What’s New:

APx500 version 6.0.1
November 2020

This document looks at the new and improved features in the latest release of the APx500 software for all models of APx Series audio analyzers.

For more information, please contact your local Audio Precision sales partner, or visit the AP website at ap.com for datasheets, technical content, and software downloads.
INTRODUCTION TO APx500 VERSION 6.0.1

APx500 6.0.1 is a release update that adds several new features to the software, including new hearing aid measurements, a Derived Result to fit limits to data, ISO R-series Nth Octave sweeps, improvements to Bandpass Level accuracy, and other changes and improvements. Additionally, support has been added for the APx517 acoustic audio analyzer. Paired with the wide range of digital I/O options available using APx modular analyzers, the latest APx500 software has increased functionality for measurements involving speakers, microphones, headsets, hearing aids, as well as a wide range of electronics that incorporate speakers and microphones.

ANSI S3.22 AND IEC 60118-0 FREQUENCY SWEEPS

Intermodulation Distortion sweeps that conform to ANSI S3.22 and IEC 60118-0 standards for hearing aid test have been added.

Measurement results for each include:

- Total Difference Frequency Distortion
- Difference Frequency Distortion

ANSI S3.22 FIT LIMIT TO DATA DERIVED RESULT

ANSI S3.22 Fit Limit to Data is designed to evaluate hearing aid measurement results according to the ANSI S3.22 standard. The result, available in both Bench Mode and Sequence Mode, creates upper and lower limits based on a reference curve and attempts to fit the measured device response within the limits.

The derived result can be attached to specified X/Y graph types in Frequency Response, Acoustic response, and other Sweep-based measurements.

BANDPASS LEVEL IMPROVEMENTS

Bandpass filters have been improved to increase functionality and include the following:

- A Selectivity control has been added to the bandpass filter section in the Bench Mode Analyzer settings. The Selectivity control can be used to adjust the width of the bandpass filter.
- Note that with lower tuning frequencies and higher filter selectivity, some residual energy that was showing up in previous APx500 software versions is now excluded from measurement results. The new results are more accurate but as lower frequencies are measured with higher selectivity, acquisition times will increase.
- A noise waveform can now be used in Bandpass Frequency Sweep, Bandpass Level, and Bandpass Level Sweep measurements. Different noise shapes can be selected, including:
  - White
  - Pink
  - IEC 60268-1
  - BS EN 50332-1
ISO R-SERIES NTH OCTAVE SWEEPS (R10, R20, R40, R80)

For Sequence Mode Sweep measurements like Stepped Frequency Sweep, APx500 will populate an ISO R40 sweep table based on your selected start and stop frequencies according to ISO 266’s recommended points. This eliminates the need to manually recalculate sweep table entries when start or stop frequencies are modified.

APx517 ACOUSTIC AUDIO ANALYZER SUPPORT

The APx517 is a versatile analyzer ideal for acoustic loudspeaker and headphone test, with available options to enable Bluetooth and PDM capabilities to include phone, tablet, and smart speaker testing to its arsenal. The APx517 is an integrated system that includes:

- 35 W mono power amplifier.
- 2-channel headphone amplifier.
- Swappable headphone output panels with 3 available connector types: 1/4 inch, 3.5mm, and BNC.
- 2 analog input channels.
- Integrated impedance measurement capabilities.
- Single module slot that can be configured with an APx digital I/O module.
- Rack-mountable chassis.