet in which the system lives on the network. Note the IP address.
2. Open Tesira Software and locate the System tab on the top toolbar.
3. Navigate through Network -> Connect To System.
4. Select the system from the System List and click Connect to System.

### **Navigating to Device Maintenance:**

To navigate to the Device Maintenance window:

1. Go to System -> Network -> Perform Device Maintenance.
2. Select a specific system from the System List.
3. The Device List displays devices from the selected system.

### **Clearing a Configuration:**

To clear a configuration:

1. Navigate to Device Maintenance.
2. Select the system and device for which you want to clear the configuration.
3. Click the Network Settings button.

### **Changing Network Settings:**

To change network settings:

1. Select the device and navigate to Device Maintenance.
2. Click the Network Settings button.

### **Changing Control Network IP Address:**

To change the Control IP Address:

1. On the Control Network tab, select Interface ID: Control.
2. Change the Control IP address.

### **Changing or Enabling/Disabling AVB IP Address:**

#### **To change the AVB IP Address:**

1. Select Interface ID: media\_avb\_2 to target the AVB interface.

2. Enable or disable AVB IP Address as needed.

## FAQ (Frequently Asked Questions)

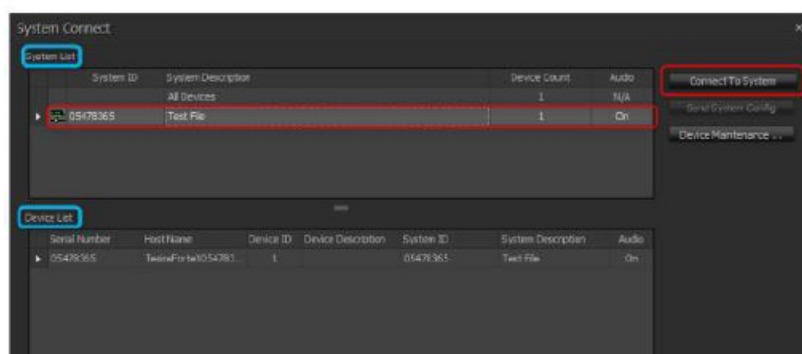
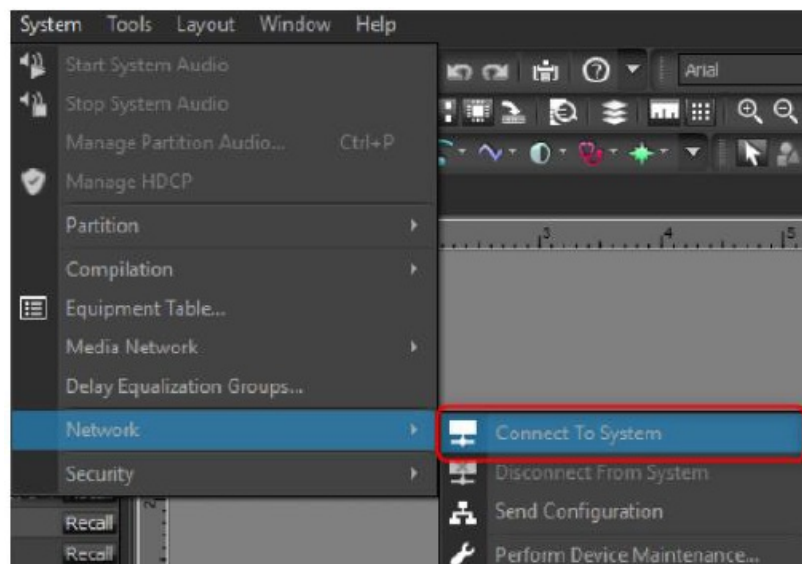
### Q: How do I update Tesira Firmware?

A: To update Tesira Firmware, follow these steps:

1. Ensure you have the latest firmware file.
2. Open Tesira Software and go to System -> Network -> Update Firmware.
3. Select the firmware file and follow the on-screen instructions to update.

## CONNECTING TO A SYSTEM

- To connect to a system, you will need to know the subnet in which the system lives on the network. This could be handed out by DHCP or applied statically, so you will want to make sure you note what the IP address is. Rack-mount Forte and Server/Server IO have a front panel that makes it easy to identify the IP address of the network you are attempting to connect to.
- Open Tesira Software and locate the System tab on the top toolbar. Navigate through Network -> Connect To System.
- Once you open the Connect To System menu, you can select the system you would like to connect to from the System List and click the Connect to System button on the right side. The System List allows you to select the system, and the Device List displays devices that are currently part of the selected system.

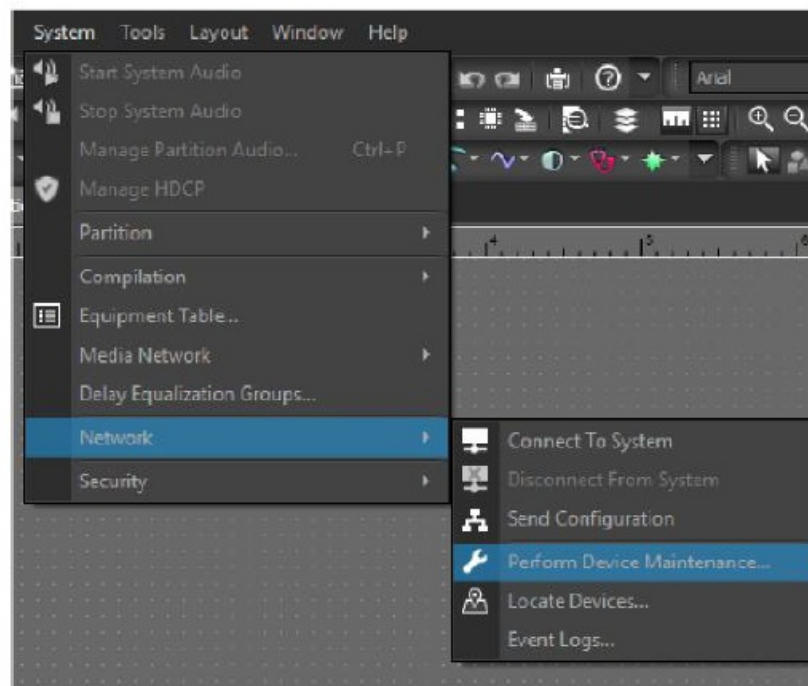


## NAVIGATE TO DEVICE MAINTENANCE

- You can navigate to the Device Maintenance window by going to System -> Network -> Perform Device Maintenance.
- Once you are in Device Maintenance, the System List allows you to select a specific system. The Device List is where all the devices from the currently selected system will appear.

### NOTES:

- When All Devices is the selected option in the System List all available devices in the same subnet will appear in the Device List.
- Remote Expanders (EX-AEC, EX-OUT, etc.) and other devices (Parlé Microphones, PoE Amplifiers) are visible in a submenu of Device Maintenance, referred to as Remote Device Maintenance. You can access Remote Device Maintenance by clicking the Remote Devices button in the bottom right of the Device Maintenance window.



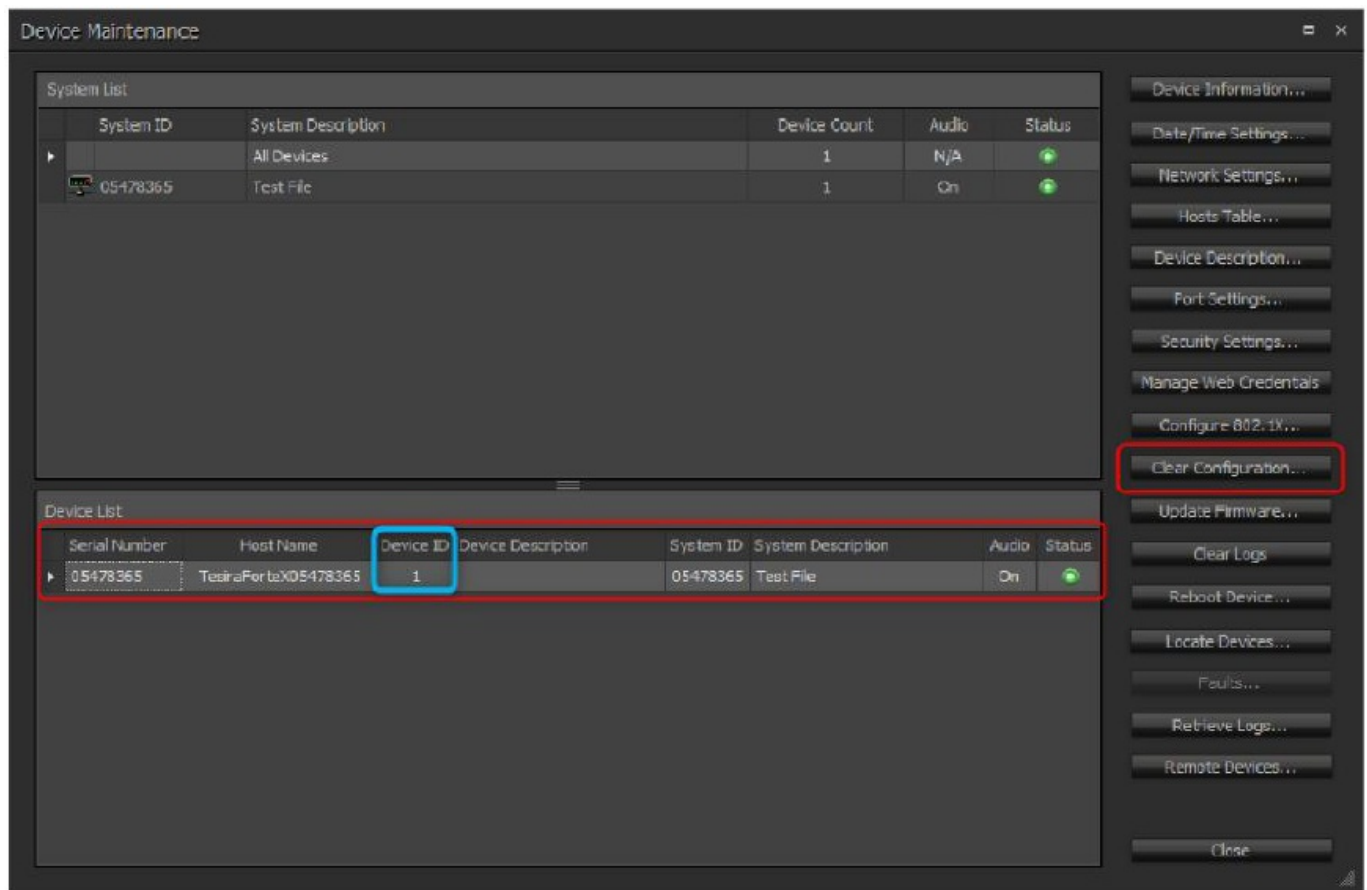
## CLEARING A CONFIGURATION

- Clearing a configuration from a system is easy. Navigate to Device Maintenance and select the system from which you would like to clear the configuration.
- Once you have selected the system, locate the Clear Configuration... button on the right side of the window. This will clear the configuration from the currently selected system.

### NOTES:

- All server-class devices in that system will be cleared of their file. Make sure to save a backup copy of the file before proceeding with clearing a configuration.
- The Device ID for any device that is part of an active system will display any number other than ZERO. When a

configuration has been cleared, the Device ID for all devices should be a ZERO, which means it is not a part of an active system.

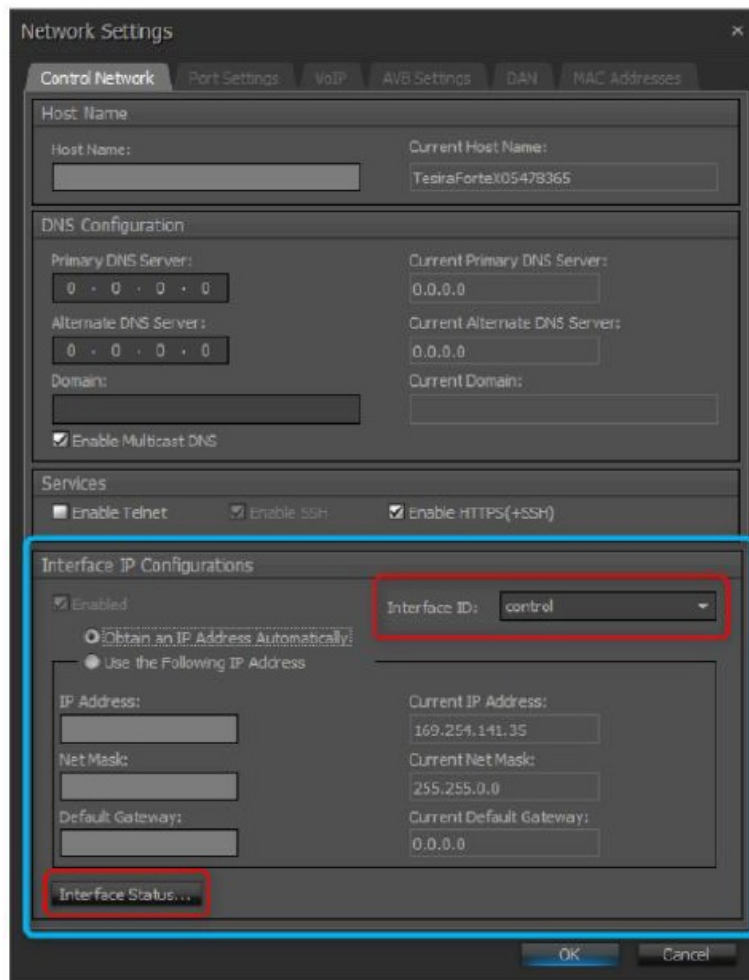


## CHANGING NETWORK SETTINGS

Biamp Tesira server-class devices (TesiraForte, Tesira Server, and Server IO) have multiple potential network connections. To make changes to these, navigate to Device Maintenance. Once you have selected the system and the device for which you would like to adjust network settings, click the Network Settings button.

### NOTES:

- Obtain an IP Address Automatically sets the Network Interface to receive a DHCP address. If there is not a DHCP address, the IP will resolve as a Link Local address in the 169.254.x.x range.
- Using the Use the Following IP Address option will allow you to set a static IP address.



### CHANGING CONTROL NETWORK IP ADDRESS:

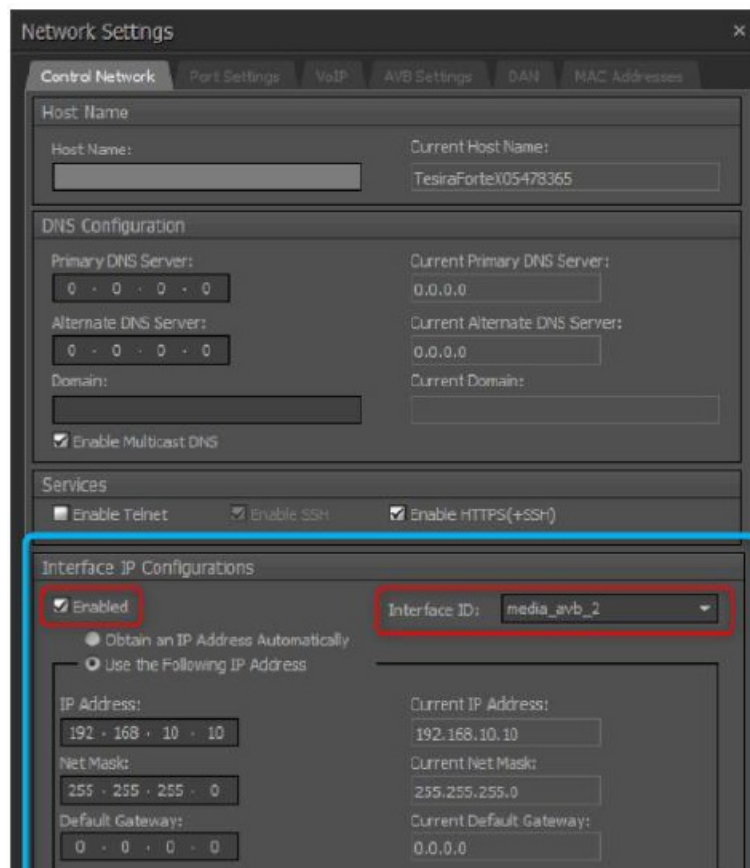
On the Control Network tab select Interface ID: Control. This allows you to change the Control IP address.

### CHANGING OR ENABLING/DISABLING AVB IP ADDRESS:

Changing the AVB IP Address is very similar to the Control IP Address. Select the Interface ID: media\_avb\_2 to target the AVB interface. To assign an IP address to the AVB interface, you must first select the check box for Enabled, which allows an IP address to be assigned for control traffic to pass over the AVB port.

### NOTES:

- Depending on network(s) topology you may not need to enable the AVB IP address. See below links to our Cornerstone Knowledge Base to learn more about network topology options.
- Separated or Converged Control and AVB Networks
- Single Cable Mode

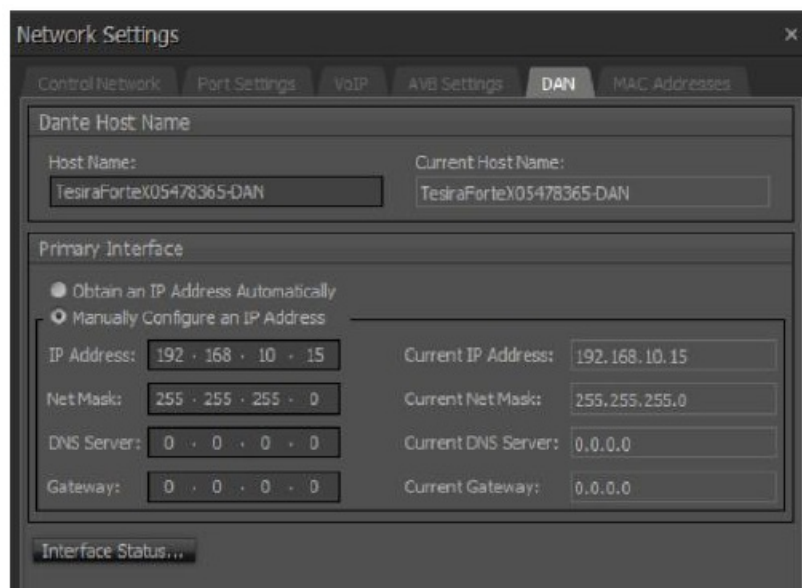


### CHANGING DANTE IP ADDRESS:

Changing the IP address of the Dante Interface is done in a similar fashion but in a different tab. Navigate to the DAN Tab in the device's Network Settings.

### NOTES:

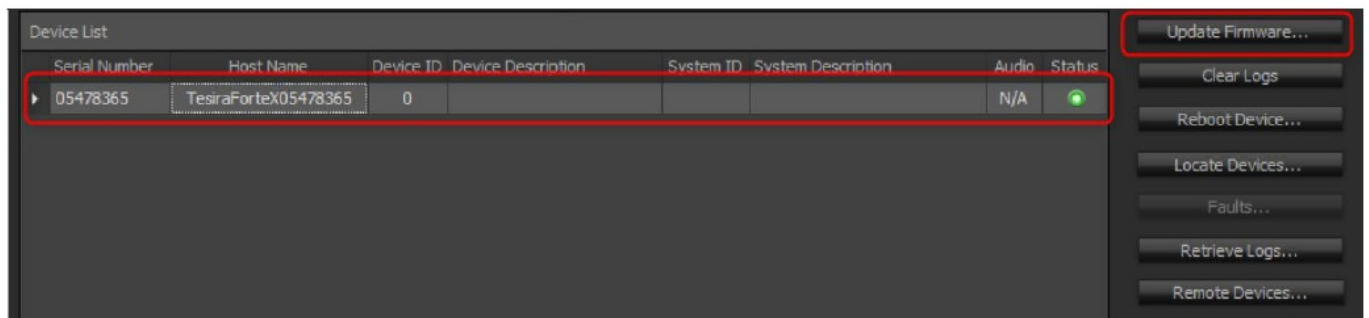
To change a device's Dante IP Address, the device cannot be running a configuration. Follow this guide's instructions for Clearing a Configuration.



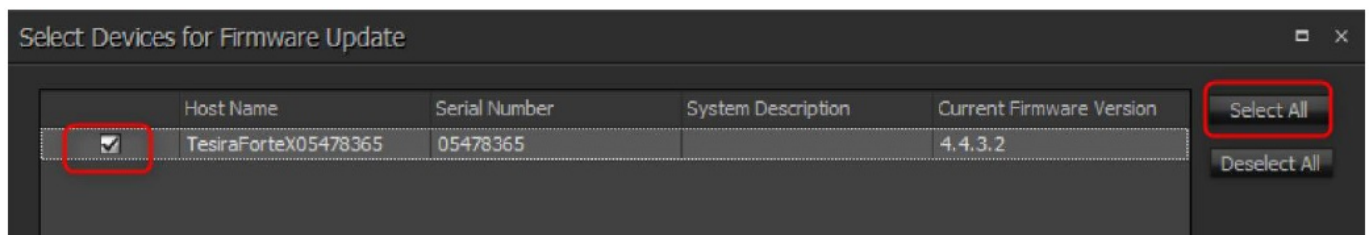
### UPDATING FIRMWARE

- To update a device's firmware, open Device Maintenance.
- Once in Device Maintenance, select the system from the System List and/or device from the Device List and

click Update Firmware... on the right side of the window.

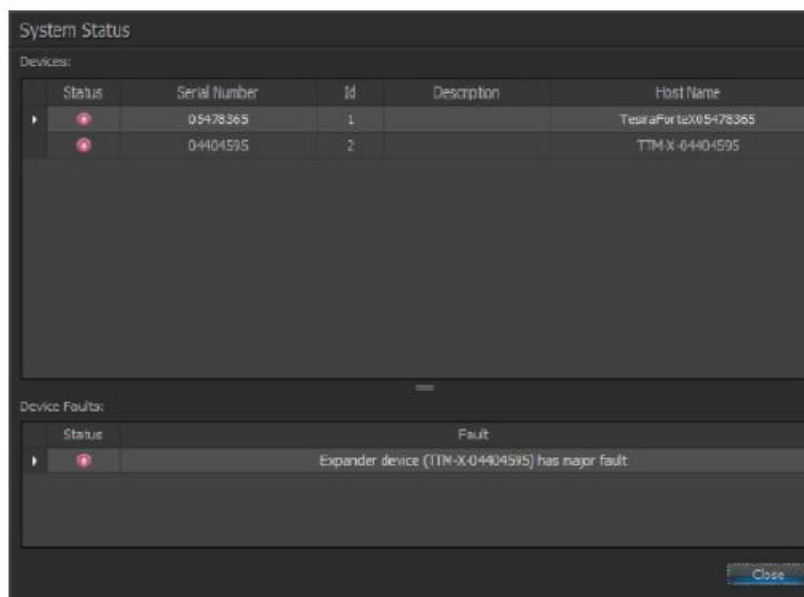


You will be prompted to select the firmware file you wish to upload via a file explorer pop-up. Navigate to the appropriate .tfa2 and click Open. All devices that are eligible to receive an update will appear in a new window. Check the box by the unit(s) listed or choose Select All and then click OK to begin the FW update.

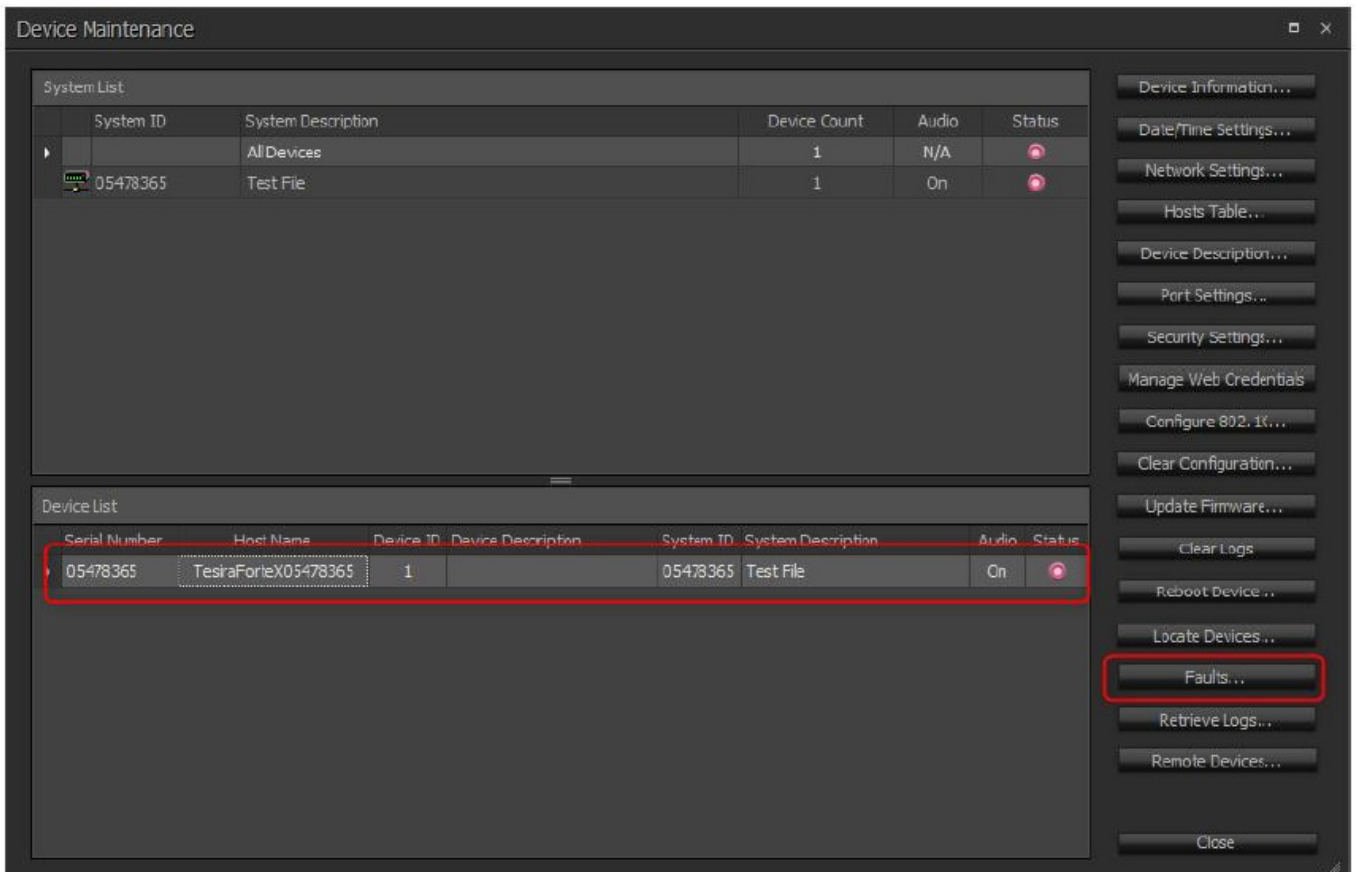


#### NOTES:

The most current FW can always be found on our website at [www.biamp.com](http://www.biamp.com) or in our Cornerstone Knowledge Base.

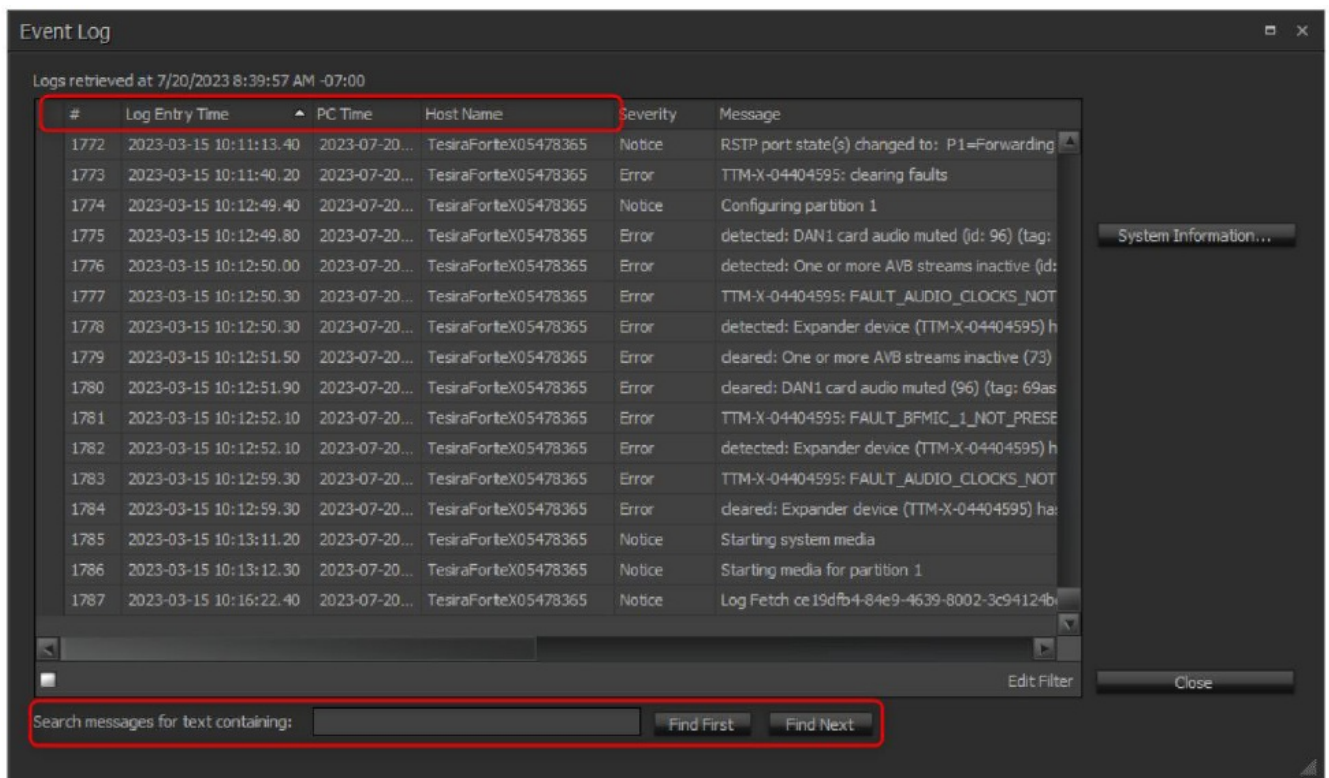






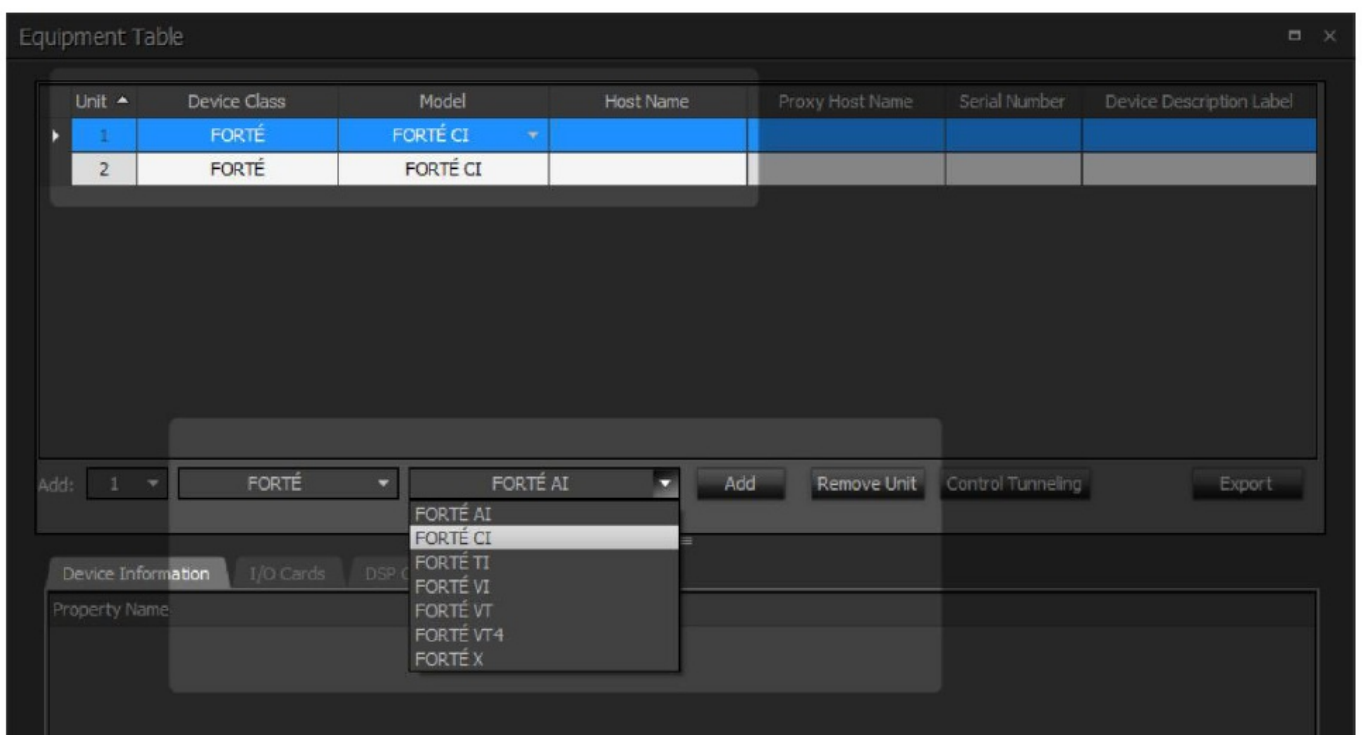
## PULLING LOGS FROM A TESIRA SYSTEM

- Tesira log files contain a lot of useful information and may be critical to identifying and solving a particular problem. Most likely if you contact our support team, they will request to review log files.
- To pull logs from a specific device, open Device Maintenance and select the device in the Device List. On the right side select Retrieve Logs.
- This prompts you to save the logs. Be sure to save them in a location that is easy to access or where you would like them stored permanently.
- After the logs have been saved, an Event Log will appear showing a text version of the log files so you can review them without having to open the files.
- You can sort by oldest or newest by clicking the column headers at the top, or you can search the text for something specific.



## ADJUSTING THE EQUIPMENT TABLE

- The Equipment Table is how we allocate physical hardware to be a part of a system.
- To open the Equipment Table, go to System -> Equipment Table.
- Device Class – Shows whether it is a TesiraFORTE, SERVER, Remote Expander, etc.
- Model – Shows the specific model of device we are allocating.
- Host Name – Points the unit listed to a physical device on the network.
- Unit – Gives each unit a specific ID number for compilation.



## COMPILING AND SENDING A TESIRA FILE

- Compiling the Tesira file is required before a file can be sent to a device. To compile your Tesira file, navigate to System -> Compilation.
- You will be presented with multiple options, with the most common being:
  - Compile Active Partition – Compiles the partition that is currently selected in the file.
  - Compile All Uncompiled Partitions – Partitions in the file that have not been compiled, will be compiled.
  - Recompile All Partitions – Compiles all partitions, whether compiled or not.
- To send a Tesira configuration that has been compiled go to System -> Network -> Send Configuration.

## **ALLOCATING BLOCKS TO A SPECIFIC UNIT**

- For systems with multiple DSPs or expanders, there are tools to prevent the compiler from allocating a block to the incorrect unit. These functions are called Allocated to Unit and Fixed-In Unit.
- Allocated to Unit – Allows you to select the block, and allocate to a specific unit listed in the equipment table. The unit number, which corresponds to the same unit number in the equipment table, will appear in the block's upper left corner.
- Fixed-In Unit – Locks the selected allocation to prevent the compiler from overriding your selection. If the compiler does not find a possible routing solution for the signal flow, errors may occur.
- To access the functions, right-click on a selected block, and go to Properties -> DSP Properties Tab. First, select the unit to which you wish to allocate, and then set Fixed-In Unit to True. Now when the file is compiled it will force the signal path to the allocated units.

## **STARTING AND STOPPING SYSTEM/PARTITION AUDIO**

- To allow audio to pass through a system, Tesira functions on two levels, System Audio and Partition Audio. This enables complete control over the audio passing through the system. When a file is sent, you are prompted to Start System Audio and to Start Partition Audio.
- If you need to start/stop audio after these prompts you can navigate to System -> Start or Stop System Audio or Manage Partition Audio.

### **NOTES:**

If the meters in your file are stuck at -100, make sure System Audio or Partition Audio is started.

## **SETTING TESIRA CLOCK MASTER**

- Tesira can combine and synchronize with multiple network audio protocols such as AVB, Dante, and CobraNet. You can select which clock will be the master clock inside of Tesira software by navigating to System -> Media Network -> Setup...
- In the dialog, select the box for the desired Clock Master. To make this change to a previously configured system, recompile all partitions and send the configuration to apply this change.

## **FACTORY RESET (PINHOLE RESET, PHR)**

- Tesira DSPs, most expanders, and amplifiers have an official reset procedure. When using the Pin Hole Reset process (PHR) you restore the DSP to its factory default setting. This will remove any statically assigned IP

address, the Host Name will be the default, and the configuration file will be cleared from system memory. Be sure to document and back up all necessary information before proceeding to reset the device.

- The reset procedure is similar across all devices, but pinhole locations differ.
- Refer to the Cornerstone Knowledge Base for more on How to Reset a Tesira Device to Factory Defaults.

## **FORTE X EXCLUSIVE: PORT MODES**

- Exclusive to the Forte X is the option of switching the port modes, which provides flexibility in how the ports are used for various applications. By default, the Forte X is configured for Dedicated Control and Media.
- To change the Port Mode, navigate to Device Maintenance, select the Forte X, and go to Network Settings. Under the Port Settings tab, you will see the list of available options to choose from.
- Choose from the following list of port modes.
- It is recommended that only P1 (Control) be connected while reconfiguring the port mode.
- Once the port mode has been changed, the device should be rebooted to ensure the change takes place.
- For more information see our Cornerstone Knowledge Base: Forte X Network Port Modes

<b>Ports</b>	<b>Dedicated Control and Media</b>	<b>Dedicated Control, VoIP, and Media</b>	<b>Converged Control, VoIP, and Media</b>
P1	Control/VoIP	Control	Control/VoIP/AVB/Dante
P2	AVB/Dante	VoIP	Control/VoIP/AVB/Dante
P3	AVB/Dante	AVB/Dante	Control/VoIP/AVB/Dante
P4	AVB/Dante	AVB/Dante	Control/VoIP/AVB/Dante
P5	AVB/Dante	AVB/Dante	Control/VoIP/AVB/Dante

## **Tesira Helpful Tips**

### **MANUAL DISCOVERY**

- Tesira by default uses an Auto Discovery method using UDP broadcast.
- For a more reliable connection, there is an option for Manual Discovery by adding an IP address using TCP.
- To do this, navigate to Tools -> Options -> Application Settings -> Network -> Device Discovery -> Device List.
- In the Device Discovery dialog, click Add, and enter the IP address or Host Name. Add a Description to make the IP or Host Name more identifiable. Click OK to save the addition.

### **NOTES:**

For more information see our Cornerstone Knowledge Base: Tesira Device Discovery Methods

### **USING SIGNAL PATH IDENTIFIER**

- A very useful tool for following signals through a Tesira configuration is the Signal Path Identifier, which is accessible by right-clicking any line in Tesira and selecting Signal Path Identifier. There are different options from which to select:
- Signal Path Identifier – Provides the signal flow trace from input(s) to output(s) of the currently selected line.

When you click off the selected line, the identified red outline will disappear.

- Persistent Signal Path Identifier (Normal Mode) – Behaves similarly to Signal Path Identifier but will remain regardless of where in the file you click. Additionally, you can click on other lines and quickly jump between signal flows. This is recommended for troubleshooting to verify the correct signal path.
- Persistent Signal Path Identifier (Locked Mode) – The selected signal path will remain regardless of where you click, even if you click on another line in the file.

## **PREVENTING THE COMPILER FROM ADJUSTING EQUIPMENT TABLE**

- The section about Allocated Units and Fixed-In Units is one way to prevent the compiler from changing how blocks are compiled. Additionally, if the compiler can't find a solution, it can automatically add devices to the equipment table. If you are working with the parameters of the set equipment list, you can disable the option for the compiler to add devices.
- Navigate to Tools -> Options -> Application Settings -> Compile -> Select "Add Devices". This prevents the compiler from being able to add devices to a system or change the type of DSP.

## **ADDING DISCONTINUED DEVICE TO THE EQUIPMENT TABLE**

- Some Tesira devices, while still functional and updateable, are considered discontinued. This applies to the TesiraFORTE VI and TI models. If you need to include them in your file but cannot find them listed as an option in the equipment table, simply enable Use Discontinued Devices.
- Navigate to Tools -> Options -> Application Settings -> Compile – Select "Use Discontinued Devices".

## **PROCEDURE FOR SETTING STATIC IP ADDRESSES IN TESIRA**

When assigning Static IP addresses, it is important to start with your AVB expanders, amplifiers, and control devices and work back to your server class devices to prevent devices from not being discoverable after the changes are made.

### **Follow these steps for applying static IP addresses:**

1. Connect all devices to the appropriate switch for discovery. A default IP address is always set to DHCP and will pull a local address of 169.254.  
xxx. xxx if no DHCP server present.
2. Begin with assigning the static IP addresses for all expanders, amplifiers, and control devices. These will no longer be visible after the change has been made, but that will be remedied in the next step.
3. Once all of the edge devices are changed, proceed to change your server class devices to their appropriate IP address.

See the previous section on CHANGING NETWORK SETTINGS for more information on how to statically assign an IP address.

## **Tesira Common Faults and Troubleshooting Tips**

### **FAULT: PORT IS NOT 802.1AS CAPABLE**

When you see the Port is not 802.1as capable fault, this generally means that the port on the switch to which the device is connected is not compliant with IEEE 802.1as, which is the protocol for PTP when using AVB/TSN.

## **Common fixes:**

1. Check to make sure the switch you are connected to is an AVB-capable switch. Biamp has recommendations for AVB switches and suggests using only switches that have been tested and approved by Biamp.
2. Ensure the appropriate license has been applied to the switch and the proper port configurations are followed.
3. If any changes are made to the switch, a reboot of the device to reset communication may be required.

If the fault is still present, please contact our Tech Support team.

## **FAULT: CLOCKS NOT SYNCHRONIZED ON...**

- This fault is an indication that the Tesira device is unable to synchronize its clock with the selected Clock Leader.
- For AVB – If you see this fault, try rebooting the DSPs in your system. This will re-initiate the pilot stream that sets up the clock, and communication between talker/listener.
- For Dante – The only method of resolution is to investigate the Preferred Leader in Audinate's Dante Controller software. Check the logs for continual changes in the Preferred Leader status. A common resolution is to change the Preferred Leader to a more stable device on the network that is continually powered on to prevent the clock election process from constantly recurring.
- DAN-1 Card is Muted is a common fault that we see accompany the unsynchronized clocks. This is a feature of the DAN-1 cards, when a clock election process occurs, the card will mute itself. If this fault is persistent, remove the Dante uplink from the server class device and reboot the unit. Once fully powered on, connect the cable.
- If issues persist, please contact our Tech Support team for additional help.

## **FAULT: UNABLE TO COMMUNICATE WITH CARD IN SLOT (13) OR (1)**

On a TesiraFORTE card slot 1 is the AVB card and on a Server/Server IO card slot 13 is the AVB Card. There are two reasons this could happen:

1. Most commonly the card slot in question has been inundated with network traffic (potentially a broadcast storm), causing the card to shut down to protect itself and the host processor. The fix is to Remove the network connection -> Reboot the Device -> Make sure the fault has cleared -> reestablish the connection.
2. Rarely, but in some cases, it could be an issue with the card itself. With Server/Server IO, you can open the unit and re-seat the card to verify. A reboot of the device may be required to clear the fault.

If the issue persists, please contact our Tech Support team.

## **FAULT: INCONSISTENT DEVICE**

This fault may be mysterious, but the cause can sometimes be quite simple.

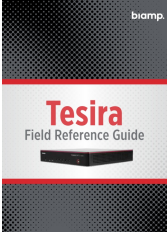
1. Mismatch of SW/FW – If the software is newer than the firmware of the unit you are trying to send a configuration, there may be something newer in the configuration that the unit does not recognize. When you load the file, it may report an inconsistent device. Resolution – Clear Configuration from the afflicted unit(s) -> Update FW to match Software version – Resend file.
2. Disruption of Network – Networks can be imperfect sometimes, and a single packet not making it to its

destination could make the configuration unreadable.

- Resolution – Simplify the network connection as much as possible by bypassing any switches (connect directly to the control port of the unit if necessary).
- We do not recommend sending a configuration over a WiFi connection. If repeated attempts over WiFi yield the same results, establish a hard-line connection to the network.

Additionally, this can sometimes be caused by something in the file itself. This is much more difficult to track down, so we recommend contacting the Tech Support team for further assistance.

## Documents / Resources

	<a href="#">blamp Tesira Fixed Audio Dsp [pdf] User Guide</a> Tesira Fixed Audio Dsp, Tesira, Fixed Audio Dsp, Audio Dsp, Dsp
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## References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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