SOUNDTUBE ENTERTAINMENT

STNet Control Center

Version 1.1.0.4

Configuration and monitoring for Dante devices

User Manual

Date: 7/14/22 • Revision 01

SoundTube Entertainment, LLC
13720 W. 109th St., Lenexa, KS 66215
855.663.5600

Contents

1 – Overview 4
1.1 – How to Use STNet Control Center 4
2 – Installing the Software 5
2.1 – PC Requirements 5
2.2 – Installation Method 5
3 – Application Features and Functions 7
3.1 – Network Interface Selection 7
3.2 – Main Application Window 8
3.3 – Dante Domain Manager™ Available Servers 9
3.4 – Dante™ Device List 9
3.4.1 – Dante™ and Parameter Locks 10
3.4.2 – Channel Names 10
3.4.3 – Device Context Menu 11
3.7 – Menu and Tool Bar Functions 12
3.7.1 – Refresh Device List 12
3.7.2 – Network Interface 12
3.7.3 – Dante™ Controller 12
3.7.4 – Help 12
3.8 – Multi-Device Preset Load 13
3.9 – Smart Firmware Updater 14
4 – Device Configuration 15
4.1 – Device Info 15
4.2 – Preset Configuration 16
4.2.1 – Save Presets 16
4.2.1.1 – Save: Device Presets 16
4.2.1.2 – Save: File Presets 16
4.2.2 – Load Presets 17
4.2.2.1 – Recall – Device Presets 17
4.2.2.2 – Recall – File Presets 17

Contents (continued)

5 – SoundTube IPD Speaker Configuration 18
5.1 – General Settings & Status 18
5.1.1 – Pink Noise 18
5.1.2 – Status 18
5.1.3 – Device Info 18
5.1.4 – Older Preset File 18
5.2 – BiAmp Mode – Amp Setup 19
5.2.1 – Power Mode 19
5.2.2 – Impedance Monitor Configuration 19
5.3 – BiAmp Mode – DSP Setup 20
5.3.1 – Input & Output Controls 20
5.3.2 – EQ Section 20
5.3.3 – Delay 20
5.4 – Full Bandwidth Mode – Amp Setup 21
5.4.1 – Power Mode 21
5.4.2 – Impedance Monitor Configuration 21
5.5 – Full Bandwidth Mode – DSP Setup 22
5.5.1 – Input Mode 22
5.5.2 – CH1/CH2 22
5.5.3 – Input & Output Controls 22
5.5.4 – EQ Section 22
5.5.5 – Delay 22

1 – Overview

The STNet Control Center software provides users with a simple tool to monitor and configure SoundTube Dante™-enabled devices. It detects connected devices on the configured network automatically showing them in a device list. Once a device is discovered, STNet Control Center can present further details about the device. STNet Control Center is also used to configure the device settings such as gain and phantom power.
This manual is designed to give the user a guide on how to use the STNet Control Center to monitor and configure Dante™ devices on a network.

1.1 – How to Use STNet Control Center

The steps required to use the software are as follows:
- Install the application
- Run the application (section 3 – Application Features and Functions)
- Configure the network adapter (see section 3.7.2– Network Interface)

2 – Installing the Software

**Note: It is recommended that the installation instructions be read prior to attempting installation of the software.*

2.1 – PC Requirements

- Windows 7, 8, 8.1, or 10 (32- or 64-bit versions)
- Wired Ethernet Network Interface Card

2.2 – Installation Method

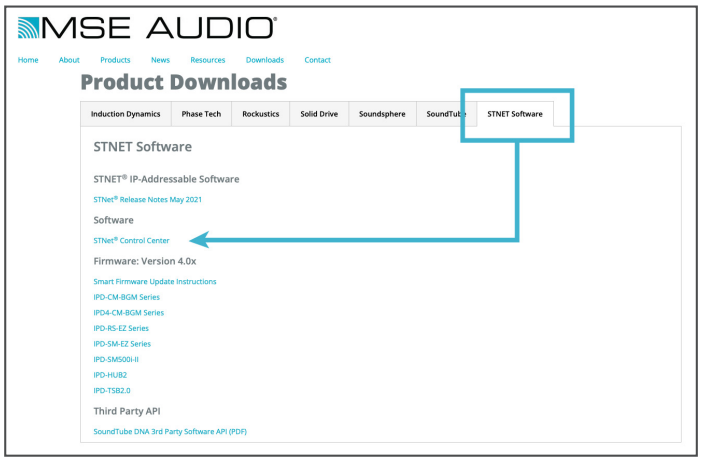
The software is installed using a single install file which is available from the Downloads Page of the MSE Audio/Soundtube website (mseaudio.com/product-downloads) under the “STNet Software” tab *(1)*

To install the application, double click of the application EXE file to start the application install. At any point during this installation prior to actually installing the files, the installation may be stopped by clicking on the “Cancel” button. *(2)*

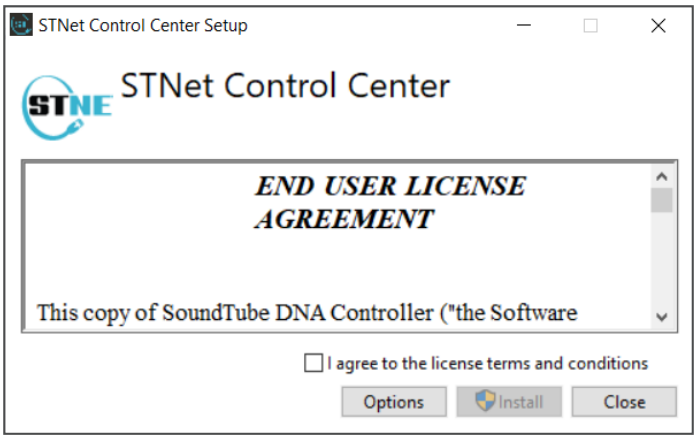
The application is installed by default into C:\Program Files (x86)\Soundtube\STNet Control Center. This location may be changed by clicking on the “Options” button.

A new default location can be typed into the box or click the “Browse” button to browse for the new location. Click OK to accept any changes. Click “Cancel” to undo any changes. *(3)*

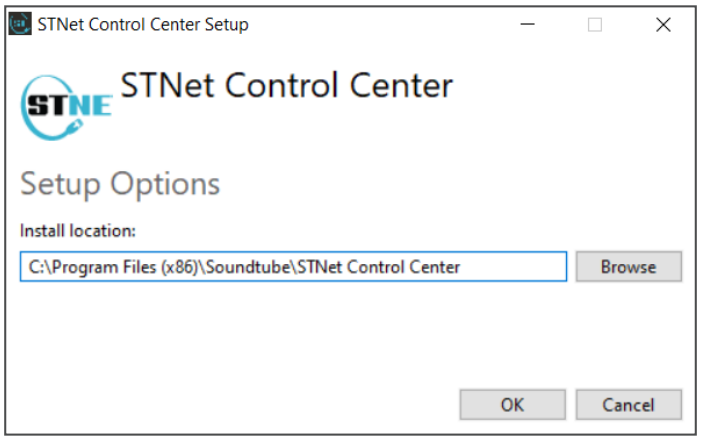
To activate the “Install” button, read the license agreement and if you agree, check the “I accept…” option. Finally, click the “Install” button to initiate the installation of the files.



1



2



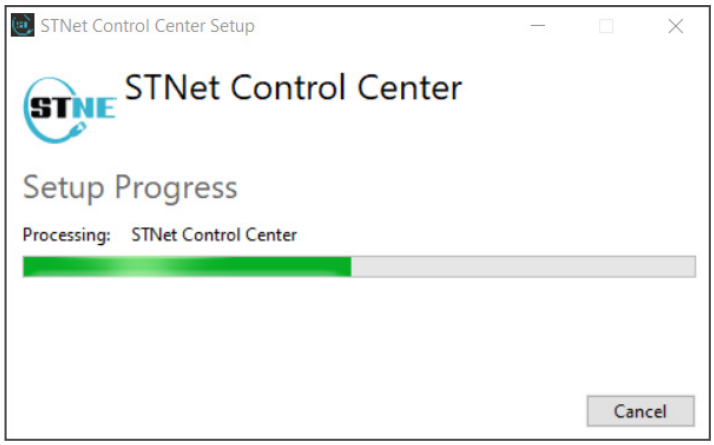
3

At this point, Windows may pop up a User Access Account window. If it does, click the“Yes” button to allow the installation to continue. *(4)*

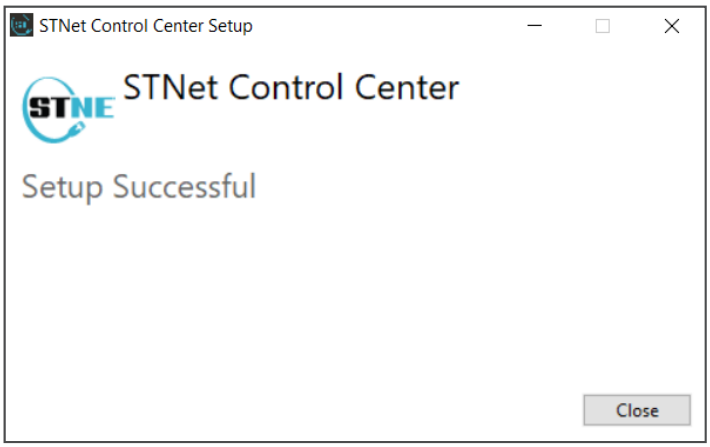
The installer will then begin copying files and display the progress of the installation.

After this process is successfully completed, click “Close”. *(5)*

The installation will create a program group and various shortcuts including one to run the program. All of the icons are located under Start Menu -> Programs ->Soundtube -> STNet Control Center.



4



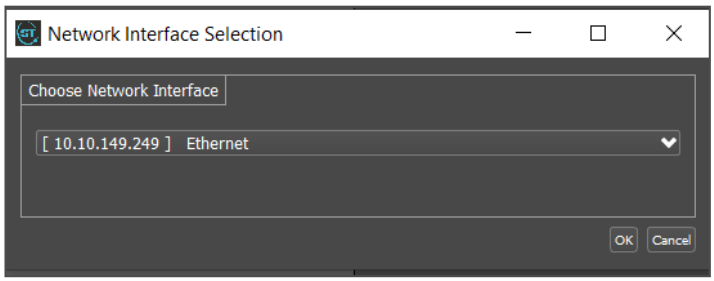
5

3 – Application Features and Functions

When STNet Control Center is opened, it will check what network adapter was previously selected and see if it is still valid. If it is, STNet Control Center will start the main application and begin running automatically. However, if this is first time STNet Control Center is being run or the application was previously run in non-networked mode, or STNet Control Center determines the previous adapter is found to be invalid for any reason, STNet Control Center will first pop up a message asking if the user wishes to continue using the application in non-networked mode with limited functionality. Selecting “Yes” to this message will open the main application in non-networked mode with all the networking features disabled. For full functionality, select “No”. At this point, the “Network Interface Selection” window will pop up.

3.1 – Network Interface Selection

The drop-down list will contain a list of selectable network adapters. There will always be a “None” option at the top that allows the software to be used in non-networked mode should that be necessary. *(6)*



6

**Note: STNet Control Center must be used with a wired network card. If a USB to Ethernet adapter is used, the USB to Ethernet adapter must be attached to the PC otherwise STNet Control Center may not start up correctly.*

If the desired adapter is not found in the drop-down list, select the “None” option to get the main application window open. Once the issue with the network card has been diagnosed and fixed, use the “File” -> “Change Network” menu or the “Network Configuration” button on the button bar to re-open the “Network Interface Selection” window again to check if the correct adapter is now listed.

Once the desired interface is selected, click OK and if all is well, STNet Control Center will then open the main application window.

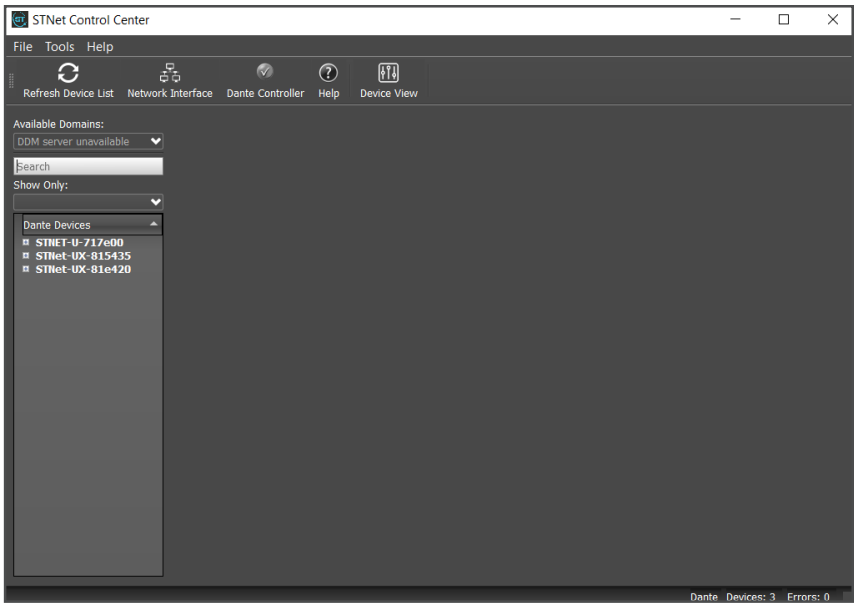
**NOTE: Windows allows users to configure multiple IP addresses to a single network adapter. However, this features is not supported by either the Audinate tools such as Dante™ Controller or STNet Control Center Control Panel. Network adapters used to connect to a Dante™ network must either be set to get a dynamic IP address or have a single static IP address.*

The network interface can be changed at any time while the application is running.

3.2 – Main Application Window

The application is organized into the following sections:

- Menu and Tool bar
- Dante™ Device List
- Available Domains (Dante Domain Manager™)
- Application canvas
- Status Bar

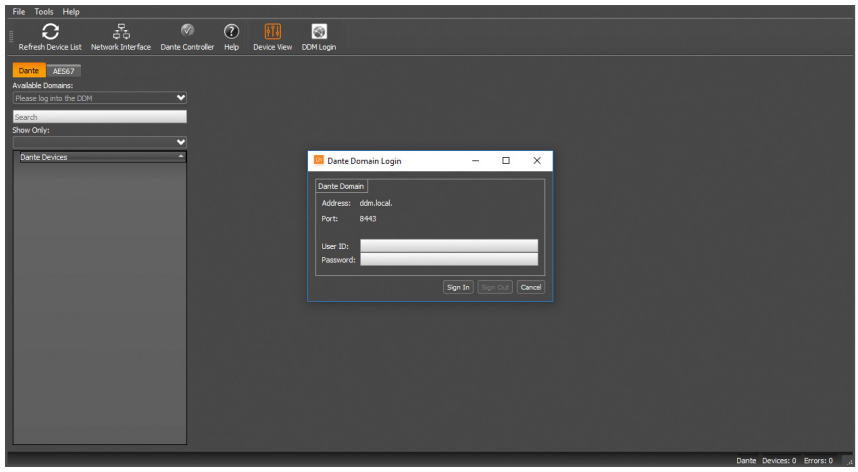


7

At the top are the menus and a button toolbar. These allow access to various application functions. *(7)* The toolbar has a default set of buttons but these may be supplemented by additional buttons as other application features are used. On the left side of the application window is the DDM server and device list. The available domains shows any available DDM servers and allows you to login. The device list shows a list of the detected devices and their current state. The main area of the application window is a canvas which will populate with various controls as the application is used. Finally across the bottom is a status bar which shows application status messages, errors and warnings.

3.3 – Dante Domain Manager™ Available Servers

The Available Servers dropdown displays any Dante Domain Manager™ (DDM) servers on the network. When selected, a prompt will show on the main window to allow login to the domain.*(8)*



8

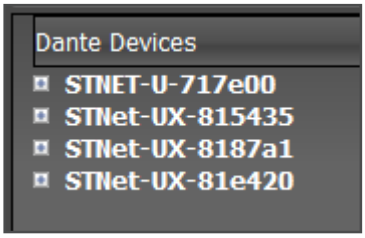
3.4 – Dante™ Device List

The Dante™ device list displays all Dante™ devices from any manufacturer that are detected on the active network interface.*(9)* Devices are noted in different ways depending on their status as follows:

- Red, strikethrough - Device previously detected that is longer on the network or powered down or may have communication issues (see following paragraph).
- Red, no strikethrough - Device with a communication issue (see following paragraph).
- White, Italicized - Non-SoundTube device.
- White, Bold, non-italicized - SoundTube device that is good to go and has configuration capabilities that STNet Control Center can be used to change.

All SoundTube devices should appear in white. For SoundTube devices that appear in red that have not simply been disconnected from the network or powered down, it is likely that STNet Control Center has a communication issue with that device.

If it is just a single device then a recent change of device name can cause this. A refresh of the device list should fix that (note a single refresh may not immediately work as it takes some time for STNet Control Center to determine the device with the old name is no longer available). Otherwise, the most likely cause of an issue is an IP address conflict where PC and device have IP addresses in different ranges.



9

However, if all SoundTube devices in the list indicate red, that may be something more serious. The following issues are known to have caused problems:

- IP Address issue – The PC has an IP that not in the same IP range as all the devices
- 3rd party Firewall / Anti-Virus / Internet Security applications blocking STNet Control Center access to/from the network
- Multicast filtering setup on network that prevents traffic from reaching the PC

The device list can be filtered using search box or the “Show Only” filter option. The “Show Only” filter will adjust the list to show only a specific type product. The search box attempts to match the text in the search box with any part of a devices name in the device list. The search box is case sensitive.

3.4.1 – Dante™ and Parameter Locks

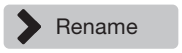
With V3.10 firmware, Dante™ devices have a facility that allows their Dante™ parameters to be locked to prevent changes (see Dante™ Controller help or the Audinate website for further details of this feature). The locked state can only be applied or removed using Dante™ Controller. Some SoundTube devices also now support a parameter lock to restrict access to the non-Dante™ device features like phantom power and gain. If a device has either its Dante™ lock or parameter lock enabled, a padlock icon will appear next to its name.

**Note: Any active locks on a device also impact what features such as Load/Save presets and firmware updates can be used on a device.*

3.4.2 – Channel Names

A device in the device list can be expanded to show or hide its Dante™ audio channels by either double-clicking on the device name or by clicking on the small “+” icon to the left of the device name. Any transmit channels the device has are shown prefixed with a [TX] and any receive channels are shown prefixed with an [RX]. The channel names can be collapsed again by either double-clicking on the device name or by clicking on the small “-” icon to the left of the device name.

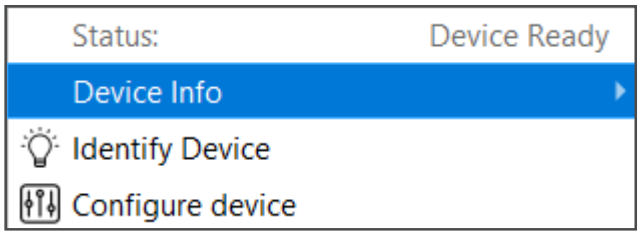
When the channels names are being shown, the application allows for the channels names to be changed. Right-clicking on a channel name will be show the “Rename” context menu.



**NOTE: Dante™ relies on the device name and channel names for audio routing. Changing the Dante™ channel names therefore may cause audio subscriptions to be lost and that audio will then cease to be transferred. Those subscriptions will need to be re-built using the new channel names for that particular audio to begin flowing again.*

3.4.3 – Device Context Menu

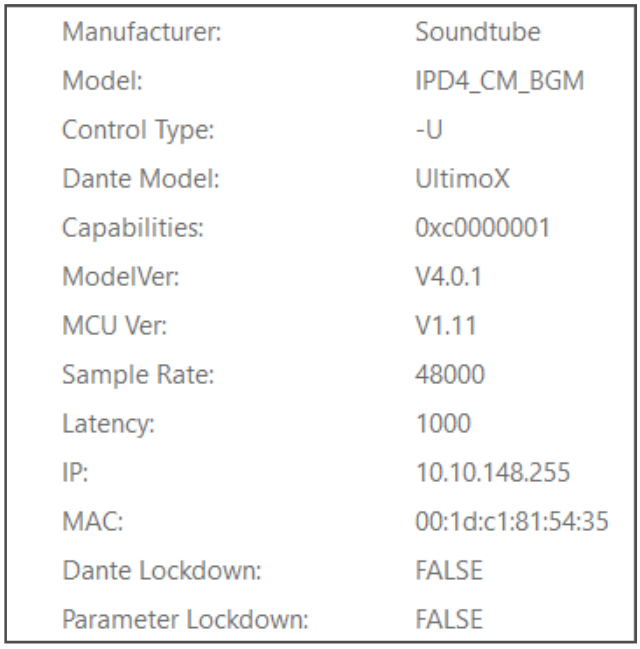
Right clicking on a device will open the device context menu. *(10)*



10

“Status” shows the device status within the application. This field is typically used for diagnostic purposes. For SoundTube devices that are working correctly, the “Status” should show “Device Ready”.

The “Device Info” option has a sub-menu that shows specific information about the device. *(11)*
The Information shown includes the manufacturer, model name, control type (if known), MCU version (if known), and the device IP address. Not all fields may be populated depending on the devices “Status” and what information is available. SoundTube devices should populate all fields.



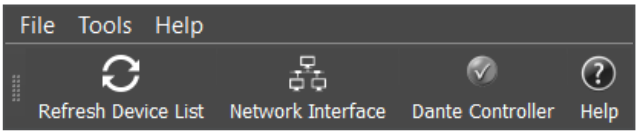
11

Clicking the “Identify Device” option allow devices on the network to be visually located. This feature will flash the status LEDs. Power LED, or front panel display of the selected device for approximately five seconds to aid identification of the physical location of a device.

Clicking the “Configure Device” context menu item will open the associated configuration plug-in for the selected device. This option will only available on supported devices that have a suitable plug-in available. Access to a supported devices plug-in can also be gained by double-clicking on the device name in the device list too. Information about device specific plug-ins can be found in Section 4.

3.7 – Menu and Tool Bar Functions

3.7.1 – Refresh Device List



12

This feature can be accessed from the toolbar button *(12)* or an option in the "File" menu. It will refresh the current Dante™ device list shown on the main screen of the application. The discovery process will only detect devices that are connected to the actively selected network adapter within the application.

**Note: If the application is detecting devices but all of the devices are shown in red, that indicates a network conflict and is likely the result of mismatched IP address configuration between the actively selected network interface card and the target Dante™ devices.*

3.7.2 – Network Interface

Allows the user to select a different network interface to use with the application. See section 3.1– Network Interface Selection for details.

3.7.3 – Dante™ Controller

The STNet Control Center provides a configuration tool for the device specific parameters of SoundTube devices. For general device routing or Dante™ network configuration, SoundTube recommends the use of Dante™ Controller software from Audinate. To simplify system configuration, Dante™ Controller can be launched directly from the STNet Control Center application by clicking the "Dante™ Controller" button or the "Dante™ Controller" option of the "File" menu.

If this option is being used for the first time, it will ask for the location of the installed Dante™ Controller software. If the Dante™ Controller application is not installed on your computer, you may download a copy at the following link.

https://www.audinate.com/products/software/Dante™-controller

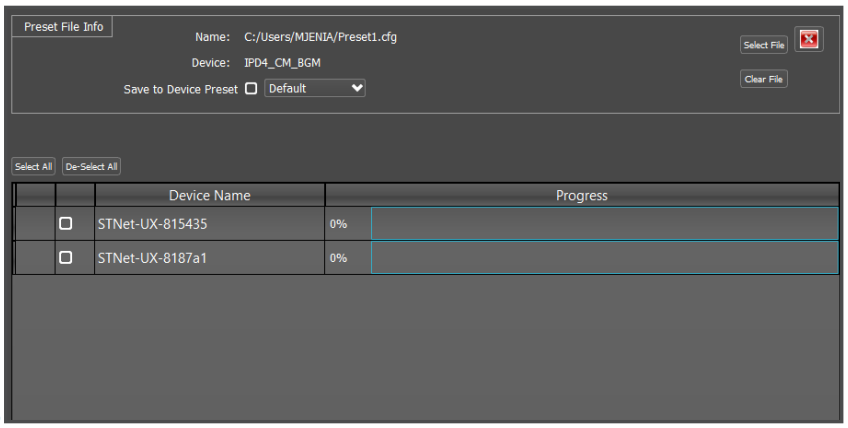
Once the program location has been identified, Dante™ Controller will open. Subsequent uses will simply open the Dante™
Controller application.

3.7.4 – Help

The help menu provides access to information about the application version, application plug-in versions and also application help. The application version and plug-in version information can only be accessed via the Help menu while the application help can be accessed via the Help menu or the Help button on the toolbar.

3.8 – Multi-Device Preset Load

In order to simplify device configuration in systems deploying a large number of common SoundTube devices, the Multi-Device Preset Load tool allows the user to select a device preset that can be applied to multiple devices in one update process. This is accessed through an option in the “Tools” menu. *(13)*



13

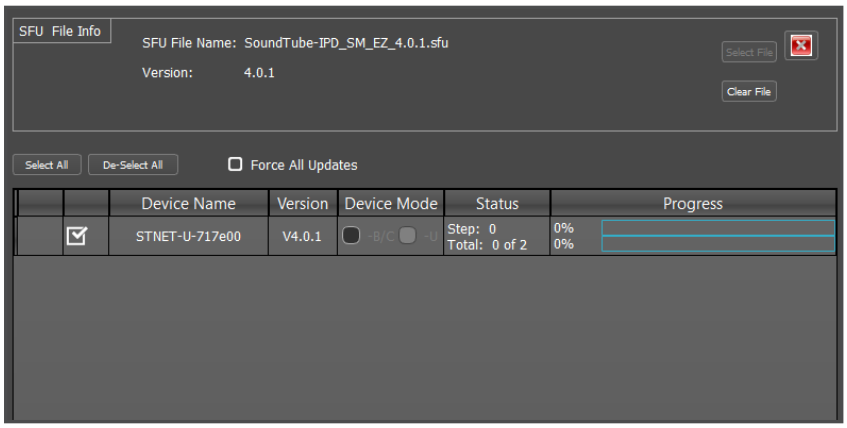
When the “Multi-Device Preset Load” menu item is selected, a pop-up window appears asking for the location of a .CFG file. All .CFG files are generated when executing the “Save Presets to File” functionality for a device described in section 4.2.1.2. Once the file is loaded, the main canvas will show the multi-device preset load plug-in. The application will identify all compatible devices which can accept the preset file. These devices will be shown in list along with a progress bar for the preset update progress.

**Note: Any devices that have their parameter lock active will have a padlock icon and the progress bar replaced with text warning the device is locked.*

Select one or more devices by clicking on the checkbox for each desired device. Alternatively, all devices can be selected for preset loading by pressing the “Select All” button. Once the desired device selections have been made, press the “Start” button to initiate the preset loading process. If at any time the preset loading process needs to be stopped or exited, press the “Close” button.

3.9 – Smart Firmware Updater

For STNet Control Center, a feature was integrated that adds support for SoundTube device firmware updates. This functionality is accessed by selecting and launching the Smart Firmware Update from tools menu in the main application window. *(14)*



14

To use the updater, first click on the Select File button. This will open a file explorer window for selection of the desired firmware package. The smart firmware updater utilizes .SFU firmware packages. These files are available on the SoundTube website for all supported products (mseaudio.com/product-downloads).

Once the desired file has been selected, the application will search for devices that match the selected firmware update package. The application will also determine the relevant features that require updates on each device.

The discovered device list shows the following information about the device.

- Device Name
- Product Version
- Device Mode – This control allows selection between –C and –U firmware option support for proper integration with the target DSP and/or control system used in the product installation
- Status – Shows the number of required steps for the update based on the current state of the device
- Progress – The top progress bar shows the progress for the current step in the update procedure and the bottom bar shows the overall progress

**Note: If either the Dante™ lock or the parameter lock are active, the device will show up with a padlock next to it and the progress bar will be replaced by text indicated the device has an active lock. No updates will be possible in this device until the lock is removed.*

To initiate an update, check the device or devices in the list with their associated checkbox and click on the “Start” button. The smart firmware updater will determine the appropriate portions of the device firmware that require updates, to override this functionality and force a complete update, select the “Force All Updates” checkbox.

The update process can be stopped at any time by pressing the “Cancel” button, however, in order to prevent device lockups the updater will continue until it is safe to cancel the overall update operation.

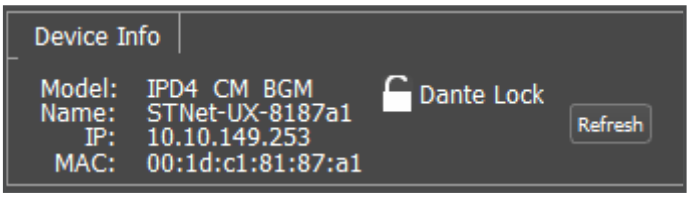
If a device fails during the update process it will be shown in red after updates to all other selected devices are complete.

4 – Device Configuration

The main function of STNet Control Center is to allow configuration of device parameters for SoundTube's products. While the plug-in for a particular type of product is specific to that type, there are some configuration features that are generic across all plug-ins.

4.1 – Device Info

The Device Info panel is shown at the top of any plug -in and is usually accompanied with an image of the device. It contains information about the selected Dante™ device. *(15)*



15

There is also a checkbox to enable or disable a latching identify function. Unlike the Identify function on the device context menu of the device list, this Identify function is a toggle and will continue to perform the identify functionality until either manually disabled by the user, the plug-in is closed or by power cycling and resetting the device.

Dante™ Lock – The Dante™ lock status is indicated by a padlock icon. If the icon and text are not shown, the device is not programmed with a version of firmware that supports this feature

**NOTE: Firmware updates are available that support this feature for all SoundTube devices.*

If the Dante™ lock is active, the padlock icon will be shown locked and no changes to the audio routing or Dante™ network settings can be made. If the Dante™ lock is not active, the padlock will be shown unlocked.

**NOTE: The Dante™ lock can only be removed or applied using Dante™ Controller.*

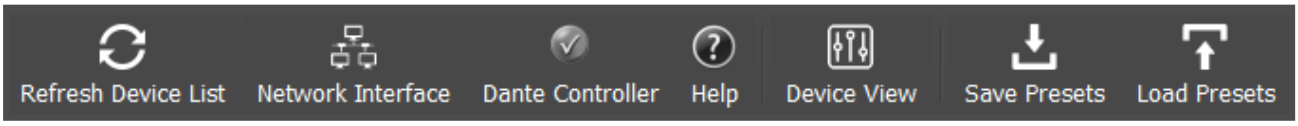
Parameter Lock – When the parameter lock is active, device settings such as gain and phantom power are locked and cannot be altered. The parameter lock also blocks the firmware update and preset load functionality too. To allow changes to be made, the parameter lock checkbox must be unchecked. However, if the Dante™ lock is active, the parameter lock state itself will be locked and cannot be changed. The only way then to unlock the device is to remove the Dante™ lock first.

Refresh - The "Refresh" button is used to refresh the on-screen settings of the device that is being configured. This is useful if there's an external system or device such as a 3rd party control system that's communicating with the device and altering settings after the settings on the device have been read by the STNet Control Center software.

4.2 – Preset Configuration

Most devices feature preset capabilities for recalling a previously saved set of settings either from a file on the PC or from non-volatile memory on the target device. When a device is selected for configuration, if the device supports presets, a “Save Presets” button and “Load Presets” button will be added to the toolbar. *(16)*

16



4.2.1 – Save Presets

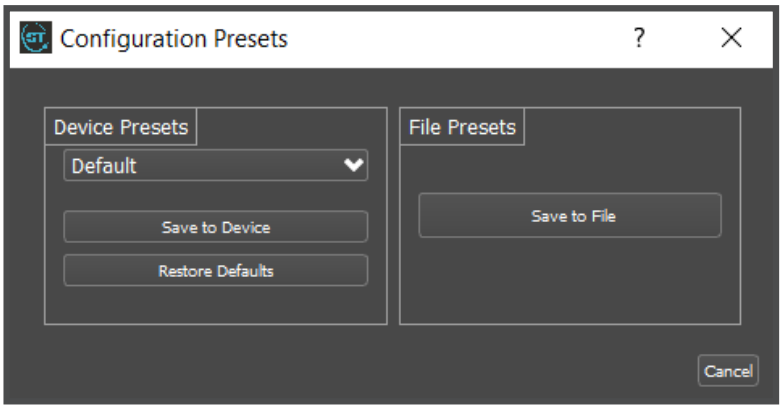
When the “Save Presets” button is pressed, the “Configuration Presets” dialog will open in save mode.

**Note: If the parameter lock is active, the device preset side will be greyed out as the parameter lock prevents any change to device settings. This lock must be removed before a preset can be saved to the device. This may require the Dante™ lock be removed first, if that is also active.*

4.2.1.1 – Save: Device Presets

Current settings can be saved to a preset in non-volatile memory on the selected device. Use the dropdown list to select which preset the current settings will be stored to, then click the “Save to Device” button. On all SoundTube devices, the “Default” preset option is used to store the power- on defaults. (17) Any settings stored in the “Default” preset will be re-loaded upon the speaker powering up (like in the event of a system reboot or power drop). The power-on defaults can be reset back to factory settings with the “Restore Defaults” button.
*WARNING: Use this with care!

17



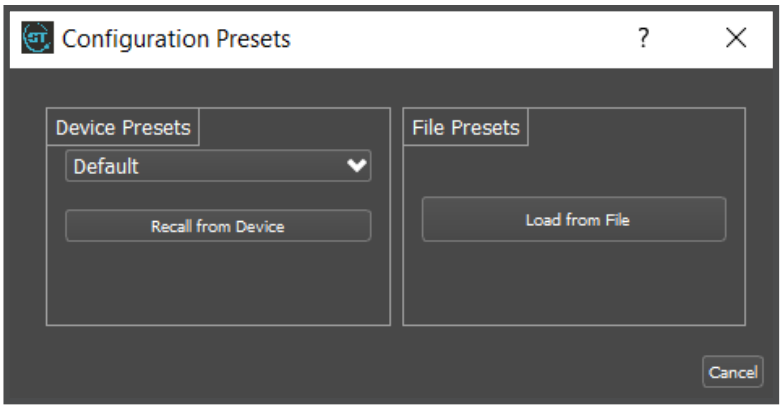
4.2.1.2 – Save: File Presets

Current settings can also be stored off to a file. The file created can be used to apply the same settings to multiple devices (see Multiple Device Preset Load feature). It can also be stored off as a back-and recalled later if needed.

4.2.2 – Load Presets

When the “Load Presets” button is pressed, the “Configuration Presets” dialog will open in “Load” mode. *(18)*

**Note: If the parameter lock is active, loading a preset will not be possible as configuration changes are blocked. A warning will instead pop up warning the user that the parameter lock is active. This lock must be removed before a preset can be loaded. This may require the Dante™ lock be removed first, if that is also active.*



18

4.2.2.1 – Recall – Device Presets

Update the current settings from a previously stored preset in non-volatile memory on the device. Use the dropdown list to select the desired preset, then click the “Recall from Device” button.

4.2.2.2 – Recall – File Presets

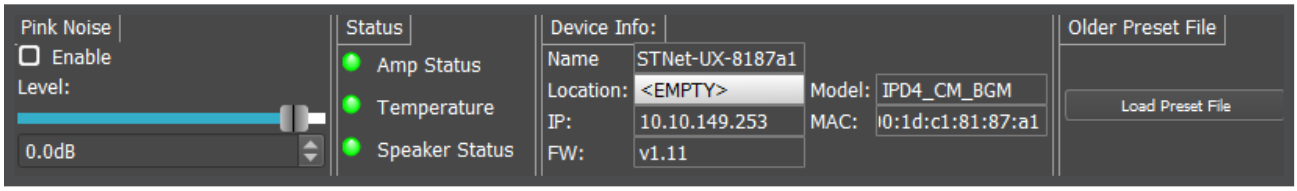
Use the “Load from File” button to update the current device settings from a file which was previously saved using the “Save Preset to File” feature. Refer to the specific device configuration details for information on the preset capabilities of each device.

5 – SoundTube IPD Speaker Configuration

Based on the model of SoundTube Dante™ speakers, there are two modes of setup:

- Biamp
- Full Bandwidth

5.1 – General Settings & Status



19

5.1.1– Pink Noise

Check the Enable box to output pink noise for diagnostic purposes. The volume level can be adjusted with the slider, entered into the text field, or using the up/down arrows. *(19)*

5.1.2 – Status

This section shows the current Amp, Temperature, and Speaker status levels.

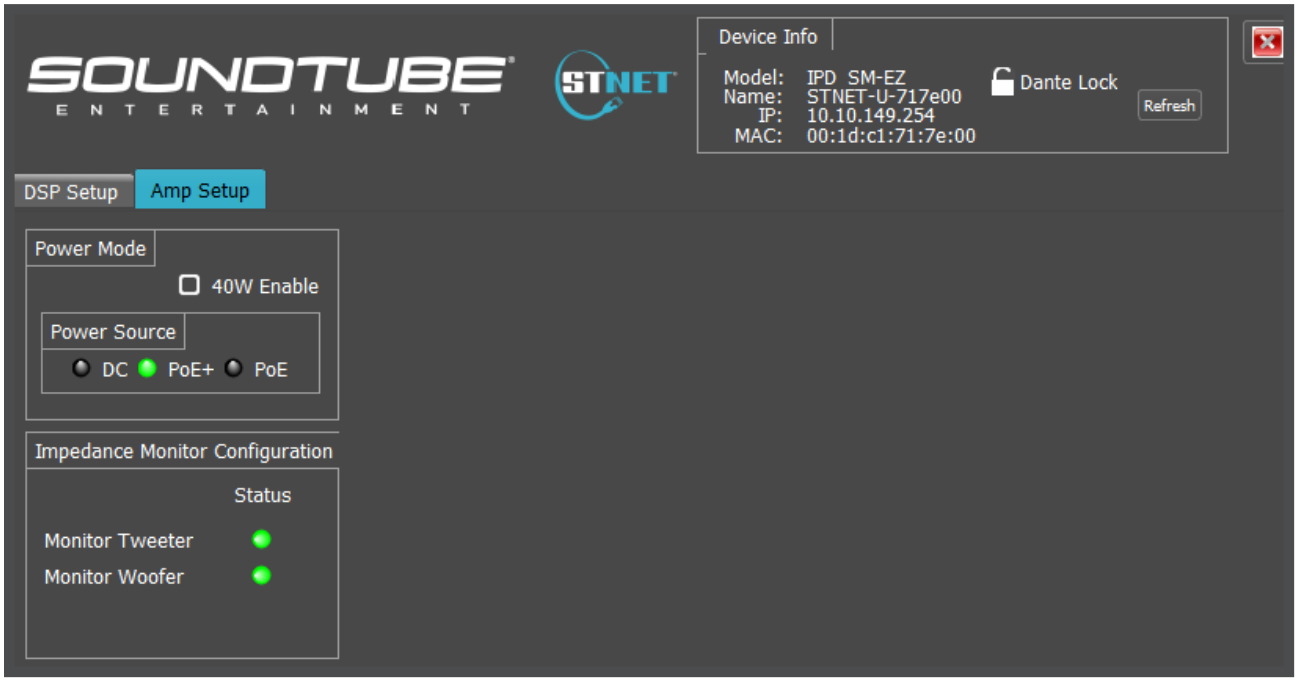
5.1.3 – Device Info

This section provides information such as the device name, model, IP and MAC addresses, Location, and firmware version.
The Location field is editable for organization of multiple devices.

5.1.4 – Older Preset File

Load preset files from the previous DNA Control software here.

5.2 – BiAmp Mode – Amp Setup



20

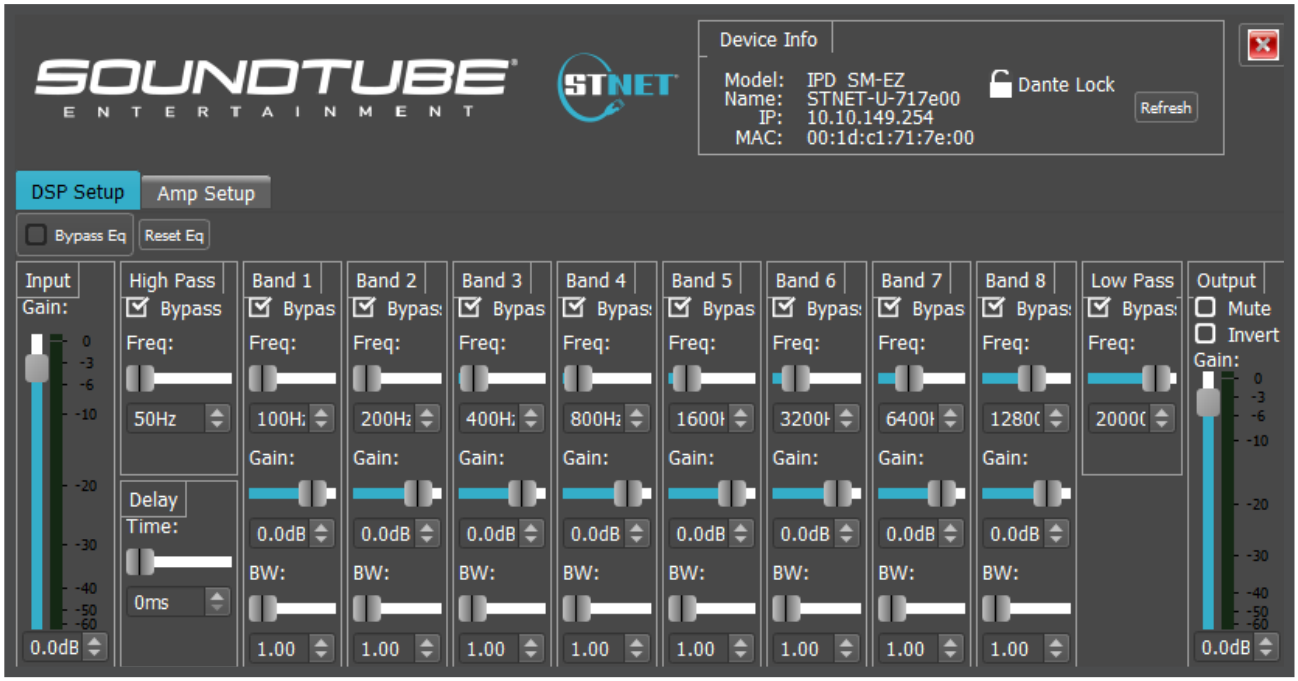
5.2.1 – Power Mode

This section shows the status of the currently used power source. The 40W Enable checkbox should only be selected when used with Soundtube's switching hardware that supports the 40W mode. *(20)*

5.2.2 – Impedance Monitor Configuration

This section shows the current status of the speaker voice coil. The impedance monitor will report voice coil failures in response to the built-in speaker self testing as a pass or fail indication. A green LED indicates the speaker is functioning properly, a red LED indicates the speaker voice coil has failed or is approaching failure.

5.3 – BiAmp Mode – DSP Setup



21

5.3.1 – Input & Output Controls

• The input level can be adjusted with the slider, entered into the text field, or using the up/down arrows.

• The output level can be adjusted with the slider, entered into the text field, or using the up/down arrows. There is also a mute option and phase invert. *(21)*

5.3.2 – EQ Section

The EQ section includes High and Low Pass filters with frequency sliders. Bands 1-8 have adjustable frequencies from 10Hz to 22kHz. Gain is adjustable from -30dB to 6dB. The BW slider adjusts to cover a narrow to wider slope for the assigned frequency.

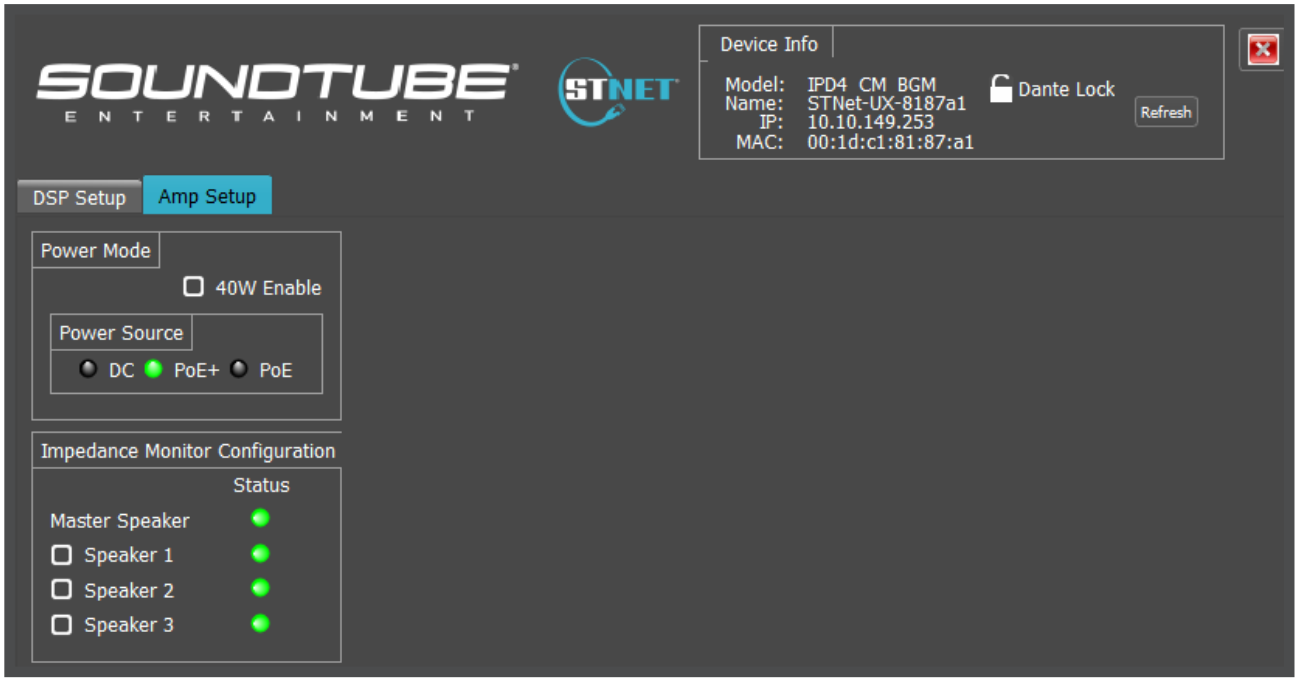
• Bypass EQ – passes all audio without EQ applied

• Reset EQ – resets all EQ band gain settings to 0dB

5.3.3 – Delay

In large systems with multiple speakers to cover a large area, it is necessary to set a delay on the supplemental speakers for coherence and synchronization of the sound. Adjustments are made via the slider or text field.

5.4 – Full Bandwidth Mode – Amp Setup



22

5.4.1– Power Mode

This section shows the status of the currently used power source. The 40W Enable checkbox should only be selected when used with SoundTube's switching hardware that supports the 40W mode. *(22)*

5.4.2 – Impedance Monitor Configuration

This section shows the current status of the speaker voice coil. The impedance monitor will report voice coil failures in response to the built-in speaker self testing as a pass or fail indication. A green LED indicates the speaker is functioning properly, a red LED indicates the speaker voice coil has failed or is approaching failure. The checkboxes allow each external speaker output to be included or ignored when reporting the impedance monitoring results.

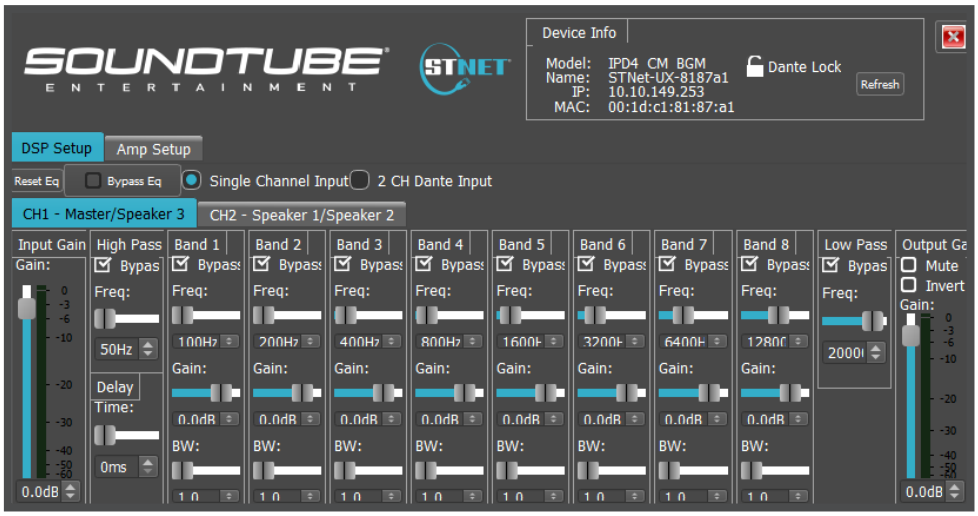
5.5 – Full Bandwidth Mode – DSP Setup

5.5.1 – Input Mode

The full bandwidth output speaker models include an option to process Dante input from one or two channels. *(23)*

When “Single channel input” is selected, both processing chains for CH1 and CH2 controls are fed with the same Dante RX channel.

When “2 CH channel input” is selected, each processing chains for CH1 and CH2 controls are fed with a unique Dante RX channel (CH1 receives the first Dante RX channel and Ch2 receives the second Dante RX channel).



23

5.5.2 – CH1/CH2

- CH1 – Master/Speaker3 – This tab allows configuration for the main and Speaker 3 output on the device.
- CH2 – Speaker 1/Speaker2 – This tab allows configuration for the Speaker 1 and 2 output on the device.

5.5.3– Input & Output Controls

- The input level can be adjusted with the slider, entered into the text field, or using the up/down arrows.
- The output level can be adjusted with the slider, entered into the text field, or using the up/down arrows. There is also a mute option and phase invert.

5.5.4 – EQ Section

The EQ section includes High and Low Pass filters with frequency sliders. Bands 1-8 have adjustable frequencies from 10Hz to 22kHz. Gain is adjustable from -30dB to 6dB. The BW slider adjusts to cover a narrow to wider slope for the assigned frequency.

- Bypass EQ – passes all audio without EQ applied
- Reset EQ – resets all EQ band gain settings to 0dB

5.5.5 – Delay

In large systems with multiple speakers to cover a large area, it is necessary to set a delay on the supplemental speakers for coherence and synchronization of the sound. Adjustments are made via the slider or text field.