



## KEY FEATURES

- Flexibility**  
 Compatible with ASIO sound cards. Pick the product that matches your performance requirement and budget.
- Configurability**  
 Select options based on your needs. Purchase individual measurements or value-priced Flex Packs.
- Portability**  
 Move your measurement licenses from one computer to another simply by moving the APx500 Flex Key.
- Expandability**  
 Additional measurements can be added at any time by ordering a new key code for your APx500 Flex Key.

## APx500 Flex: Versatility and Value

The APx500 Flex audio analyzer—comprised of APx500 measurement software and an APx500 Flex Key—allows you to select the ASIO-capable audio interface of your choice to use along with AP’s versatile and powerful APx audio measurement software. Start with the measurement options you need now, with the freedom to add additional measurements as your test requirements evolve. The APx500 Flex brings Audio Precision innovations such as one-click measurements, code-free automation and sophisticated reporting to off-the-shelf audio interface hardware solutions.

### A robust solution

Across all measurements, the APx500 user interface is fast and intuitive. Just click to select a measurement, then click to add a filter. Drag limits to set pass/fail points right on the results graph. Effortlessly specify computations for derived results. Add defined measurements in a series and run them in an automated procedure called a Sequence. The APx generator can output steady tones, twin tones, sweeps, chirps, multitones, or play WAV files as arbitrary waveforms.

### Test 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.

## ASIO AUDIO INTERFACES AND DRIVERS

ASIO audio interfaces (sound cards) are manufactured by a large and varied number of companies. The performance and quality varies from vendor to vendor, as does the robustness of the drivers that are supplied with these products. Audio Precision has tested and verified the following ASIO audio interfaces as compatible with the APx500 software when configured correctly:

Lynx Studio E22 — Two channel PCIE

RME Fireface UC — Eight channel USB

Lynx Studio Aurora(n) — Sixteen Channel USB\*

It is expected that many of the ASIO audio interfaces available commercially will work well with the Audio Precision APx500 Flex, but it will be necessary for users to test and verify other products before making a purchase decision.

\* APx500 Flex supports 2, 4, or 8 channels for measurement, depending on channel options purchased. When an audio interface with more than 8 channels is used, only 8 channels at a time can be configured in the APx500 software using an APx500 Flex Key.



## APx500 Flex Measurement Options

The APx500 Flex base configuration provides six standard measurements on two channels, with options to expand to four or eight channels. Additional measurements are available as options bundled in Flex Packs or as individual options.

Software maintenance options are available to extend the standard year of coverage that comes with a new APx analyzer. Software maintenance options entitle the user to receive the next major software release, and can be extended for multiple years.

### APx500 FLEX CHANNEL OPTIONS

| Part No.     | Description | Features                                                                                                                                                                  |
|--------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APX-FLEX-2CH | 2-Channel   | APx500 Flex two-channel software audio analyzer with sequence mode, input signal monitors, file analysis, and the six measurements described in Base Configuration below. |
| APX-FLEX-4CH | 4-Channel   | APx500 Flex four-Channel software audio analyzer with sequence mode, input signal monitors, file analysis, and Base Configuration.                                        |
| APX-FLEX-8CH | 8-Channel   | APx500 Flex eight-channel software audio analyzer with sequence mode, input signal monitors, file analysis, and Base Configuration.                                       |

### FLEX PACK OPTIONS

| Part No.        | Description        | Included Measurements                                                                                                                                                                                                                                                       |
|-----------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N/A             | Base Configuration | Standard with APx500 Flex:<br>Level & Gain, Loudspeaker Production Test (incl. Rub & Buzz), Pass/Fail, Stepped Frequency Sweep, Signal Acquisition, THD+N.                                                                                                                  |
| APX-FLEX-PACK-2 | Flex Pack 2        | Includes the following measurements:<br>Crosstalk, Crosstalk Sweeps, DC Level, DC Level Sweep, DUT Delay, Frequency, 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:<br>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:<br>Acoustic Response, Bandpass Frequency Sweep, Bandpass Level, Bandpass Level Sweep, Cumulative Spectral Decay, Impedance/Thiele-Small, Modulated Noise, Polar Plots, Transfer Function.                                              |

## APx500 Flex Measurement Options (continued)

In addition to Flex Packs, APx500 Flex measurement options can be purchased individually so that you can get just the measurements you need, without paying for ones you don't. Measurements can be added to an APx500 Flex Key when ordering a new APx500 Flex audio analyzer or they can be delivered electronically to add to an existing APx500 Flex Key. APx500 software's Bench Mode is also available, as are specialized perceptual audio tests (e.g., ABC-MRT, PESQ).

### INDIVIDUAL MEASUREMENT OPTIONS

|                                     |                             |                           |
|-------------------------------------|-----------------------------|---------------------------|
| Acoustic Response                   | Frequency Response          | Noise                     |
| Bandpass Frequency Sweep            | IMD                         | Noise Recorder            |
| Bandpass Level                      | IMD Level Sweep             | Pass/Fail                 |
| Bandpass Level Sweep                | IMD Frequency Sweeps        | Polar Plots               |
| Crosstalk Sweep, 1 Channel Driven   | Impedance/Thiele-Small      | Q-peak Noise              |
| Crosstalk Sweep, 1 Channel Undriven | Input Sample Rate           | Regulated Frequency Sweep |
| Crosstalk, 1 Channel Driven         | Interchannel Phase          | Signal Acquisition        |
| Crosstalk, 1 Channel Undriven       | Level & Gain                | Signal Analyzer           |
| Crosstalk, Custom Measurement       | Level Ratio                 | SNR                       |
| DC Level                            | Loudspeaker Production Test | SINAD                     |
| DC Level Sweep                      | Maximum Output Level        | Stepped Frequency Sweep   |
| Digital Error Rate                  | Maximum Output per CEA-2006 | Stepped Level Sweep       |
| Dynamic Range (AES17)               | Measurement Recorder        | THD+N                     |
| DUT Delay                           | Modulated Noise             | Transfer Function         |
| Frequency                           | Multitone Analysis          |                           |

### SOFTWARE MAINTENANCE

| Part No.       | Description    | Maintenance Features                                                                                                               |
|----------------|----------------|------------------------------------------------------------------------------------------------------------------------------------|
| SW-MAINT-1/3/5 | SW Maintenance | Provides 1,3, or 5 years of software maintenance for an existing APx Legacy, B Series or APx500 Flex audio analyzer.               |
| SW-EXT-3/5     | SW Maintenance | Provides 2 or 4 additional years of software maintenance with the purchase of a new B Series APx analyzer or APx500 Flex analyzer. |