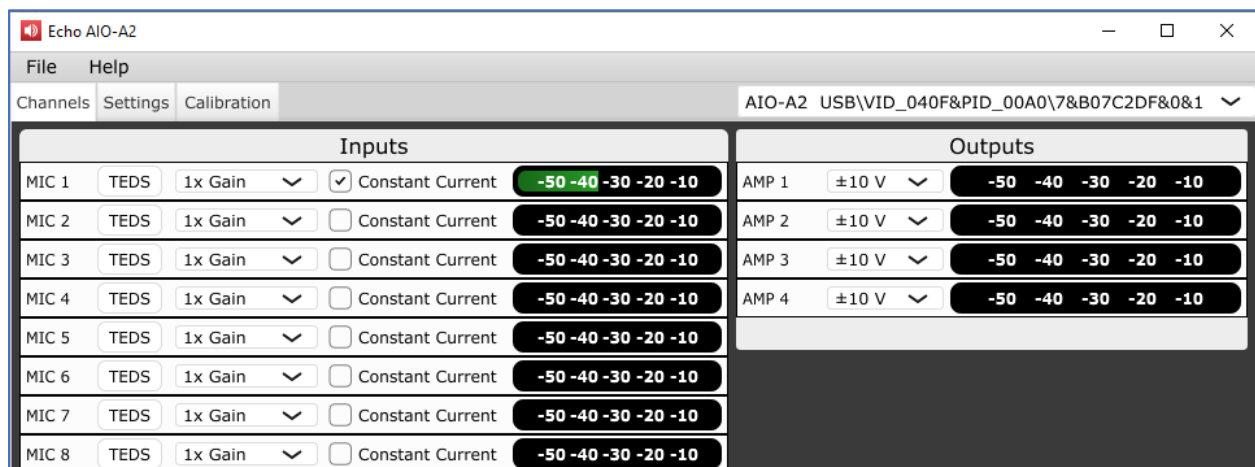# APx500 Flex Setup Guide

Echo AIO-A2

Overview

Before an Echo Audio AIO-A2 can be used with APx500 Flex, the device driver must be installed and the settings configured using the Echo AIO Control Panel. CCP power may also be enabled. Follow the steps below to set up your device.

Driver installation

1. Connect a power cable to the Echo interface and the interface to a PC via USB.
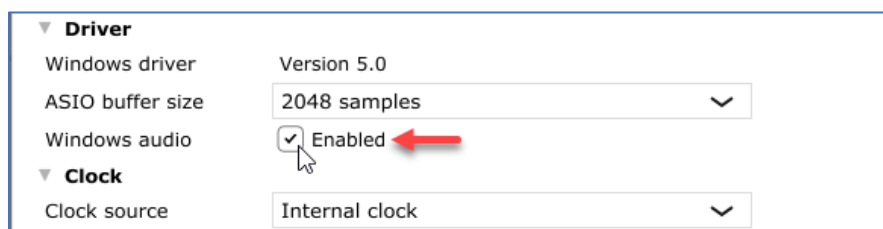2. Install the device driver on the PC, following the prompts displayed.

Device configuration

1. Launch the Echo AIO Control Panel.
2. On the Channels tab, set the Gain on all inputs to "1x Gain".
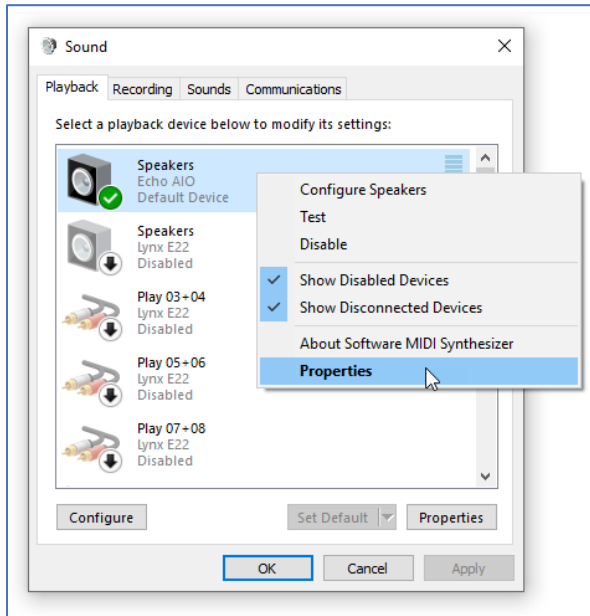3. Set the range of all outputs to "+-10V".

The Echo AIO Control Panel

4. View the Settings tab.
5. Set the ASIO Buffer size to "2048 samples."
6. To ensure the device playback and recording volume is set to 100%, temporarily enable the "Windows audio" checkbox as shown below.

The "Windows audio" and "ASIO buffer size" settings

7. Open the Windows "Sound" control panel.
   a. View the Playback tab.
   b. Right-click on Speakers (Echo AIO) and select "Properties".
   c. View the Levels tab and set the level to 100 (the maximum).
   d. Confirm changes.
   e. View the Recording tab and repeat steps "b". through "d." for device "Line (Echo AIO)".

The Windows "Sound" control panel

8. Switch back to the Echo AIO Control Panel and disable the "Windows audio" checkbox.

Enabling CCP power

Many measurement microphones (such as the GRAS 46AE, a free-field microphone often used to test loudspeakers) require Constant Current Power (CCP) in order to function. To enable CCP on one of the AIO mic inputs, open the Echo AIO Control Panel and enable the "Constant Current" checkbox next to the desired input channel.

Configuring the APx500 software

Once the device has been configured, the output and input scaling factors must be entered into the APx500 software on the appropriate ASIO channels to allow accurate generation and analysis in analog units. Use one of the following methods to configure APx500.

Project file method

To simplify this process, Audio Precision has provided a project file preconfigured for the following inputs and outputs:

- Inputs: MIC1 – MIC8 (BNC).
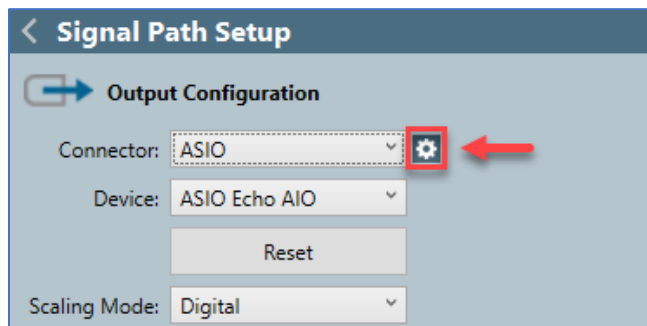- Outputs: AMP1 - AMP4 (Euroblock)

Load the project file included with this setup guide to finish the setup process.

Note: if the APx500 analyzer is licensed for less than eight ASIO channels, the number of mapped output and input channels will be automatically reduced to the number of licensed channels. To increase the number of licensed channels, please contact your sales representative using the information provided on the Audio Precision website.

Manual configuration method

Use the steps below to manually configure the APx500 software for use with your Echo interface.

1. Start the APx500 software.
2. Set "Device" to "ASIO Echo AIO" in either the output or input configuration panel.
3. Open the ASIO Settings dialog by clicking the cog next to either the output or input Connector drop-down (see image below).

ASIO Settings cog location

4. Disable "Auto Map Channels".
5. Map the desired output and input channels. The ASIO channel and hardware channel correlations are described in the table below.
6. Close the Settings dialog.
7. Set the output "Scaling Mode" to "Analog".
8. Set the output scaling factor to "9.55 V/FS".
9. Set the input "Scaling Mode" to "Analog".
10. Set the input scaling factor for each channel based on which inputs were mapped, using the table below as a reference.

Output & Input Scaling Factors			
Interface Output[1, 3]	**Connection Type**	**ASIO Output Channel**	**Sensitivity**
AMP 1-4	Euroblock	Analog 1-4	9.55 V/FS
Interface Input[2, 3]		**ASIO Input Channel**	
MIC 1-8	BNC	Analog 1-8	0.16 FS/V

[1]Measured with outputs set to +-10 V.

[2]Measured with input gains set to 1x.

[3]Measured with Windows Playback and Recording device volume set to 100%.