



APx555 B Series | AUDIO ANALYZERS

High performance, modular 2-channel audio analyzer



KEY FEATURES

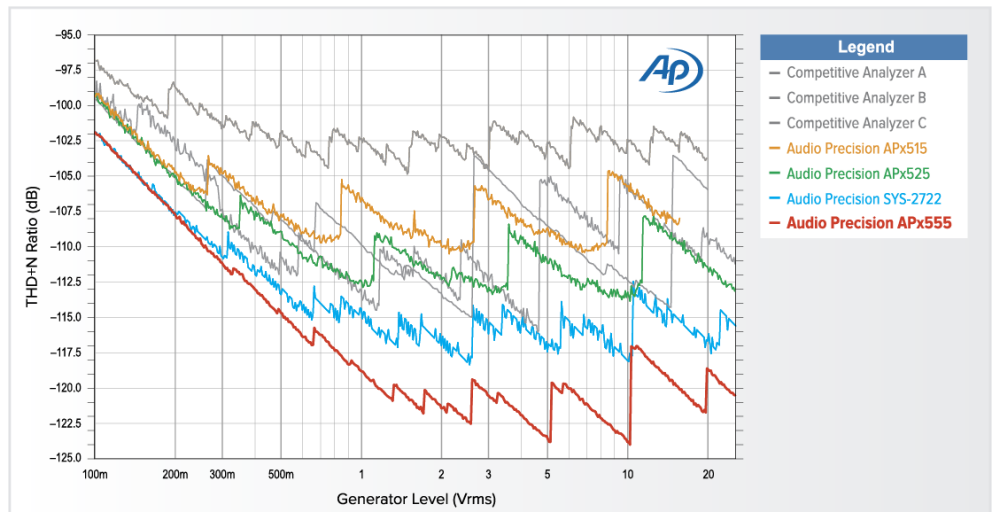
- ◆ Industry-best analog performance
- ◆ Residual THD+N: -120 dB (typical)
- ◆ Over 1 MHz bandwidth @ 24 bits on two channels
- ◆ Signal generation up to 204 kHz and 26 Vrms
- ◆ 1.2 M point FFTs
- ◆ ADC Test Mode option
- ◆ Support for the complete range of APx digital I/O options, including 32-bit digital serial I/O at up to 432 kHz sample rate
- ◆ Transfer Function Measurement (Sequence or Bench Mode)
- ◆ Open-Loop Measurement (Chirp or Fast Sweep)
- ◆ Support for jitter capable digital interface options
- ◆ Advanced Master Clock for Reference, Sync and Trigger
- ◆ Simultaneous analog & digital measurement (v6.0)

The New Standard – the highest performance and most versatile audio analyzer ever made.

A culmination of 30 years' experience making test equipment recognized as the standard of the audio industry, the B Series APx555 is an analyzer without compromise. It combines the best analog performance we have ever delivered with complete support for all APx digital I/O options and fast, intuitive measurement software. With the introduction of the B Series, the APx555 further lowers analog system residual distortion at sinewave frequencies above 50 kHz over the full 1 MHz bandwidth.

Unprecedented Performance

With a typical residual THD+N of -120 dB and over 1 MHz bandwidth, the APx555 B series surpasses the analog performance of all other audio analyzers. This performance is supported by 1.2 million point FFT resolution.



The chart above shows the residual THD+N of several current audio analyzers as a function of generator level; lower values are better. The red trace at the bottom is the APx555; the blue trace above that is the SYS-2722, and the green trace is the APx525.

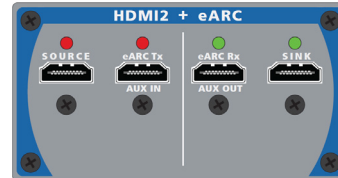
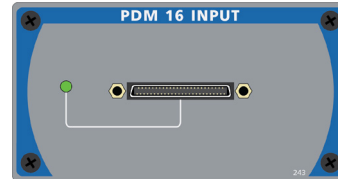
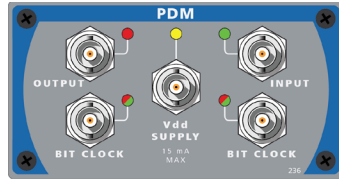
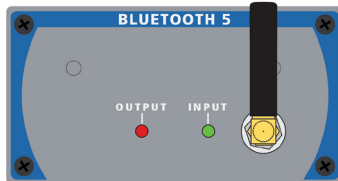
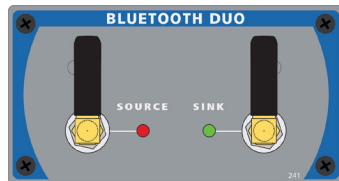
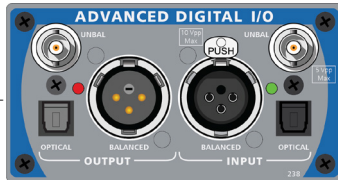


Multi-mode UI

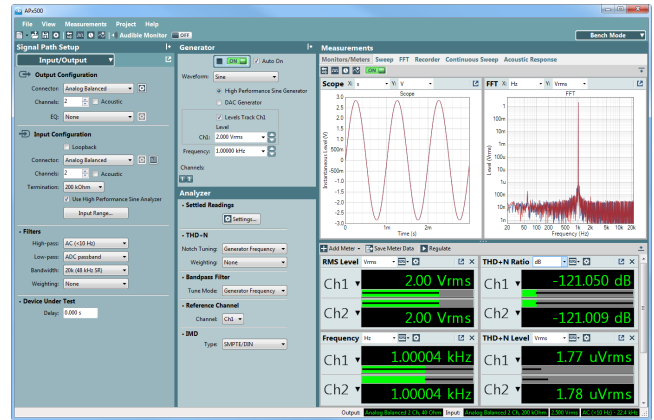
APx500 measurement software allows the B Series APx555 to adapt to the needs and preferences of audio designers, engineers and technicians.

Sequence Mode provides complete, code-free automation of pre-defined measurement sequences to enable fast and reliable results.

Bench Mode provides a real-time interface, with waveforms, FFTs and meters for virtually any parameter enabling the identification of important device interactions.



The B Series APx platform incorporates a modular architecture enabling configuration for a variety of digital I/O options.



APx500 Bench Mode, showing live meters and monitors for waveforms, FFT, RMS levels, frequency and THD+N.

ADC Test Mode Option

The ADC Test Mode option provides an adjustable common mode V_{BIAS} DC offset voltage on the balanced analog outputs. A Pin Voltage Protection mode, when enabled, prevents overvoltage damage to your direct-coupled ADC device's input during performance tests.

Unmatched Flexibility

The APx555 supports the complete range of APx digital I/O options, ensuring compatibility with a wide array of audio formats and devices.

- ♦ **Bluetooth®** – supports Bluetooth Classic (A2DP, AVRCP, HFP and HSP profiles)
- ♦ **Bluetooth® 5** – supports Bluetooth LE: Unicast Music and Auracast (Transmit), Unicast Voice (Transmit and Receive)
- ♦ **PDM** – one-bit audio generation & analysis (including PSRR and jitter*)
- ♦ **PDM 16** – Simultaneous 16-channel PDM signal acquisition
- ♦ **Programmable Serial** – I2S, TDM, multi-line support (including jitter*)
- ♦ **Advanced Digital** – AES/SPDIF/Optical (including jitter*)
- ♦ **HDMI2+eARC** – source, sink & monitor (including metadata)

*Advance Master Clock is standard on the APx555, and supports all jitter capable digital interface modules.

KEY SPECIFICATIONS

SYSTEM PERFORMANCE

Residual THD+N (22kHz BW)
-117 dB + 1.0 μ V
Typical < -120 dB (1 KHz, 2.0 V)

GENERATOR PERFORMANCE

Sine Frequency Range

0.001 Hz to 80 kHz
5 Hz - 204 kHz, Analog

Frequency Accuracy

3 ppm, DAC
30 ppm, Analog (Precision Tune)

IMD Test Signals

SMPTE & MOD, DFD, DIM

Maximum Amplitude

26.66 Vrms bal, 13.33 Vrms unbal
(10 Hz to 100 kHz)

Amplitude Accuracy (1 kHz)

± 0.03 dB (+15° C to +30° C)

Flatness (5 Hz - 20 kHz)

± 0.008 dB

Analog Output Configurations

Unbalanced, balanced (differential or single-ended) or CMTST

Digital Output Sampling Rate

27 kS/s to 200 kS/s*

ADC Test V_{BIAS} Range

-0.4 to +4.2 VDC

ANALYZER PERFORMANCE

Maximum Rated Input Voltage

300 Vrms (bal)

160 Vrms (unbal)

Maximum Bandwidth

> 1 MHz

IMD Measurement Capability

SMPTE & MOD, DFD, DIM

Amplitude Accuracy (1 kHz)

± 0.03 dB (+15° C to +30° C)

Amplitude Flatness (10 Hz - 20 kHz)

± 0.008 dB

Residual Input Noise (22 kHz BW)

≤ 1.0 μ Vrms

Individual Harmonic Analyzer

H2-H10

Maximum FFT Length

1248K points

DC Voltage Measurement

Yes

*Optical 27 kS/s to 108 kS/s



Accredited by A2LA
under ISO/IEC 17025
for equipment calibration

APx555 B Series Software Options

APx500 software options provide measurements and functionality beyond the core set of capabilities standard for the APx555 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.

ADC Test

PART NUMBER	DESCRIPTION	MEASUREMENT/FEATURES
SW-555ADCTEST	ADC Test: Mode	Adds the capability to generate balanced analog audio signals mixed with a calibrated common mode DC offset voltage and programmable voltage limits.

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 software 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).