APx58x B Series | AUDIO ANALYZERS

8- and 16-channel modular audio analyzers

KEY FEATURES

- Multichannel analog configurations
  APx582: 8 inputs / 2 outputs
  APx585: 8 inputs / 8 outputs
  APx586: 16 inputs / 8 outputs
- Simultaneously measure up to 16 digital channels and 8 analog channels of audio data (v6.0 software release)
- Typical THD+N < –107 dB
- Broadest set of methodologies for detecting rub & buzz defects
- Transfer Function and Open-Loop Measurements
- Support for the complete range of APx digital I/O options

APx586 B Series 16-channel analyzer

APx582 B Series 8-channel analyzer

Channel count meets broad range of digital I/O for simultaneous multichannel audio test

The **APx58x B Series** combines an award-winning user interface with Audio Precision's legendary commitment to fast and accurate performance. APx's user-friendly innovations include a range of connectivity options, two easy-to-use UI modes, one-click measurements, code-free automation, a sophisticated reporting engine, and multiple signal paths within a project.

A true multichannel analyzer

The **APx585 B Series** is a true multichannel audio analyzer, with 8 simultaneous analog outputs and inputs for testing multichannel audio devices. A multichannel analyzer allows not just faster testing, but also a complete picture of performance that a two channel analyzer with switchers might miss, such as output sag across channels during full power output tests or phase and crosstalk interactions. With the HDMI option, it is ideal for designing and testing consumer devices such as home theatre receivers.

The APx586 B Series adds a second input module for 16 simultaneous analog input channels, ideal for high-speed, high-channel count test such as automotive or pro audio mixers andother applications.

The **APx582 B Series** provides the same 8 channels of analog input, but with 2 channels of high-performance analog output that includes DIM/TIM distortion tests and selectable output impedances of 20, 50, 75, 100, and 600 Ω.

Automation and reporting

Repetitive bench tests and production testing can easily be automated with the built-in measurement sequencer, and saved as a project that can be used with any APx analyzer. Production Test mode provides an optional simplified operator interface with multiple run statistics, created and supervised by a manufacturing engineer. Access the API if you prefer: documentation for VB.NET, C#.NET, MATLAB and LabVIEW is included. Create powerful reports with Microsoft Word that let you define your own formatting and add graphs, tables and logos.

OPTIONS

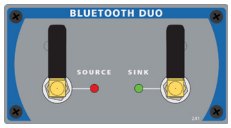
Select the options that match your needs. All models use the same software, so sharing projects is easy and modular hardware

DIGITAL I/O & CLOCK

Bluetooth®	Adds dual radios for Bluetooth Classic wireless audio test
Bluetooth® 5	Adds Bluetooth LE cababilities for Unicast Music and Auracast (transmit) as well as Unicast Voice (transmit and receive)
HMDI2+eARC	Adds HMDI source, sink, monitor aux and eARC I/O
AMC	Advanced Master Clock adds jitter clock, sync and trigger
PDM 16	Adds simultaneous 16 channel input capability for digital MEMS mics
ADIO	Adds AES, SPDIF and TOSLINK, Jitter with AMC
PDM	Adds direct connectivity for digital MEMS mics
PSIO	Adds interface for I^2S, TDM, DSP

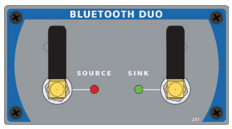
APxDigital Options

APx B Series audio analyzers offer world-class performance and flexibility. Our modular systems allow you to select the interfaces and options that make sense for the work you do, covering the widest range of digital I/O in the industry. Select models support jitter generation and analysis when installed in AMC-configured APx analyzers.



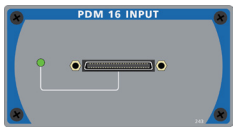
Bluetooth®5

The B Series APx Bluetooth 5 supports LE with the LC3 codec With up to 48 kHz sample rates, Unicast Music and Auracast (transmit) and Unicast Voice (transmit and receive), testing support includes Bluetooth LE headsets, ear buds, hearing aids, and speakers.



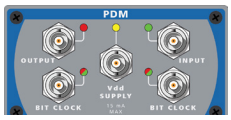
Bluetooth® Duo

The B Series APx Bluetooth Duo supports A2DP, AVRCP, HFP, and HSP profiles for comprehensive wireless audio testing. With two integrated radios, APx Bluetooth Duo easily supports source/sink, audio gateway/handsfree, and target/controller profile roles.



PDM 16

The B Series APx PDM 16 option provides 16 acquisition channels for audio devices that have a PDM output (such as MEMS microphones), connecting through the module's PDM 16 remote pod. All 16 channels can be measured simultaneously to provide sample-accurate interchannel timing information. With cables available in lengths of 2, 5, and 10 meters, the acoustically silent remote pod can be placed next to the analyzer or up to 10 meters away, facilitating anechoic chamber testing.

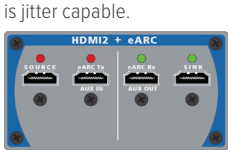


PDM

The APx PDM option provides direct connectivity for audio devices that have a PDM output (such as a MEMS microphone) or input (such as the decimator on a smartphone chip). In addition to all the standard audio measurements, APx provides variable DC voltage, variable sample rate, and a PSR (Power Supply Rejection) measurement to test the device's full operating parameters. This option is jitter capable.

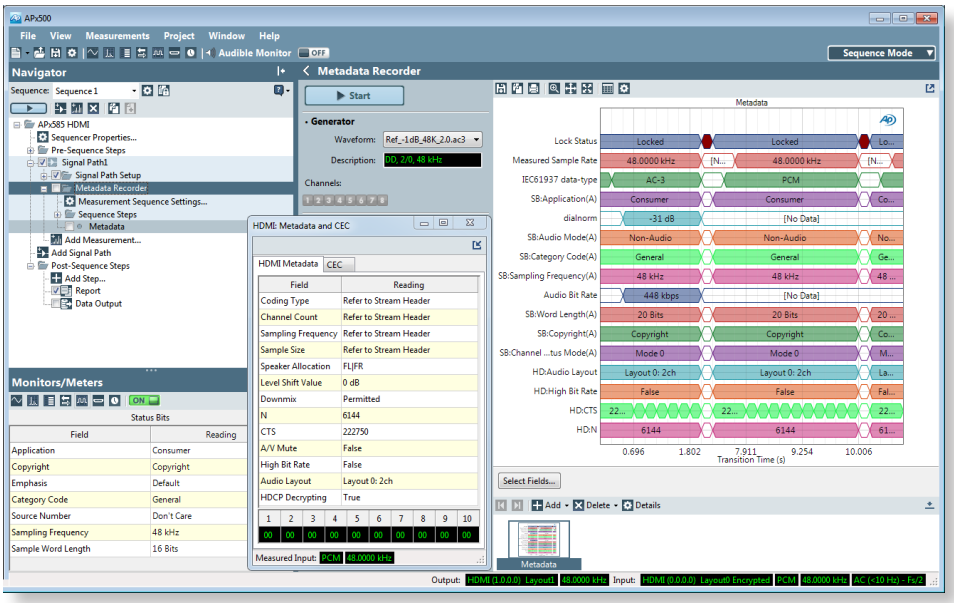
Programmable Serial

The Programmable Serial I/O option adds a multichannel digital serial interface. This provides a direct connection to chip-level interfaces such as I2S and supports all popular serial interface formats including left justified, right justified, and DSP. This option is jitter capable.

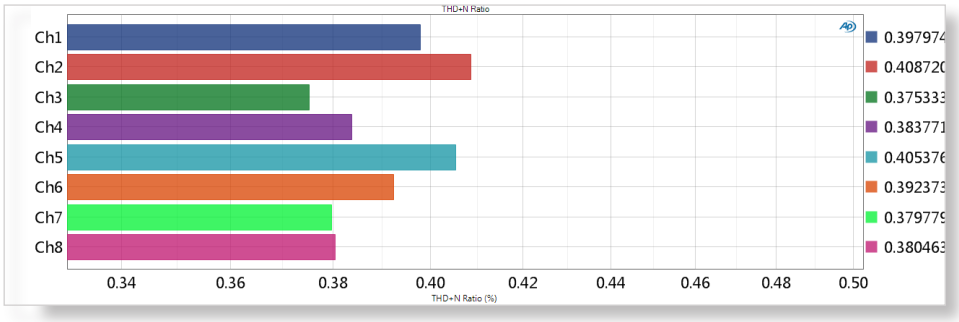


HDMI

The B Series APx HDMI option (HDMI2+eARC) allows you to measure HDMI audio quality and audio format compatibility on devices such as surround sound receivers, set-top boxes, HDTVs, smartphones and tablets, and DVD or Blu-ray Disc™ players.



APx500 Measurement Software metadata recorder tracking metadata changes during an HDMI hotplug event.



APx 585 and 586 are true multichannel analyzers; shown above is an 8-channel THD+N Ratio measurement.

Vesatile, Powerful Audio Test

Combined with APx audio measurement software, the B Series APx audio analyzers integrate power, flexibility and ease-of-use. Choose between Bench Mode for real-time visibility into device behavior across a variety of parameters, and Sequence Mode for fast production testing and automated measurements.

KEY SPECIFICATIONS

SYSTEM PERFORMANCE

Residual THD+N (20kHz BW)
-103 DB + 1.4 µV
Typical <-108 DB (1KHZ, 2.5V)

GENERATOR PERFORMANCE

Sine Frequency Range
5 Hz to 80.1 kHz
Frequency Accuracy
3 ppm
IMD Test Signals
SMPTE, MOD, DFD
Maximum Amplitude (balanced)
14.4 Vrms (APx585 & APx586)
26.66 Vrms (APx582)
Amplitude Accuracy
±0.05 dB
Flatness (20 Hz - 20 kHz)
±0.008 dB
Analog Output Configurations
Unbalanced and balanced
Digital Output Sampling Rate
27 kS/s to 200 kS/s*
Dolby / DTS Generator
Yes (encoded file)

**Optical 27 kS/s to 108 kS/s*

ANALYZER PERFORMANCE

Maximum Rated Input Voltage
160 Vpk
Maximum Bandwidth
1 to 16 channels of analog input 90 kHz
IMD Measurement Capability
SMPTE, MOD, DFD
Amplitude Accuracy (1 kHz)
±0.05 dB
Amplitude Flatness (20 Hz - 20 kHz)
±0.008 dB
Residual Input Noise (20 kHz BW)
1.3 µV
Individual Harmonic Analyzer
d2–d10
Maximum FFT Length
1248K points
DC Voltage Measurement
Yes

ACCREDITED
Certificate# 2527.01

Accredited by A2LA
under ISO/IEC: 17025
for equipment calibration

APx58x Series Software Options

APx500 software options provide measurements and functionality beyond the core set of capabilities standard for the APx58x B Series analyzers. A variety of options are available for electro-acoustic and perceptual audio test needs.

Software licensing options provide APx users several choices for accessing new software releases. Perpetual licenses are available via the SW-EXT (purchased with a new analyzer) or SW-MAINT (purchased for an existing analyzer) options. Time-limited licenses are available via software subscriptions (SW-SUBSCR) and, in the case of subscriptions, provide access to all software versions and options (excluding POLQA).

ELECTRO-ACOUSTIC MEASUREMENTS

PART NUMBER	DESCRIPTION	MEASUREMENT/FEATURES
APX-SW-SPK-PT	Loudspeaker Test: Production	Combines an acoustic measurement (Frequency Response, Phase, Distortion and the broadest set of methodologies available for detecting rub & buzz defects) and an electromechanical impedance measurement (Impedance Response Curves plus a subset of Thiele-Small). Also includes Acoustic Response (APx v4.0 or later) and Modulated Noise.
APX-SW-SPK-RD	Loudspeaker Test: R&D	Acoustic Response (with Rub & Buzz), Impedance / Thiele-Small, Modulated Noise. Includes all measurements in APX-SW-SPK-PT plus the APx Polar Plot and APx Waterfall Graph utilities.

PERCEPTUAL AUDIO

PART NUMBER	DESCRIPTION	MEASUREMENT/FEATURES
APX-SW-STI	Speech Transmission Index	Plug-in for conducting Speech Transmission Index (STI) measurements using the STIPA method.
APX-SW-POLQA2	POLQA	Successor to PESQ with support for HD Voice, 3G, 4G/LTE and VoIP technologies. (2 channels)
APX-SW-ABC-MRT	ABC-MRT	Provides and objective measure of speech intelligibility following the paradigm of the Modified Speech Ryme Test.

SOFTWARE LICENSING OPTIONS

PART NUMBER	DESCRIPTION	MEASUREMENT/FEATURES
SW-MAINT-1/3/5	Software Maintenance	Provides 1,3, or 5 years of software maintenance for an existing APx Legacy or B Series audio analyzer (perpetual licenses).
SW-EXT-3/5	Software Maintenance	Provides 2 or 4 additional years of sofware maintenance with the purchase of a new APx B Series analyzer (perpetual licenses).
SW-SUBSCR-1/3/5YR	Software Subscription	Provides 1, 3, or 5 year software subscriptions (time-limited licenses).

 XXVI0616154379

Audio Precision
9290 SW Nimbus Ave.
Beaverton, OR 97008 USA

An Axiometrix Solutions Brand

800.231.7350
audioprecision.com
sales@audioprecision.com