



unIFY Control Panel

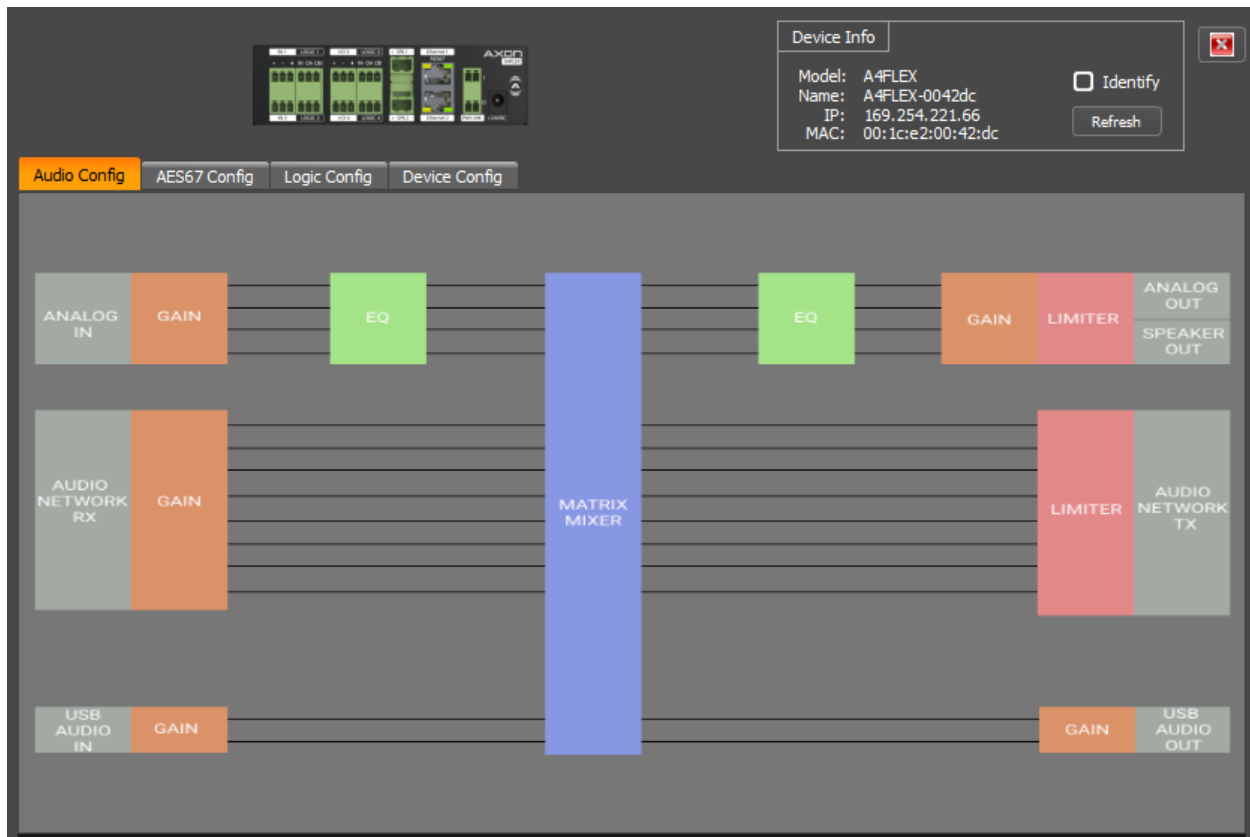
Axon A4FLEX Configuration



QSC, LLC • 1675 MacArthur Boulevard • Costa Mesa, CA 92626
Ph: 800/854-4079 or 714/957-7100 • Fax: 714/754-6174

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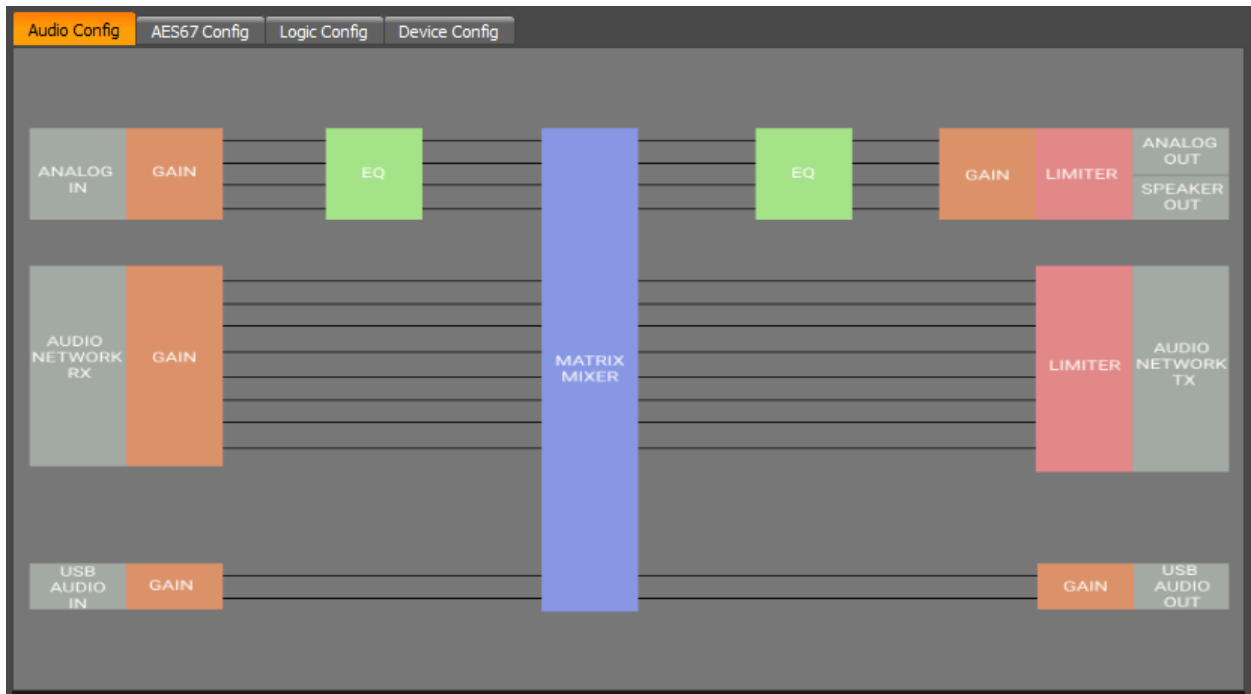


The configuration form for the Axon A4FLEX is organized into four key sections:

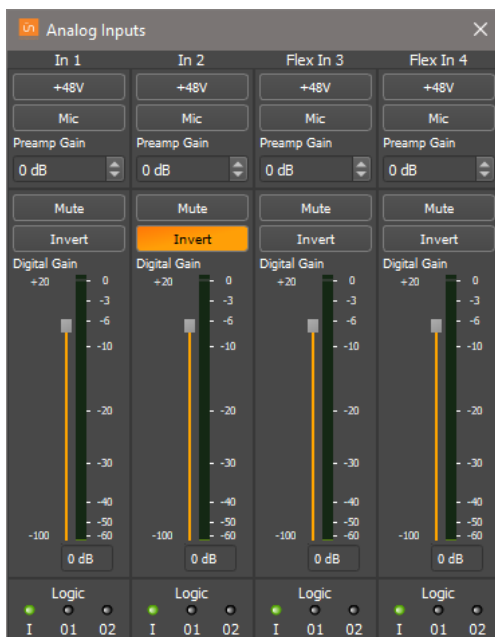
- Audio Config - DSP and mixer setup as well as audio settings such as phantom power and gain
- AES67 Config - AES67 status and settings such as transmit and receive stream configuration
- Logic Config - logic input and out state and event setup for Async messaging
- Device Config - I/O configuration, Ethernet port setup and other device specific settings

Checking **Identify** in the "Device Info" section will make the PWR, NET, USB and I/O LED's all blink white slowly to easily find the device when multiple units are in an installation. Unchecking this control will stop the ID mode.

Audio Config



The audio config section allows configuration of any all of the audio settings. This include both hardware-related settings such as phantom power and input preamp gain and the internal DSP settings such as the mixer options.



Analog Inputs

The "Analog Inputs" section controls all the settings relating to the analog inputs. These include the settings for any flex IO channel configured as an input. Flex IO configured as outputs will have the audio settings grayed out.

+48V - Turns on or off phantom power for that input

Line / Mic - Sets initial base level of input.

Preamp Gain - Adjustable preamp gain from +34dB to -8dB

Mute - Mutes the audio on this input

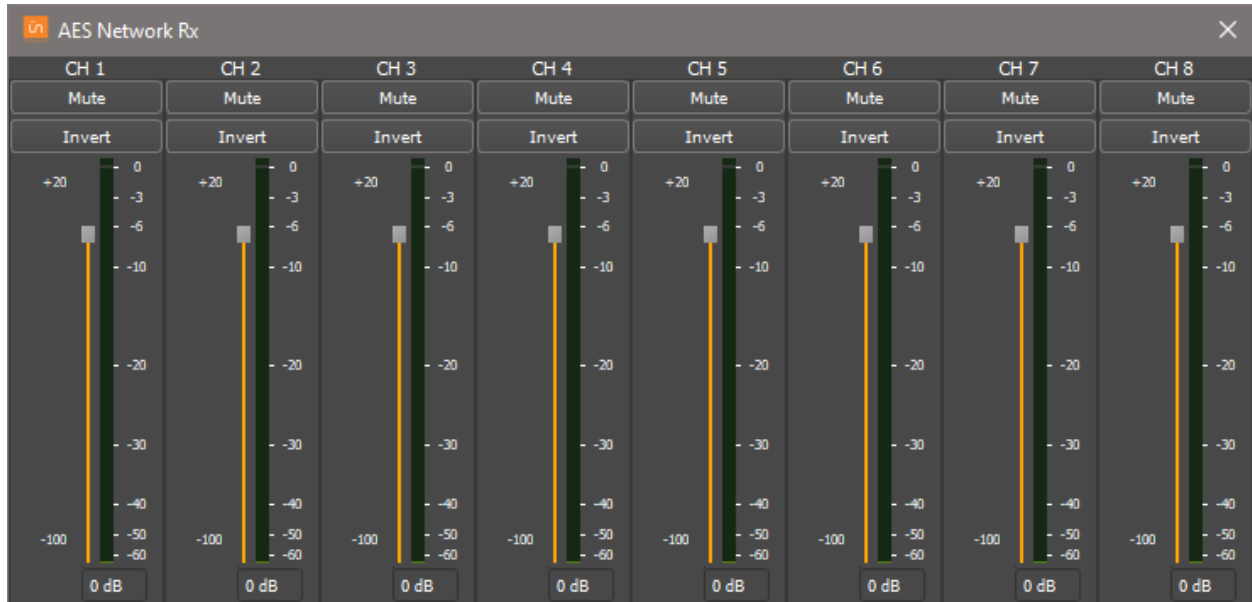
Invert - Apply a 180 degree phase shift to the incoming input signal.

Digital Gain - Apply a digital gain to the input signal as it passes through the DSP. Value applied can be between -100dB and +20dB.

Digital Gain Meter - Meter showing current level post gain control level.

Logic - Indicators that show the current state of the logic inputs and outputs.

AES Network Rx



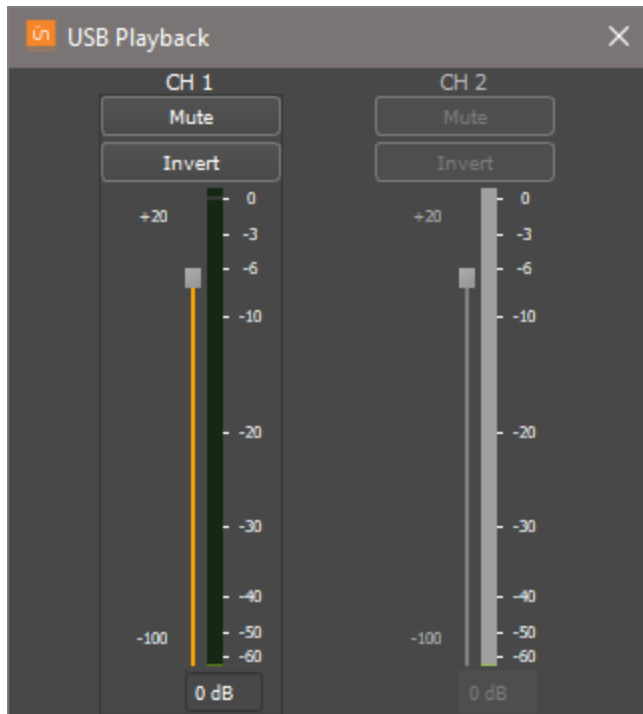
Settings that relate to each of the eight channels sent to the A4Flex over the network.

Mute - Used to mute the audio on this input

Invert - Used to apply a 180 degree phase shift to the incoming input signal.

Digital Gain - Apply a digital gain to the input signal as it passes through the DSP. Value applied can be between -100dB and +20dB.

Digital Gain Meter - Meter showing current level post gain control level.



USB Playback

Settings that relate to for each of the two channels sent to the A4Flex over the USB connection.

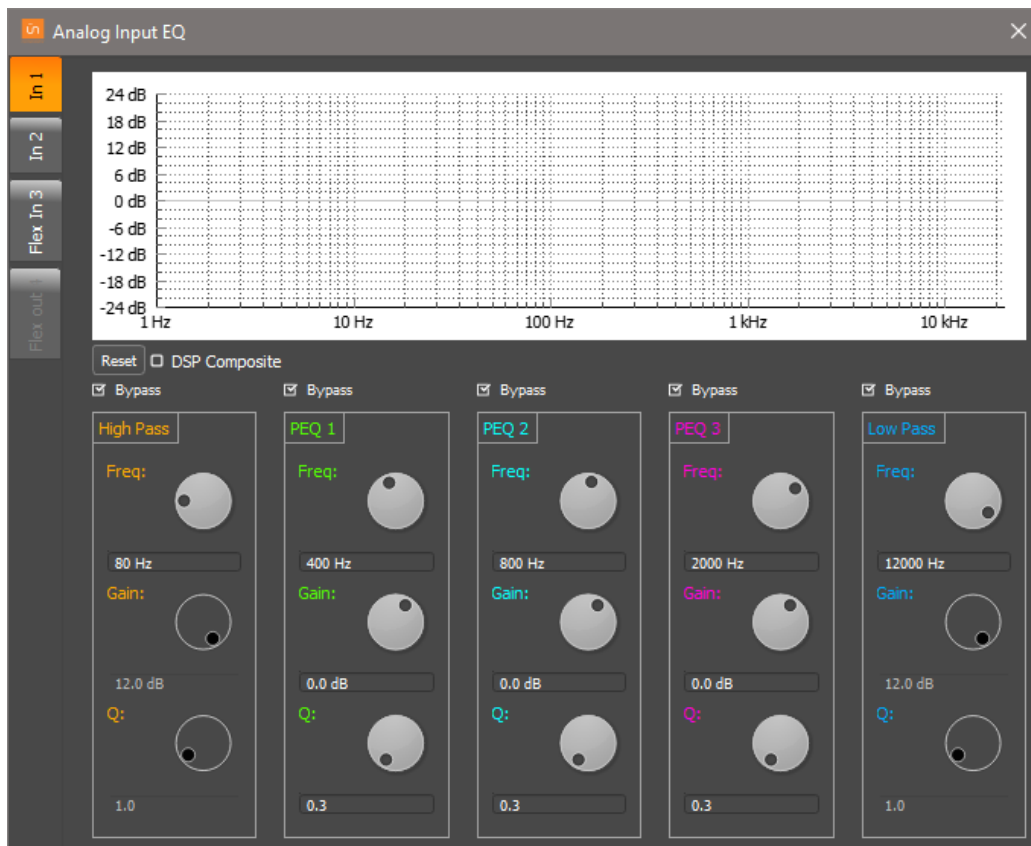
Mute - Used to mute the audio on this input

Invert - Used to apply a 180 degree phase shift to the incoming input signal.

Digital Gain - Apply a digital gain to the input signal as it passes through the DSP. Value applied can be between -100dB and +20dB.

Digital Gain Meter - Meter showing current level post gain control level.

Input and Output EQ



There are two sets of EQ blocks. The "Analog Input EQ" is applied to the incoming analog audio prior to being fed to the mixer. The "Analog Output EQ" is applied to the audio leaving the mixer on its way to analog output and speaker outputs. Both EQ blocks contain the same settings and controls. The audio filters are applied in order from left to right.

DSP Composite - The graph at the top shows the audio "envelope" each filter creates and are color coded to match the controls. Use the "Composite" option to show an overall envelope of all the EQ combined.

Reset - This resets the controls back to a basic

High Pass - High pass filter with separate frequency, gain and Q settings. Bypass option available if not required.

Parametric EQ1/2/3- Three separate parametric EQ filters each with their own frequency, gain and Q settings. Bypass options available at each stage if not required.

Low Pass - Low pass filter with separate frequency, gain and Q settings. Bypass option available if not required.

Mixer

The screenshot shows the Matrix Mixer interface with the following routing matrix:

	FlexIO Out 3	FlexIO Out 4	Speaker Out 1	Speaker Out 2	AES TX Ch 1	AES TX Ch 2	AES TX Ch 3	AES TX Ch 4	AES TX Ch 5	AES TX Ch 6	AES TX Ch 7	AES TX Ch 8	USB Out 1	USB Out 2
Analog In 1					0									
Analog In 2						0								
FlexIO In 3							0							
FlexIO In 4								0						
AES RX Ch 1			0											
AES RX Ch 2				0										
AES RX Ch 3	0													
AES RX Ch 4		0												
AES RX Ch 5													0	
AES RX Ch 6														0
AES RX Ch 7														
AES RX Ch 8														
USB Audio 1									0					
USB Audio 2										0				
Tone Generator: <input checked="" type="checkbox"/> Enable														
Frequency												0		
Level														
1000 Hz														
-24 dB														

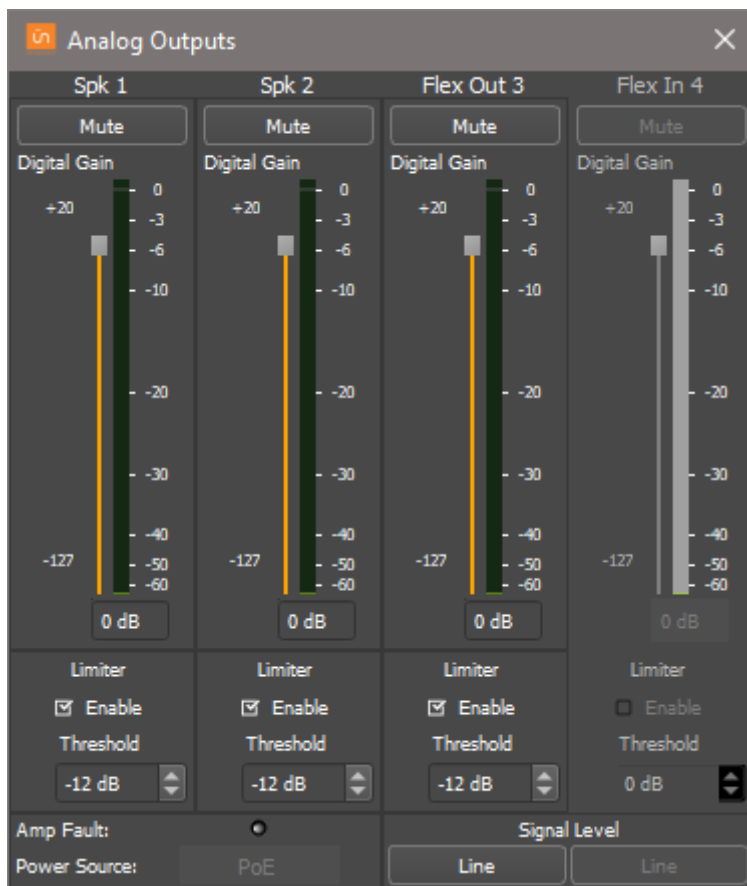
The mixer allow any input signal to be routed to any output signal with each cross point able to accept a value from -100dB to 0dB. Cross points not showing a value are set at -100 while those with a value of "0" will be highlighted in orange.

Any rows or columns indicated in light grey are unavailable and cannot be changed. This happens for the Flex IO channels depending on their configuration.

There are several methods to change a cross point value:

1. **Mouse scroll wheel** - Place the mouse cursor over a cell and then using the scroll wheel to adjust the value up or down.
2. **Up/Down Arrow keys** - Left-click on a cross point to show a text entry cursor then use the up or down arrow keys to either increment or decrement the value by 1 respectively.
3. **Page Up/Down keys** - Left-click on a cross point to show a text entry cursor then use the "Page Up" or "Page Down" keys to either increment or decrement the value by 1 respectively.
4. **Keyboard entry** - Left-click on a cross point to show a text entry cursor then type the new value.
5. **Context menu** - Right-click on a cross point and select either "step-up" or "step down" option to increment or decrement the value by 1.

If a cross point turns orange when clicked on, that cell is disabled and won't allow value entry.



Analog Outputs

The "Analog Outputs" section controls all the settings relating to the speaker outputs. These include the settings for any flex IO channel configured as an output. Flex IO configured as inputs will have the audio settings grayed out.

Mute - Mutes the audio on this input

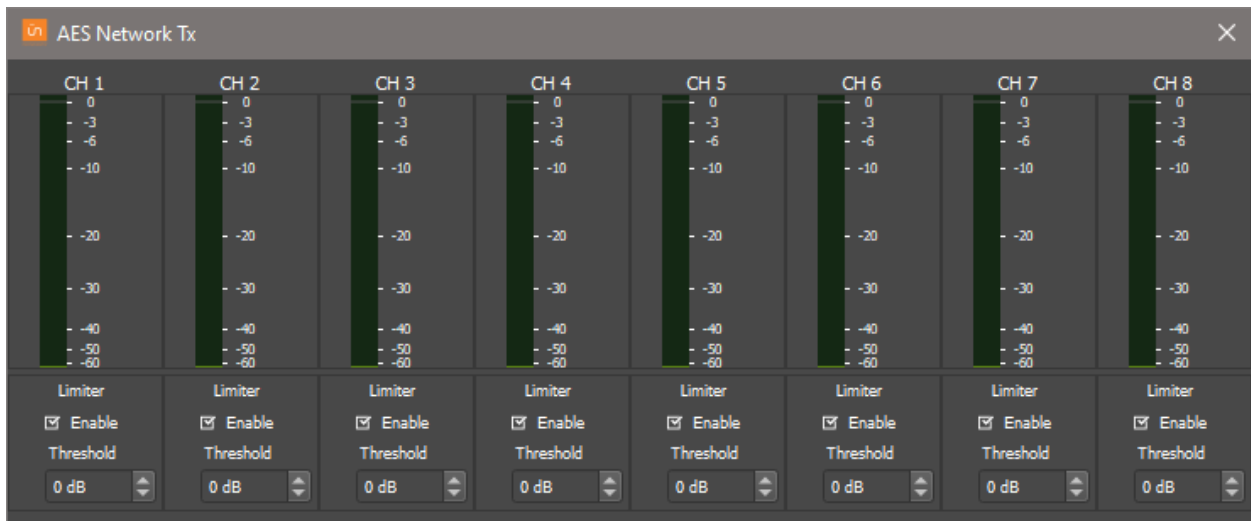
Digital Gain - Apply a digital gain to the input signal as it passes through the DSP. Value applied can be between -100dB and +20dB.

Digital Gain Meter - Meter showing current level post gain control level.

Limiter - Can be enabled or disabled. Threshold is -100dB to +20dB.

Signal Level - (FlexIO outputs only) Sets base level of output to be "Line" or "Mic" level.

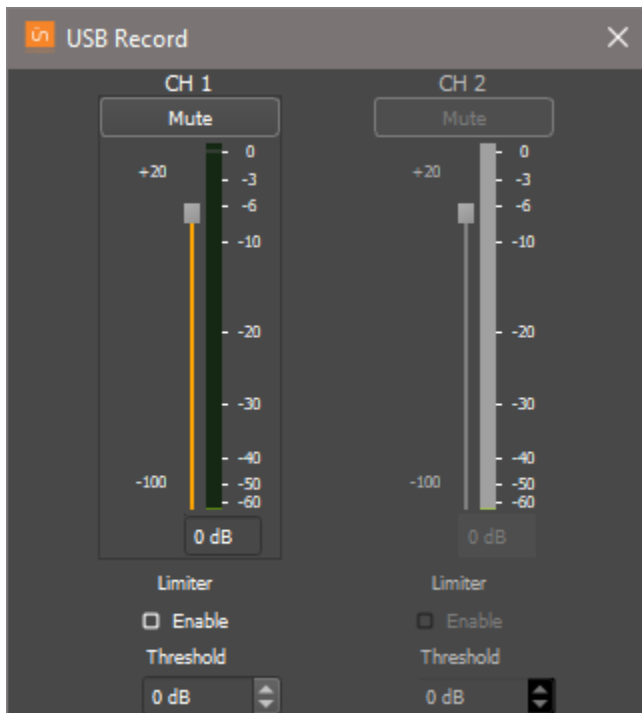
AES Network Tx



Settings that relate to each of the eight channels transmitted over the network from the A4FLEX.

Digital Gain Meter - Meter showing current level.

Limiter - Can be enabled or disabled. Threshold is -100dB to +20dB.



USB Out

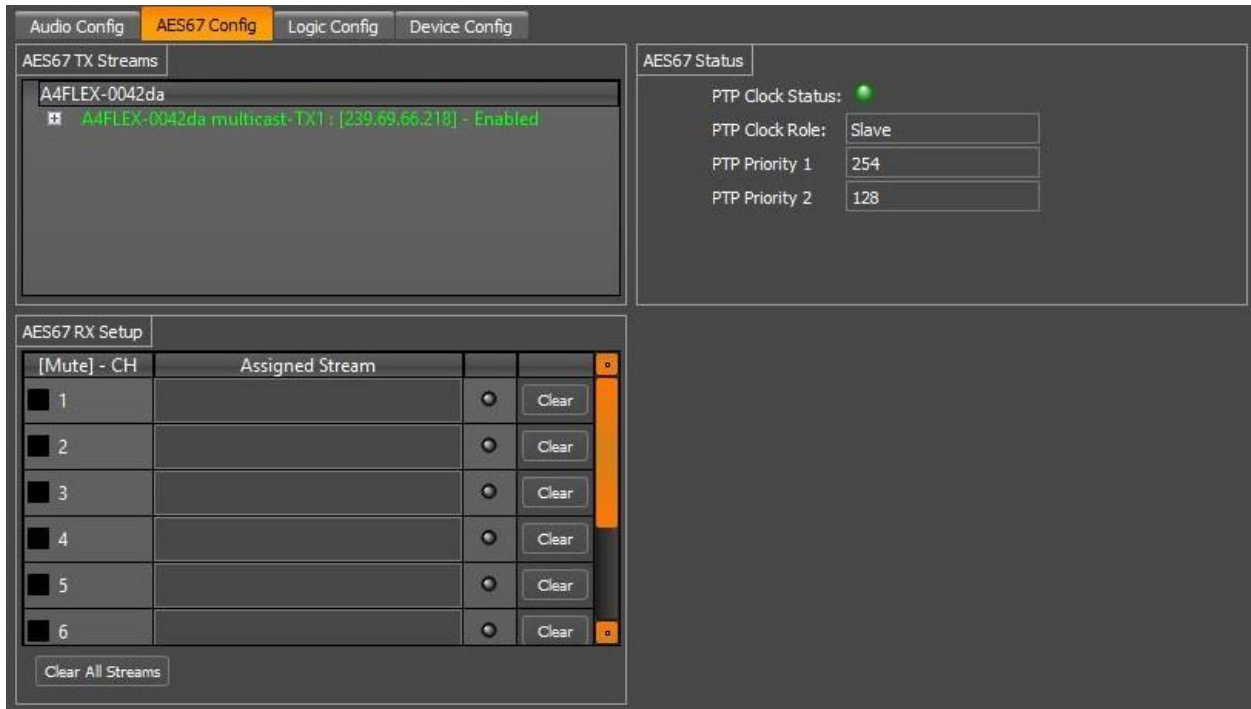
Settings that relate to for each of the two channels transmitted over the USB connection from the A4Flex.

Digital Gain - Apply a digital gain to the input signal as it passes through the DSP. Value applied can be between -100dB and +20dB.

Digital Gain Meter - Meter showing current level post gain control level.

Limiter - Can be enabled or disabled. Threshold is -100dB to +20dB.

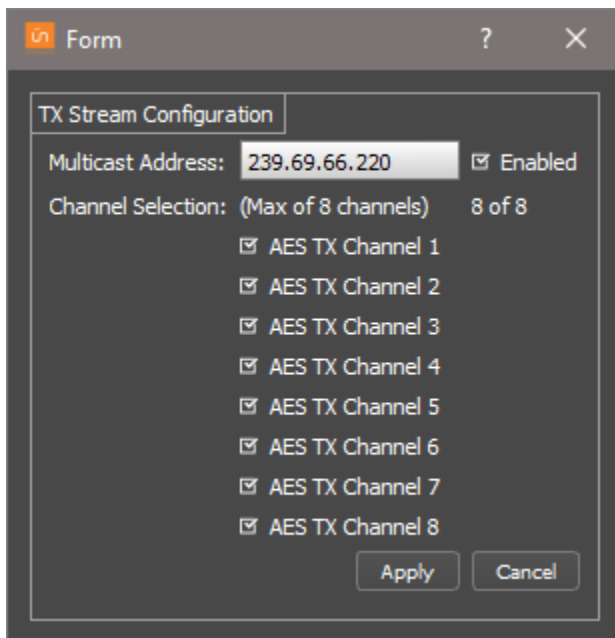
AES67 Config



The screenshot shows the AES67 configuration interface with the following sections:

- Audio Config** (selected), Logic Config, Device Config
- AES67 TX Streams**:
 - A4FLEX-0042da
 - A4FLEX-0042da multicast-TX1: [239.69.66.218] - Enabled
- AES67 Status**:
 - PTP Clock Status: ●
 - PTP Clock Role: Slave
 - PTP Priority 1: 254
 - PTP Priority 2: 128
- AES67 RX Setup**:

[Mute] - CH	Assigned Stream		
<input type="checkbox"/> 1		<input type="radio"/>	Clear
<input type="checkbox"/> 2		<input type="radio"/>	Clear
<input type="checkbox"/> 3		<input type="radio"/>	Clear
<input type="checkbox"/> 4		<input type="radio"/>	Clear
<input type="checkbox"/> 5		<input type="radio"/>	Clear
<input type="checkbox"/> 6		<input type="radio"/>	Clear
- Clear All Streams



The screenshot shows the TX Stream Configuration dialog box with the following details:

- Form** (Title Bar)
- TX Stream Configuration** (Section Header)
- Multicast Address: 239.69.66.220 Enabled
- Channel Selection: (Max of 8 channels) 8 of 8
 - AES TX Channel 1
 - AES TX Channel 2
 - AES TX Channel 3
 - AES TX Channel 4
 - AES TX Channel 5
 - AES TX Channel 6
 - AES TX Channel 7
 - AES TX Channel 8
- Buttons: Apply, Cancel

AES67 Tx Streams

Used to configure the transmit streams. The list shows basic details about streams. To edit a stream, right-click on it and select either "Enable/Disable" to toggle the state or choose "Configure"

[Mute] - CH	Assigned Stream		
1		<input type="radio"/>	Clear
2		<input type="radio"/>	Clear
3		<input type="radio"/>	Clear
4		<input type="radio"/>	Clear
5		<input type="radio"/>	Clear
6		<input type="radio"/>	Clear

Clear All Streams

AES67 RX Setup

The table shows the AES67 receiver setup for each channel. To configure a channel, use the AES67 stream list and expand the required stream to show its individual channels. Drag the desired channel in the stream and drop it on the desired receiver channel. The indicator shows the state of the stream. If the indicator is "Off" then audio is not currently routed on the device. If it's red there is some sort of stream issue. If it's green then the stream is routed and OK.

issue. If it's green then the stream is routed and OK.

AES67 Status

PTP Clock Status: ●

PTP Clock Role:

PTP Priority 1:

PTP Priority 2:

AES67 Status

PTP Clock Status - Indicates if the device is sync'd to the main system clock. A green indicator show that it is.

PTP Clock Role - Indicates if the device has been elected to be a clock master or is just a clock slave.

Priority 1/2 - Indicate what the device priorities are set too which form part of the clock master election process.

Logic Config

Device Config | **Logic Config** | DSP | AES67

Input 1 Config | Input 2 Config | Input 3 Config | Input 4 Config

Modes

Digital Trigger:

Event Messages

Digital High: CR LF

Digital Low: CR LF

IP Address:

Port #:

Settings have changed and need applied Apply Settings

Logic Output Status

Out 1A <input type="radio"/> <input type="checkbox"/> Enable	Out 2A <input type="radio"/> <input type="checkbox"/> Enable	Out 3A <input type="radio"/> <input type="checkbox"/> Enable	Out 4A <input type="radio"/> <input type="checkbox"/> Enable
Out 1B <input type="radio"/> <input type="checkbox"/> Enable	Out 2B <input type="radio"/> <input type="checkbox"/> Enable	Out 3B <input type="radio"/> <input type="checkbox"/> Enable	Out 4B <input type="radio"/> <input type="checkbox"/> Enable



Each input has a select tab for setting up asynchronous input event messages. The trigger can be set to "None", "Rising", "Falling" or "Both". When set to "None" the control system will have to poll the inputs to detect a change of state. For settings that do generate an asynchronous message, each input has a configurable destination IP address and port for its events and each event type also has its own separate payload.

The output states are also shown. The "toggle" buttons can be used to swap the individual output levels for test purposes.

Device Config

Device Name

Set a new name for the device (current name is shown in the "Device Info" section). Type the new name and click "Apply"

Ethernet

Set the mode for the Ethernet ports. Selecting switched configures both ports on the same network. Selecting "Independent" configures the ports to be on separate networks with "Ethernet 1" being the audio port and "Ethernet 2" being the control port.

Power Settings

The "Power Source" field is read only to indicate where the device is currently deriving its own power from. Options are "DC", "PoE", or "PoE+".

PTP Controls

QoS Mode - Q-LAN/AES67 audio and Dante™ audio require differing QoS settings and switches can only be configured to deal with traffic QoS in one way. In order to make sure that QoS settings on the switch can apply



Attero Tech by QSC unIFY Control Panel Axon A4FLEX Configuration

equally to both Q-LAN/AES67 and Dante™ traffic, the QoS mode can be specifically selected. Use the following table to select an appropriate value.

Network Traffic	QoS Setting
Q-LAN only	PTPV2:46 Audio:34 (AES67)
Q-LAN + AES67	PTPV2:46 Audio:34 (AES67)
Dante™ only	PTPV2:56 Audio:46 (Dante™)
Dante™ + Q-LAN	PTPV2:56 Audio:46 (Dante™)
Dante™ + Q-LAN + AES67	PTPV2:56 Audio:46 (Dante™)

Flex IO

Set the configuration for each FLEX I/O. Each can either be an input or an output. The default setting is input.