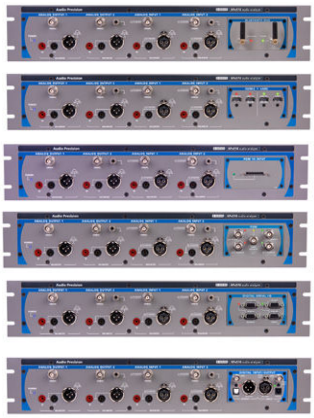
APx516 B Series | AUDIO ANALYZER

2-channel audio analyzer with digital module slot

KEY FEATURES

- Typical THD+N –109 dB
- Comprehensive test in 3 seconds without any coding
- +/- 0.05 dB Amplitude Accuracy
- Supports VB.NET, C#.NET, MATLAB, full LabVIEW driver
- Simultaneous analog & digital measurements*
- Cost-effective software subcriptions and Flex Pack measurement options
- Open-Loop measurements*
- Single module slot for optional digital audio interface module

** Option required*



APx516B Digital Module Options

Where Quality Meets Affordability in Analog and Digital Audio Testing

With the proliferation of digital audio interfaces, there's an increasing need for a straightforward, budget-friendly analyzer for both digital and analog audio testing. The APx516B Series Audio Analyzer offers a cost-effective modular solution for electronic audio customers, upholding the Audio Precision standard of performance and service. Designed for extended R&D teams and production test applications, the APx516B delivers comprehensive testing for analog and digital audio in a versatile, affordable package.

Affordable Analog + Digital Audio Testing for the Extended R&D Team

The APx516B is a two-channel audio analyzer with an optional module slot. It combines analog and digital audio testing at a price point previously unavailable in the market. Using an Audio Precision analyzer ensures consistency across the entire product development process, especially for extended, distributed, and remote teams, eliminating the discrepancies often seen with makeshift or ad hoc approaches. Key features include:

- 2 Analog Signal Generator Channels
- 2 Analog Signal Analyzer Channels
- Optional module slot for all current and future APx500 digital audio interface modules

Streamlined Production Testing and Automation

The APx516B streamlines production testing with an instrument that seamlessly integrates both digital and analog audio connectivity. Directly compare data between R&D and manufacturing, make all key audio measurements in less than three seconds, and automate testing with a well-documented Application Programming Interface (API). Key features include:

- Automation support through .Net, Python, Labview, Matlab, and more
- Robust hardware suitable for 24/7 operation on a manufacturing line
- 3-year standard warranty, or 5-year extended warranty
- Accredited, ISO 17025 calibration from the factory
- World-wide, direct support

Hardware 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.

Bluetooth®

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.

Digital Serial

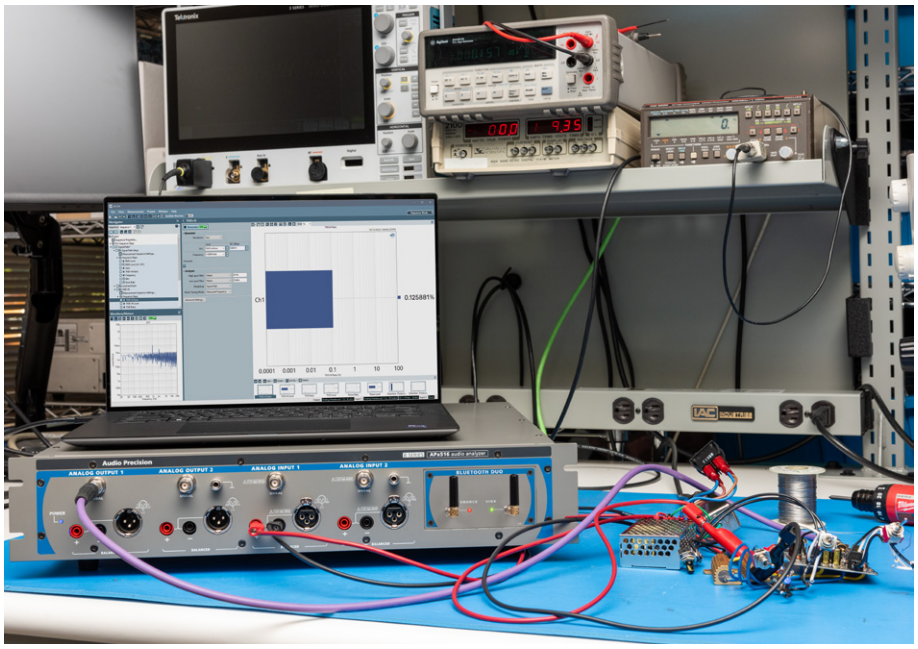
The Digital Serial I/O option adds a multichannel digital serial interface. This provides a direct connection to chip-level interfaces such as I2S and supports all popular serial interface formats including left justified, right justified, and DSP.

HDMI

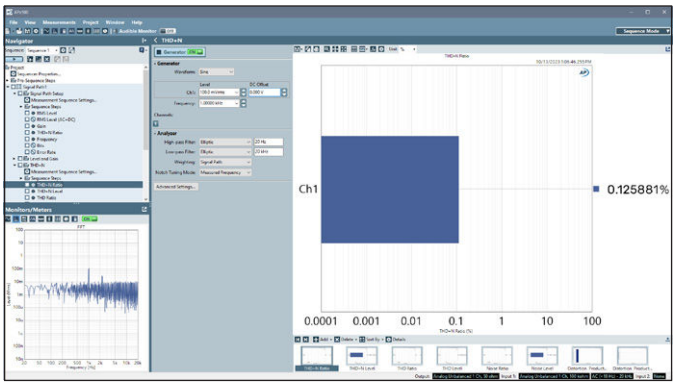
The B Series APx HDMI option (HDMI2+eARC) allows you to measure HDMI audio quality and audio format compatibility on devices such as surround sound receivers, set-top boxes, HDTVs, smartphones and tablets, and DVD or Blu-ray Disc™ players.

AES/SPDIF

The B Series APx DIO option provides AES3, AES/EBU balanced digital I/O on XLR; unbalanced SPDIF digital I/O on BNC; and TOSLINK optical digital I/O.



APx516 B Series analyzer with optional Bluetooth Duo module



APx500 Software

KEY SPECIFICATIONS

SYSTEM PERFORMANCE

Residual THD+N (20kHz BW)
-100 DB + 2.0 µV
Typical <-109 DB (1KHZ, 2.5V)

GENERATOR PERFORMANCE

Sine Frequency Range
2.0 Hz to 80.1 kHz

Frequency Accuracy
3 ppm

IMD Test Signals
SMPTE, MOD, DFD

Maximum Amplitude (balanced)
14.40 Vrms

Amplitude Accuracy
±0.05 dB

Flatness (10 Hz - 20 kHz)
±0.008 dB

Analog Output Configurations
Unbalanced,balanced, common mode

Dolby / DTS Generator
Yes (encoded file)

ANALYZER PERFORMANCE

Maximum Rated Input Voltage
125 Vpk

Maximum Bandwidth
>90 kHz

IMD Measurement Capability
SMPTE, MOD, DFD

Amplitude Accuracy (1 kHz)
±0.05 dB

Amplitude Flatness (10 Hz - 20 kHz)
±0.010 dB

Residual Input Noise (20 kHz BW)
2.0 µVrms

DC Voltage Measurement
Yes

ACCREDITED
Certificate# 2527.01

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

APx516B Measurement Options

APx516B with HDMI2+eARC digital audio module

The APx516B uses the same APx500 measurement software that is used on all other APx series analyzers and includes features like input signal monitors and file analysis. While the APx516B comes with a set of out-of-the-box measurements, you can maximize the value and functionality of the measurement software with subscription licenses.

These time-limited software subscription licenses (SW-SUBSCR) provide access to all software versions and measurement options (excluding PESQ and POLQA, which must be licensed separately).

Alternatively, perpetual licenses can be purchased using the APx500 FLEX option model, which provides access to select collections of measurements to supplement the base measurement configuration. Measurements sold in Flex Packs (listed below), as well as measurements such as PESQ, POLQ, ABC-MRT and STI, can be also be purchased individually.

Software licensing options provide APx users several choices for accessing new software releases. Perpetual licenses are available via the SW-EXT (new analyzers) or SW-MAINT (existing analyzers) options. .

SOFTWARE LICENSING OPTIONS

SW-SUBSCR-1/3/5YR	Software Subscription	Provides 1, 3, or 5 year software subscriptions (time-limited 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-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).

FLEX PACK OPTIONS

PART NUMBER	DESCRIPTION	INCLUDED MEASUREMENT
N/A	APx516B Base Configuration	Standard with the APx516B: Level & Gain, Loudspeaker Production Test, Pass/Fail, Signal Acquisition, Stepped Frequency Sweep, THD+N.
APX-FLEX-PACK-2	Flex Pack 2	Includes the following measurements: Crosstalk, Crosstalk Sweeps, DC Level, DC Level Sweep, DUT Delay, Frequency Response, Interchannel Phase, Level Ratio, Measurement Recorder, Noise, Noise Recorder, Q-Peak Noise, SNR, SINAD, Stepped Level Sweep.
APX-FLEX-PACK-3	Flex Pack 3	Includes the following measurements: Continuous Sweep, Digital Error Rate, Dynamic Range–AES17, IMD, IMD Frequency Sweep, IMD Level Sweep, Input Sample Rate, Maximum Output, Maximum Output (CEA–2006), Multitone Analyzer, Regulated Frequency Sweep, Signal Analyzer.
APX-FLEX-PACK-4	Flex Pack 4	Includes the following measurements: Acoustic Response, Bandpass Frequency Sweep, Bandpass Level, Bandpass Level Sweep, Cumulative Spectral Decay, Impedance/Thiele-Small, Modulated Noise, Polar Plots, Transfer Function.

ASIO INTERFACE OPTIONS

AVAILABLE CHANNELS	DESCRIPTION
2,4,8	2 channels are included with the APx516B. Channel options are available to increase the channel count to 4 or 8. A list of ASIO interfaces that have been tested and verified by Audio Precision is available at ap.com.

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