Audio Analyzer A2

Cost-Effective Testing Solution for Laboratories and Production Lines

A2 is a cost-effective analog dual-channel audio analyzer. Its system performance and functions are positioned between A5 and A10, supporting various electroacoustic testing options and digital interface extensions (BT/HDMI/I2S). It serves as a cost-effective solution for preliminary R&D and production line testing of consumer audio products.

Performance Indicators

System Performance	
Residual THD+N (20kHz BW):	-106dB

Signal Source Indicators	
Sine Wave Frequency Range	2 Hz to 80.1 kHz
Frequency Accuracy	3ppm
IMD Test Signals	SMPTE, MOD, DFD
Maximum Output Amplitude (Balanced)	16Vrms
Amplitude Accuracy (1kHz)	±0.05dB
Amplitude Flatness (20Hz-20kHz)	±0.01 dB
Analog Output Configuration	Balanced & Unbalanced
Maximum Digital Output Sampling Rate	216kHz
Sampling Accuracy	3ppm
Bit Depth	8-24 bit
Dolby/dts Signal Source	Yes (Pre-encoded Files)

Analyzer Indicators	
Maximum Rated Input Voltage	230 Vpk
Maximum Bandwidth	90kHz
IMD Testing Functions	SMPTE, MOD, DFD
Amplitude Accuracy (1kHz)	±0.05dB
Amplitude Flatness (20Hz—20kHz)	±0.01dB
Residual Input Noise (20kHz BW)	1.3μV
Independent Harmonic Analysis	d2-d10
Maximum FFT Length	1.2M points
DC Voltage Measurement	

Key Features

- Analog dual-channel input/output
- Standard support for SPDIF/TOSLINK/AES/EBU/ ASIO digital interfaces
- Support for BT/HDMI/I2S interface expansion
- Complete and powerful electroacoustic analyzer functions
- Up to 60 test functions, including oscilloscope, spectrum analyzer, continuous fast scanning, etc.
- Comprehensive testing within 3 seconds without any programming
- Support for LabVIEW, VB.NET, C#.NET, Python
- Automatic generation of test reports in various formats
- Support for Dolby & DTS digital stream playback

Options

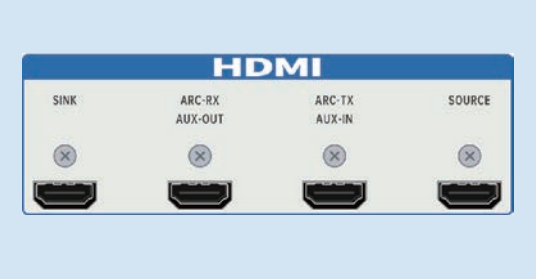
Bluetooth R&D Interface Option	AX-BT-RD
Bluetooth Production Line Interface Option	AX-BT-PT
DSIO Interface Option	AX-DSIO
HDMI Interface Option	AX-HDMI
Electroacoustic R&D Test Option	AX-SPK-RD
Electroacoustic Production Line Test Option	AX-SPK-PT
Perceptual Audio Test Option	AX-PESQ/AX-POLQA2
Speech Transmission Test Option	AX-STIPA

General Specifications

Dimensions (W×D×H)	480mm*405mm*153mm
Weight	8kg±0.5kg
Operating Voltage (AC)	220V,50Hz/100V-240V,50Hz-60Hz

A2/A4 Digital Input/Output Options

AX-HDMI Option

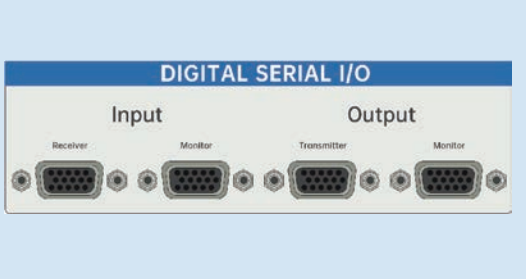


The HDMI+ARC (Audio Return Channel) is a versatile audio monitoring and measurement option. It is powerful, easy to use, and provides accurate measurement results, making it widely applicable to audio quality testing of multimedia products. It offers all standard audio measurement items, including level, signal-to-noise ratio, distortion, phase, crosstalk, group delay, etc.

Main Features

- Execution Standard:HDMI1.3
- Interface Type: type A
- Channel Numbers: 2,8
- Bit Depth: 8bit to 24bit
- Supported Formats: PCM, Dolby Digital, DTS, etc.
- Connectivity for ARC-supported receivers and TVs
- Capability to generate linear PCM audio streams, supporting the creation of lossless formats (Dolby TrueHD and dts-HD) and compressed formats (Dolby Digital and dts Digital Surround) from pre-encoded audio test files
- Compatibility with downsampling/mixing/ transcoding functions
- Support for HDMI Audio Return Channel
- Ability to view and edit HDMI Enhanced Extended Display Identification Data (E-EDID)
- Capability to generate video signals (resolution up to 1080P) and support for third-party video

AX-DSIO Option



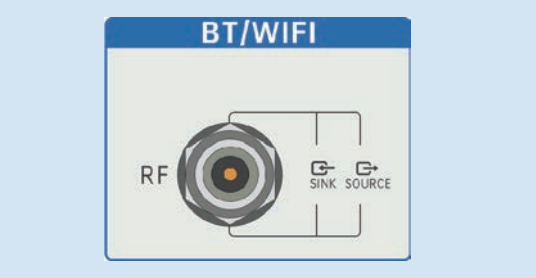
The DSIO option adds multi-channel digital serial interfaces to the audio analyzer, providing direct connections for chip-level interfaces, which plays a decisive role in circuit board design and R&D. It is easy to use, provides accurate test results, and can be widely applied to audio quality testing of various digital devices.

Main Features

- Hardware Interface: HD-15 connector
- Channel Numbers:1,2,4,8
- Formats: I2S, DSP, Left Justified, Right Justified
- Pulse Voltage:1.8V, 2.5V, 3.3V
- Data Length: 8-32 bits
- Word Length: 8-128 bits
- Sampling Rate:4 kHz-192 kHz
- Master Clock Rate: 4 kHz-49.152 MHz
- Master Clock Source: Transmitter (external/ internal), Receiver (external/internal), Master clock reversible
- Bit/Clock Direction: Transmitter (IN/OUT), Receiver (IN/OUT)
- Bit Clock Edge Synchronization: Rising or falling
- Jitter: Select ON or OFF
- Multi-channel Configuration: TDM and multiple data connections (1/2/4/8 channels)
- Features a simple and flexible configuration interface, allowing saving or loading of test configurations to facilitate user testing and greatly improve test efficiency

A2/A4 Digital Input/Output Options

AX-BT-RD Option

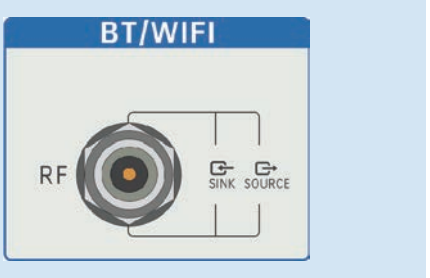


The BT option is the most cost-effective solution for current Bluetooth audio testing. With built-in Bluetooth wireless and Bluetooth protocol stack, it enables engineers to directly measure Bluetooth devices, eliminating the uncertainty and inconvenience of Bluetooth Dongles, making Bluetooth audio testing faster, simpler, and more reliable for R&D and production testing.

Main Features

- **Bluetooth Device Core Version:** 3.0
- **Profile Versions: A2DP v1.3, AVRCP v1.4, HFP v1.7, HSP v1.2**
- **A2DP Audio Codecs:** SBC，aptX
- **HFP Audio Codecs:** CVSD，mSBC
- **RF Connection: N-type female, N-SMA**
- **RF Input Impedance:** 50 Ω typical
- **RF Output Impedance:** 50 Ω typical
- **RF Power:** Typical maximum +4 dBm
- **RF Sensitivity:** ≤ -81 dBm Typical

AX-BT-PT Option



The BT-PT version Bluetooth module is a Bluetooth function option developed based on the needs of production line testing. It simplifies the pairing and connection process of traditional Bluetooth modules, enabling fast pairing and connection in a very short time, and has strong Bluetooth compatibility. It is mainly applied to the production lines of Bluetooth audio products or preliminary R&D testing.

Main Features

- **Bluetooth Device Core Version：** 3.0
- **Profile Versions：** A2DP v1.3，AVRCP v1.4，HFP v1.7，HSP v1.2
- **A2DP Audio Codecs:** SBC
- **HFP Audio Codecs:** CVSD，mSBC
- **RF Connection: N-type female**，N-SMA
- **RF Input Impedance:** 50 Ω typical
- **RF Output Impedance:** 50 Ω typical
- **RF Power:** Typical maximum +4 dBm
- **RF Sensitivity:** ≤ -81 dBm Typical

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