

AED Audio Netcontrol

Software manual



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The AED Audio Netcontrol Manual

Introduction

This manual (hereinafter referred to as the “Manual”) is intended to be used as work of reference for professional, well trained and authorised users. It describes the functionality of the AED Audio Netcontrol software, including the AED Audio speaker updater for updating the embedded firmware. Netcontrol has all the tools to remote control all the AED Audio speakers on any Windows or Mac computer with a standard Ethernet network interface.

For information about specific adjustments, bugs or issues which are not dealt within this manual, please contact your Product supplier or AED Audio.

Disclaimers

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Intended use

This system is intended for use by trained personnel for professional applications. The Product is not intended to be used by minors. Any use, regardless whether or not under the supervision of an adult, is at own risk.

Symbol description

Symbols used

- ▶ Information and tips to ease things for you as you use your AED Audio Netcontrol.
- @ References to the online AED Audio website, where you can find interesting further information: <https://www.AEDAudio.com>
- ! Warning/ prompt to take action. This symbol means that you are warned and/or being prompted to perform some action.

Manufacturer's declarations

EU declaration of conformity (CE symbol)



Software installation

These software installation instructions assume some basic knowledge of Microsoft Windows concepts, such as selecting menu items, locating folders and files, and starting programs. For more information on Windows, please consult your Windows documentation.

Minimal PC requirements

- 1 GHz Processor
- 512 MB RAM
- 100/1000 Base-T wired Ethernet adapter and/or 802.11 wireless Ethernet adapter

Recommended PC Specifications

- 1.5 GHz Dual Core Processor or faster
- 1 GB RAM or greater
- Windows 7, MacOS 10.13 High Sierra or later
- A touch-screen Tablet style interface
- A screen resolution of at least 1024 x 768

Tablet PC and laptop power settings

- ! When using a Wireless or Tablet PC with the AED Audio Netcontrol software, it is recommended to switch off power-saving features, which can reduce the performance of your PC.

If you experience slower performance while using the Controller on battery power, turn off any battery power-saving settings that affect general performance of your PC. Some battery optimizations also affect wireless connection speed; if you experience a slow wireless connection while in Battery mode, these settings should be disabled.

To turn off power-saving features, navigate using the Windows Control Panel:

1. Go to Windows Start Menu > Settings > Control Panel > Power Options
2. As settings vary depending on each Tablet or laptop, please consult the appropriate hardware manual for further information.

First time installation

To install the AED Audio Netcontrol software, double-tap the executable installer that was downloaded via the internet or received from your AED Audio supplier; choose INSTALL AED Audio Netcontrol. The installation wizard will automatically install all the packages required.

Following successful installation, the AED Audio Netcontrol software will automatically start, there will also appear an icon on the desktop.

Overwriting existing Netcontrol installation

If there is already an older version of Netcontrol installed on your desktop, the new version will overwrite the installation and Shortcut folders of the existing installation.

Recommended network topologies when using Dante

The use of an external Ethernet 1 Gbps switch with QoS (Quality of Service) is highly recommended. It is also recommended that each device has its own direct connection to that switch. Where switches are connected together, this should be achieved via a gigabit fiber or copper connection.

Network & firewall overview

Ethernet overview

All Flex6, Solid15 and Solid28 are equipped with a dual Gigabit Ethernet port. It is very important to always use Gigabit switches and at least Cat5e cables while using Dante to ensure the best performances. The use of an external Ethernet 1 Gbps switch with QoS (Quality of Service) is highly recommended. It is also recommended that each device has its own direct connection to that switch. Where switches are connected together, this should be achieved via a gigabit fiber or copper connection. If only Netcontrol will be used without Dante controller, 100 Mbps switches can be used for network setup.

Firewall configuration

Firewall configurations are automatically handled during the installation of Dante Controller. If you are using a third-party firewall product, you will need to change settings manually.

Dante and AES67 digital audio networking

All devices are compatible with Audinate's Dante Controller software.

To download a copy of Dante controller:

1. Go to the Audinate website: www.audinate.com
2. Navigate to Products > Dante controller.
3. Under 'Download', choose your operating system.
4. Click the red download button.

Please note that you must create an account before you can download the software for free.

Changes made in Netcontrol will be reflected in the Dante Controller and vice-versa: When both Netcontrol and Dante are active, changes will synchronize immediately across both software controllers and affected devices.

When Dante-related parameters are changed via Netcontrol while the Dante Controller is disconnected or closed, the Dante Controller will inherit the change the next time it is connected or opened. When Dante-related parameters are changed via the Dante Controller while Netcontrol is disconnected or closed, Netcontrol will also inherit the change the moment it is connected or opened.

- ! Audio routing can only be done in Dante controller, also AES67 configuration can be done here.

Wireless network setup

Overview

When using a wireless access point on the same network as Dante digital audio, an approved external Ethernet switch must be configured to filter Dante audio packets from reaching the wireless network. An access point is used in a wireless Ethernet network configuration to connect a portable laptop or tablet with Netcontrol software to the AED Audio speakers. The access point is connected to the wired network using standard Ethernet cables. It performs the same function as a switch: receiving, buffering, and transmitting data between wired and wireless networks.

The wireless network can be less stable than a wired network, reason can be multiple wireless network systems in the same space interfering each other. It is advised to always stick to a wired network setup unless you have decent network understanding. Also on the wireless network it is important to implement security to avoid external people are accessing your network.

Multiple clients

It is not recommended to run multiple instances of Netcontrol on one network presently.

AED Audio Netcontrol

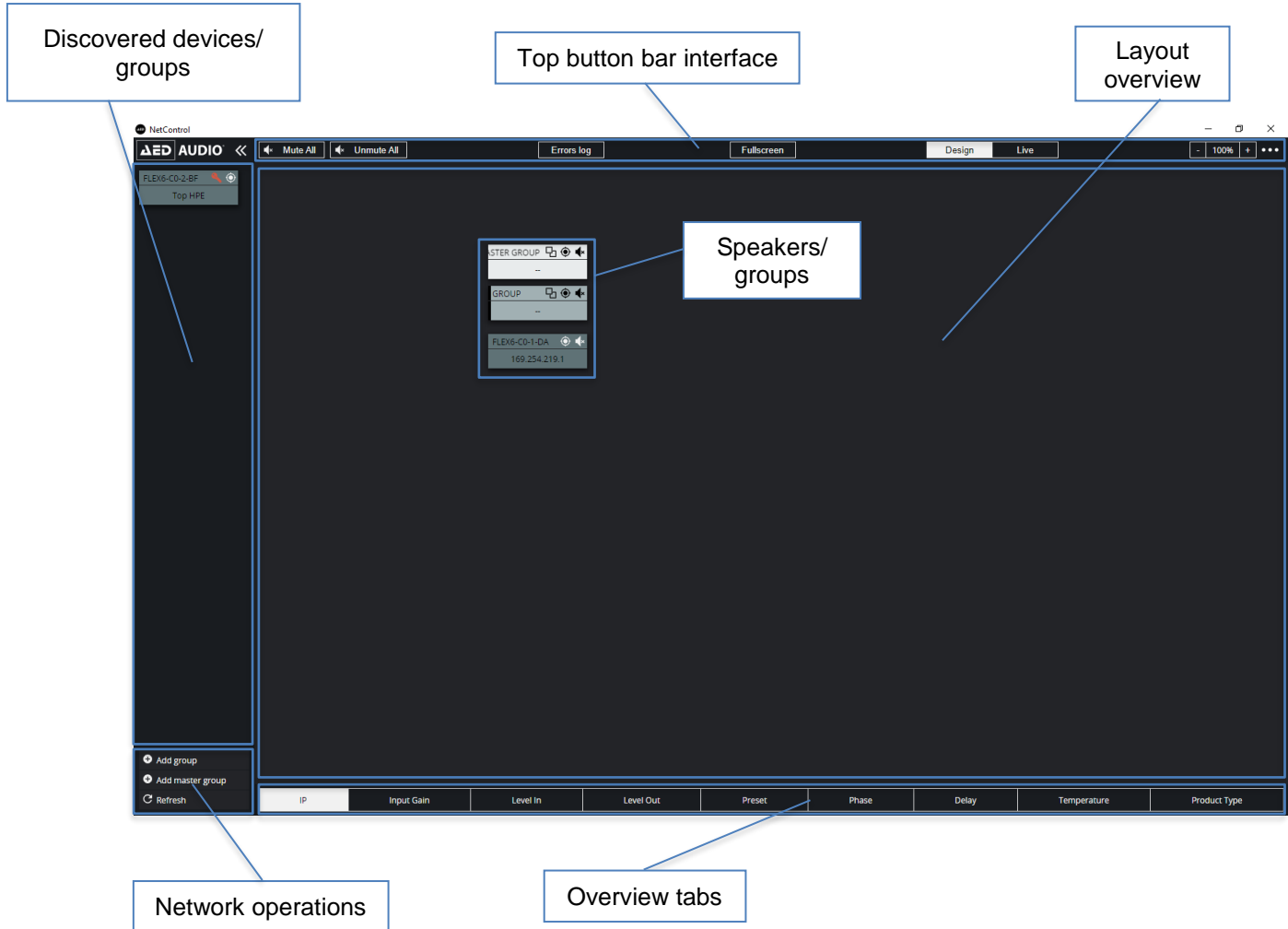
Starting the AED Audio Netcontrol application on windows or mac

To start Netcontrol:

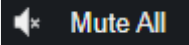
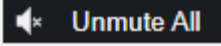
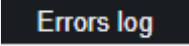

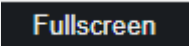

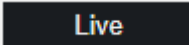
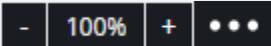
1. Double tap the AED Audio Netcontrol software icon on the windows or Mac desktop location.
2. Insert the AED Audio Expert key in an available USB port.
3. Netcontrol will automatically find the expert key and will unlock the user interface.

General overview

Main page components



Top Button bar interface

	Mute all speakers, there will be no audio output anymore.
	Unmute all speakers.
	Errors log, no errors detected.
	Errors log, errors detected.
	Go to full screen mode.
 	Toggle between the Design and Live overview.
	Zoom In/out. Click on the three dots for options.

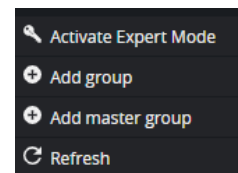
Discovered devices/ groups

All the speakers/ groups which are detected in the network and not used in the layout overview are displayed in the discovered devices/ groups side view in Netcontrol. When you add a new group or master group it will also be displayed in the discovered devices.

Network operations

At the bottom left of the screen there will be all the network related operations:

- Activate Expert Mode
- Add Group
- Add Master Group
- Refresh



Layout overview

All the active speakers, groups and master groups will be displayed here. All the modules are easily accessible for doing following operations:

- Change device name
- Restart module/ group
- Default settings
- Monitor module temperature
- Change/ monitor network settings
- Led mode on speaker
- Input level mixing
- System processing: Mute, Polarity, Delay, EQ,...
- Change preset of module/ group

Changes in the module/ group can be made by right click on the module to access the module/ group menu.

Overview tabs

IP	Input Gain	Level In	Level Out	Preset	Phase	Delay	Temperature	Product Type
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Following information can be displayed on the modules in the layout overview:

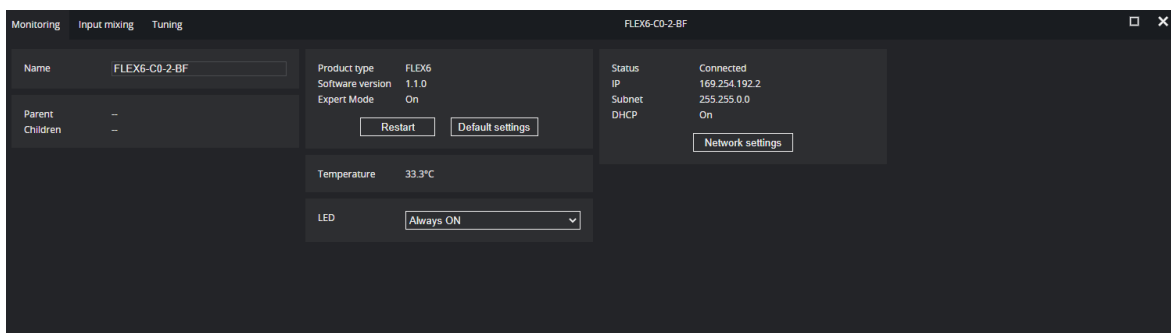
- IP: IP-address of the speaker ex.: 169.254.192.2
- Input Gain: The trim level that has been applied in the input mixing tab.
- Level In: The audio level at the input stage of the speaker.
- Level Out: The audio level at the output stage of the speaker.
- Preset: The preset currently in use for the speaker.
- Phase: Polarity Normal or Inverted.
- Delay: The amount of added delay on the speaker in ms, m or ft.
- Temperature: The actual Temperature of the module in C°.
- Product Type: The actual speaker model Flex6, Solid15 or Solid28.

Module menu overview

Monitoring page

The monitoring page will display all information of the selected module:

- Name: The name of the speaker, this will also be the name for the speaker in Dante controller. Default name will start with the model (flex6, Solid15, Solid28) followed by a series of numbers and letters. You can change the name by clicking in the name field.
- Parent: Displays the 'parent' group or master group that assigned is to the module/group.
- Children: Displays the 'children' group or speakers that are part of the selected group/master group.
- Product Type: The actual speaker model Flex6, Solid15 or Solid28.
- Software version: The current software version of the speaker.
- Expert mode On/Off: Expert mode is enabled/ not enabled.
- Temperature: The actual Temperature of the module in C°.
- Status: Network status, connected or Disconnected.
- IP: IP-address of the speaker ex.: 169.254.192.2
- Subnet: The subnet of the speaker ex.: 255.255.0.0
- DHCP On/Off: Automatic IP assignment service.



Beside displaying all the information as described above, the following settings can be adjusted on this page:

- "Restart" Button: Restart the selected speaker remotely from Netcontrol.
- "Default Settings" Button: Load the factory default setting in the selected speaker remotely from Netcontrol.
 - ! WARNING: All variable settings will be erased from Netcontrol and Dante Controller.
- "Network settings" Button: Change all network settings manually. There will open an extra network settings screen for inputting this data.
- LED: Choose in the options menu between:
 - o Always On: The LED logo in the grill of the speaker will permanently shine.
 - o Always Off: The LED logo in the grill of the speaker will permanently be off.
 - ! Also when you click on the locate button of the module, the LED will not light up.
 - o Front Clip: The LED logo in the grill of the speaker will light up when the limiter is working due to high audio levels.
 - o Back Clip: The display on the back of the speaker will light up when the limiter is working due to high audio levels. This can be useful for delays per example.


Input mixing page

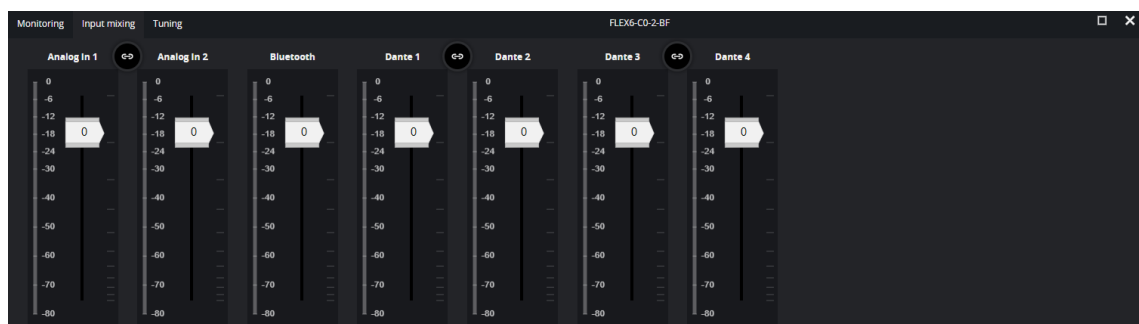
All the audio inputs on the input mixing page can be leveled when desired, the audio inputs are displayed in following order:

- Analog in 1
- Analog in 2
- Bluetooth
- Dante 1
- Dante 2
- Dante 3
- Dante 4

Some audio inputs can be linked to share the same input level, this is only possible for:

- Analog 1 and 2
- Dante 1 and 2
- Dante 3 and 4

Click on the 'chain' symbol  between the input channels to link the input trim.



The input mixing is done in the digital domain and is therefore the trim that can be adjusted for every channel separately. The trim will range between $-\infty$ dB and +10 dB. Even for the analog channels it is still a digital trim, if you want to change the analog input gain you will find this on the backside of the speaker itself. The analog input gain cannot be changed remotely from Netcontrol.

Tuning page

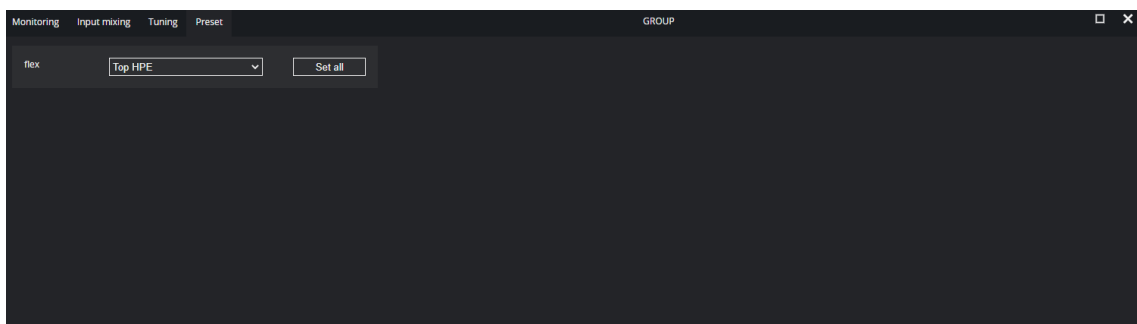
Everything regarding audio processing can be found in the tuning page, following settings can be changed in the tuning page:

- The preset of the speaker can be chosen at the top left side of the tuning page.
- Enable or disable the equalizer.
- Reset the EQ by clicking on the button "Flat".
- "Mute" or "Unmute" the speaker
- "Normal" or "Reversed" polarity
- Change EQ parameters for all the eq-bands:
 - o Frequency
 - o Gain
 - o Q-factor
- Add delay in ms, m or feet.
- Adjust the Master output of the speaker ($-\infty$ dB and +10 dB)




Preset page (only for groups)

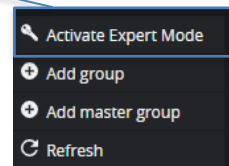
Set the preset for all speakers that are currently assigned in the groups.



Basic operations

Enable expert mode


- 1) In the discovered devices overview there will be a red key symbol. 
- 2) Select all the devices that you want to activate Expert mode for.
- 3) Click on “Activate Expert Mode” in the network operations tab.
- 4) The red key symbol will disappear.
- 5) The module can be dragged into the Layout overview.

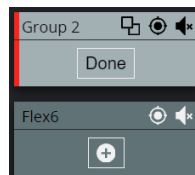
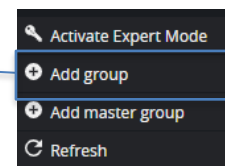


Another option to enable expert mode is to right click on the module in the discovered devices overview and to click on the button “Expert Mode” in the Monitoring tab.

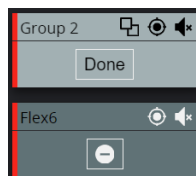
Assign speakers to groups

Adding groups in the layout overview and assigning speakers to these groups helps for the overall control of the system. Manage all settings (mute, eq, delay,...) in a group for multiple speakers.

- 1) Click on “Add Group” in the network operations tab.
- 2) Drag the group module into the overview layout.
- 3) Click on the double square symbol  in the group module.
- 4) All the speakers that are not assigned to a group will display a ‘+’ as displayed below:




- 5) Click on the ‘+’ symbol for every speaker that you want to assign to the group. The speakers that are assigned to the group will get the same color as the group and will display a ‘-’ symbol for unassigning:

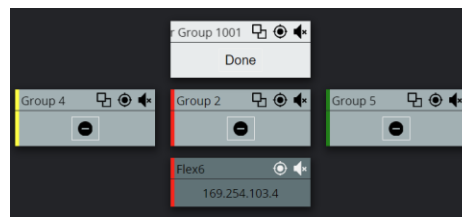
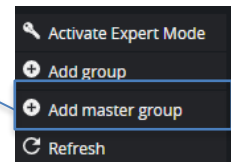


- 6) Click ‘Done’ in the group module.

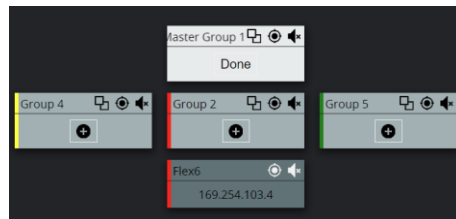
Assign speakers to master groups

Groups can be assigned to a master group for managing all settings (mute, eq, delay,...) for multiple groups at once.

- 1) Click on “Add master Group” in the network operations tab.
- 2) Drag the master group module into the overview layout.
- 3) Click on the double square symbol  in the master group module.
- 4) All the groups that are not assigned to a master group will display a ‘+’ as displayed below:



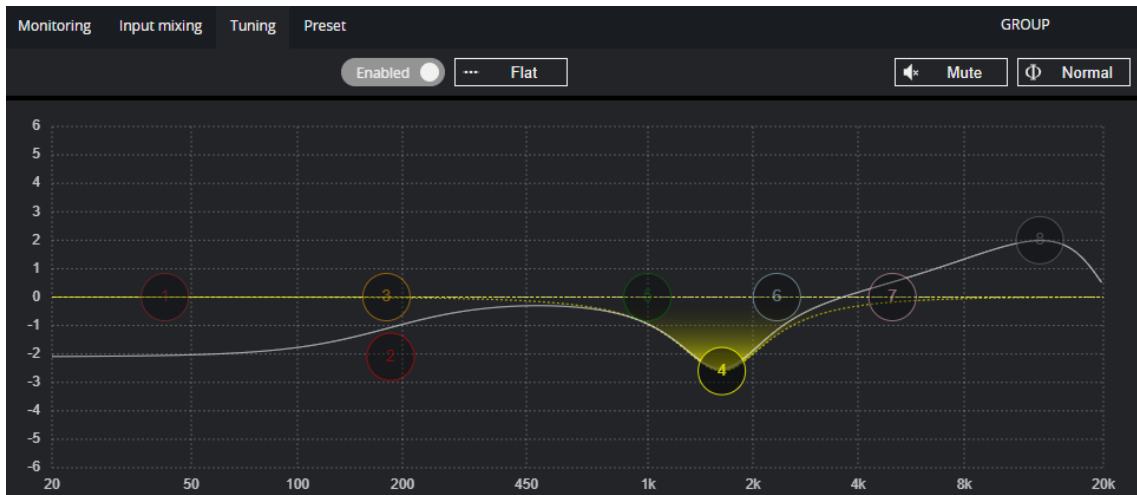
- 5) Click on the ‘+’ symbol for every group that you want to assign to the group.
The speakers that are assigned to the group will get the same color as the group and will display a ‘-’ symbol for unassigning:



- 6) Click ‘Done’ in the master group module.

Change eq-band filter type

Eq can be applied in the Tuning page of the speaker/ group or master group. (- or + 6dB)



Following steps can be taken for changing the filter type:

- 1) Open the tuning page of the speaker/ group or master group
- 2) Enable the eq
- 3) Right click on one of the filter bands bubbles (1-8).
- 4) A new window will open as below, select the preferred filter type.



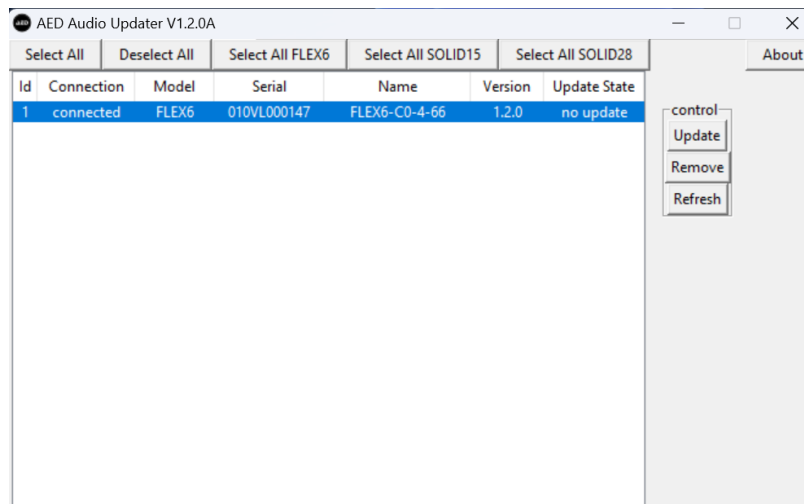
Following filter types can be chosen:

- Low Shelf
- High pass filter
- Parametric eq
- Low pass filter
- High shelf

Updating speaker firmware

The AED Audio updater software doesn't need to be installed, open the executable directly after the download via the internet or received from your AED Audio supplier.

After opening the software you will see a window with following layout:



All connected devices will be displayed in a list with following details:

- ID: Number of the speaker
- Connection: Connected/ disconnected
- Model: The model of the speaker (Flex6, Solid15/28)
- Serial: The serial number of the speaker
- Name: Name of the speaker
- Version: Firmware version of the speaker
- Update State: Shows if the speakers needs an update.

Update procedure speakers

- 1) After opening the AED Audio updater software, connect all speakers that need a software update.
- 2) All the connected speakers will be displayed in the list, select all the speakers that you wish to update. This is possible via multiple options:
 - o Select the speakers manually in the list.
 - o 'Select All': Select all the speakers displayed in the list.
 - o 'Select All FLEX6': Select all the FLEX6 speakers displayed in the list.
 - o 'Select All SOLID15': Select all the SOLID15 speakers displayed in the list.
 - o 'Select All SOLID28': Select all the SOLID15 speakers displayed in the list.
 - o 'Deselect All': Unselect all the speakers, no speaker will be selected anymore.
- 3) Click on the 'Update' button under the control section.
- 4) All the speakers will update to the latest firmware, the speakers will do a power cycle after the upload of the new firmware.

Notes

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