

Multiple Simultaneous Input Types in APx500 6.0.0 (Sequence Mode)

What's New: APx500 version 6.0.0 April 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 6.0.0

APx500 6.0.0 is a major release that brings software support for Multiple Simultaneous Input Types, a new Sensitivity Result, and other changes and improvements. 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 digital microphones in products like mobile/smart phones, *Bluetooth*[®] headsets, speaker phones, and smart speakers, as well as any audio device with both analog and digital interfaces.

MULTIPLE SIMULTANEOUS INPUT TYPES

Using Multiple Simultaneous Input Types (Multi Input), you can obtain data from an analog input and a digital input—for example an analog measurement mic (reference) and a PDM mic (DUT)—in a single measurement. Measurement consistency can be improved as a result of acquiring the input signals from all input types simultaneously, rather than sequentially. Tests can be streamlined and sped up by using parallel rather than multiple sequential acquisitions to achieve test results.

Multiple input types can be quickly configured using the new tabbed sections on the Signal Path Setup I/O Configuration panel. The first input tab (Input 1) can be configured for any input type supported by the analyzer. Configuration options for the second input tab (Input 2) vary depending on the input type selected on the first input tab. Additional information is available in the APx500 Measurement Software User's Manual.

Multi Input features include:

- Easily configurable input connectors using the tabbed interface
- Available in both Sequence Mode and Bench Mode
- Allows analog and digital signals to be measured simultaneously
- Filters and EQ settings can be applied independently for each configured input
- Simultaneously measured results can be compared to calculate sensitivity using the Sensitivity derived result
- Backwards compatibility with previously created project files
- Ability to display analog and digital data and results simultaneously in monitors and meters (including Input Signal Monitor)
- Ability to select a specific input to listen to when using the Audible Monitor

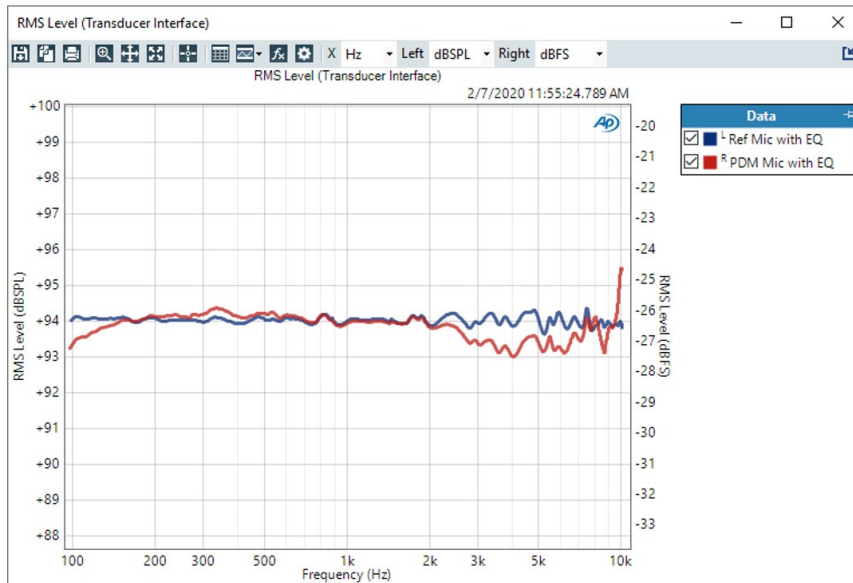
Not all measurements are available for Multi Input. Measurements that currently support Multi Input are:

Signal Path Setup	THD+N	Level and Gain
Transfer Function	Bandpass Level	Measurement Recorder
Signal Acquisition	Signal Analyzer	Continuous Sweep
Frequency Response	Acoustic Response	Frequency

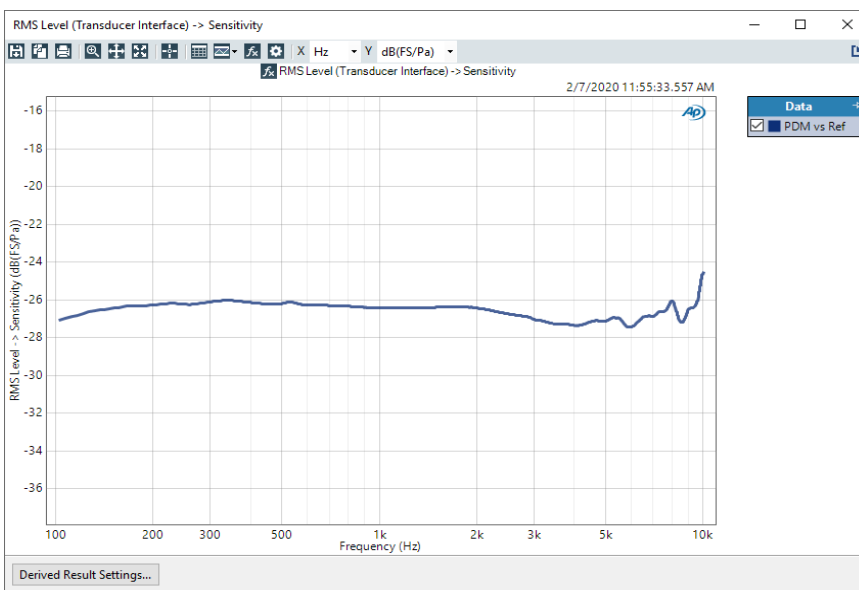
Multiple Simultaneous Input Types can be configured on all analyzers except the APx511 and the APx500 Flex.

SENSITIVITY DERIVED RESULT

The Sensitivity derived result allows you to compute the sensitivity of a mic by comparing its RMS level results to the RMS level results of a reference mic. The derived result can be added to any result that produces an RMS Level value and can compare results in different unit families and across input domains. Available for both XY and single value (meter) results.



XY graph with simultaneously acquired results (PDM mic and an analog reference mic.)



Sensitivity derived result of a PDM microphone compared against an analog reference microphone.

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