

Echo AIO-SA

Multichannel Acoustic Test Interface
with impedance measurement



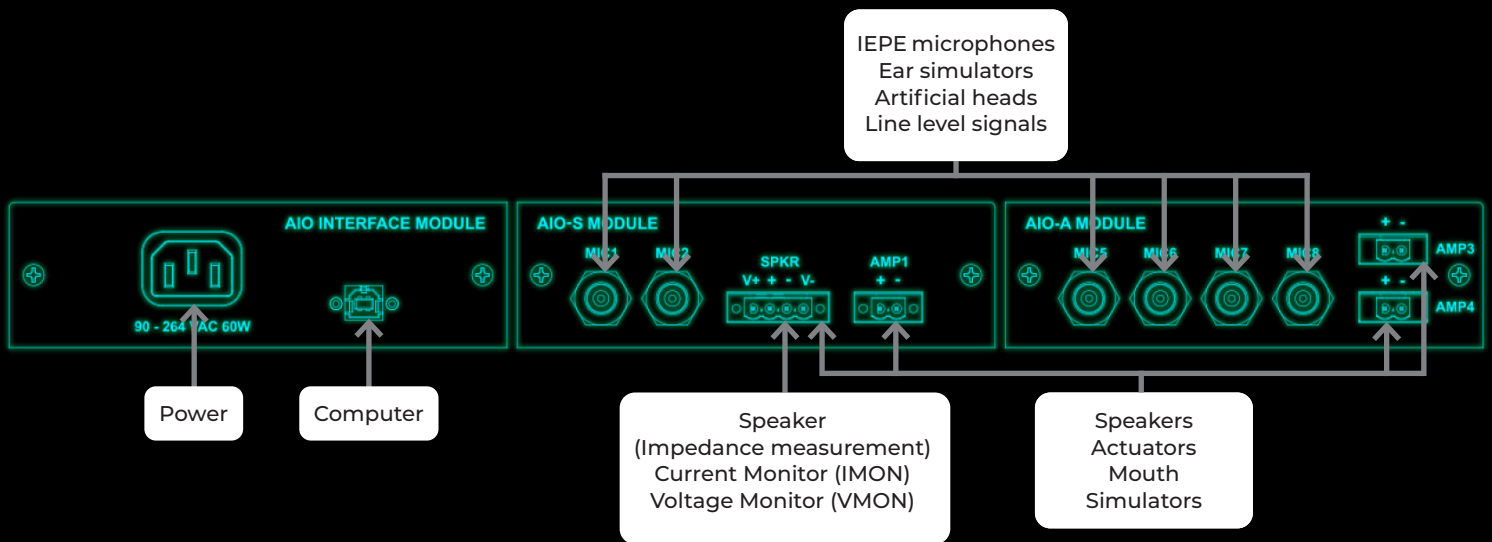
The **Echo AIO-SA** is a multichannel acoustic interface designed for production-line testing and QA/QC verification. Combining four 10W amplifier outputs and six mic/line analog inputs in a single unit, the AIO-SA is an integrated, cost-effective, and reliable high-throughput audio test solution. One of the amplifier outputs includes a 0.1 Ω sense resistor to facilitate impedance measurements. Two additional line inputs are dedicated to voltage monitoring (VMON) and current monitoring (IMON) for impedance measurements.

Each analog input can be individually configured as a line level input or as a measurement microphone input. Microphone inputs include an IEPE microphone conditioning amplifier with integrated constant current power supply (CCP).

The AIO-SA presents a standard USB audio sound card interface and is compatible with most audio test software including APx500 Flex, LabVIEW, SoundCheck, and ARTA.



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AIO-SA SPECIFICATIONS

Microphone / Line Inputs

Input bandwidth	72 kHz
Input impedance	1 MΩ
Input gain	1x, 10x, and 100x
Full-scale input voltage (1x gain)	8.75 Vpk
Maximum input voltage	15 Vpk (do not exceed)
Dynamic range (1x gain, A-weighted)	> 110 dB
THD+N (1x gain, A-weighted)	< -95 dB (20 Hz – 20 kHz)
Frequency response	±0.5 dB (20 Hz – 20 kHz)
Constant current supply	4 mA, 21 V excitation voltage
TEDS	IEEE 1451.4 Class 1

Amplifier Outputs

Output power (THD+N < .1%)	10 W continuous at 1 kHz
Maximum output voltage	13.5 Vpk
Frequency response	±0.5 dB (20 Hz – 20 kHz)

Impedance Measurement

Frequency response	±0.5 dB (20 Hz – 20 kHz)
Full-scale input voltage	17.5 Vpk
Full-scale input current	8.75 Apk
THDN (1x gain, A-weighted)	< -95 dB (20 Hz – 20 kHz)

Interface

Sample rates	48 kHz, 96 kHz, and 192 kHz
USB	USB 2.0 audio class compliant
Supported operating systems	Windows 7 or later, macOS
Audio APIs	ASIO, WASAPI, CoreAudio
AC power	Universal power supply, 90 - 264 VAC at 50 or 60 Hz

Dimensions and Weight

Single unit	17.5" (44.4 cm) x 8.75" (22.2 cm) x 1.75" (4.4 cm), 7.2 lbs (3.3 kg)
Single unit boxed with cables	21" (53 cm) x 10" (25.4 cm) x 5" (12.7 cm), 8.75 lbs (4 kg)
Shipping carton (4 AIOs)	22" (55.8 cm) x 22" (55.8 cm) x 12.6" (32 cm), 42.5 lbs (19.3 kg)