



## 2700 Series Audio Analyzers

The highest performance audio analyzers in the world



SYS-2722 dual domain audio analyzer

### Key Features

- Unparalleled performance as the recognized standard in audio test
- Dedicated analog circuitry for vanishingly low residual noise and THD+N
- 192 kHz digital input and output capabilities
- MLS, white noise, pink noise and other special purpose waveforms
- AP Basic scripting, Learn mode, LabVIEW & GPIB
- User-defined sweeps and switcher support for up to 192 channels

The 2700 Series is designed for audio engineers who need the highest performance, lowest distortion and greatest flexibility possible in their audio analyzer.

The 2722's true dual domain architecture enables uncompromised measurement of both analog and digital signals: the analog generator and analyzer performance surpasses that of any digital converter-based design, while digital analysis techniques offer a wide array of precise, high-speed measurement techniques for either domain. Cross-domain work can be accomplished using the best of both worlds.

The typical residual THD+N of the 2700 Series is  $\leq -115$  dB at 2.0 Vrms. However, even with Audio Precision's conservatively specified THD+N of  $-112$  dB across the entire amplitude range, the 2700 Series is the industry's undisputed performance leader.

### The best analog performance in the world

No digital converter can beat the performance of Audio Precision's analog circuitry. No other analyzer, even those with analog components, can match the low noise floor of the 2700 Series.

The analog generator has a bandwidth of 10 Hz to 204 kHz, flat within a few thousandths of a dB across the audio band. The analog analyzer has a bandwidth of 10 Hz to 500 kHz.

The 2700 Series surpasses other instruments with a maximum analog input of 160 Vrms and maximum generator output of 26.66 Vrms.

### Models & Options

Select the analyzer that matches your needs. Modular hardware allows for future upgrades.

SYS-2722	Analog and Digital Input and Output, with DSP. Dual domain.	Analog options	Burst, square, noise, IMD, W&F, Dolby Digital generator, source impedance, more.
SYS-2712	Analog Input and Output, with DSP.	Analog filters	Weighting, de-emphasis, bandpass, more.
SYS-2702	Analog Input and Output, no DSP.	PC Interface	USB, GPIB or APiB.

## Digital Analysis with 2700

The 2700 Series offers AES3/IEC60958 serial digital interfaces, with fully configurable serial data and clock ports available via the optional Programmable Serial Interface Adapter.

All digital input and output capabilities are functional over the full range of sample rates from 8 kHz to beyond 200 kHz.

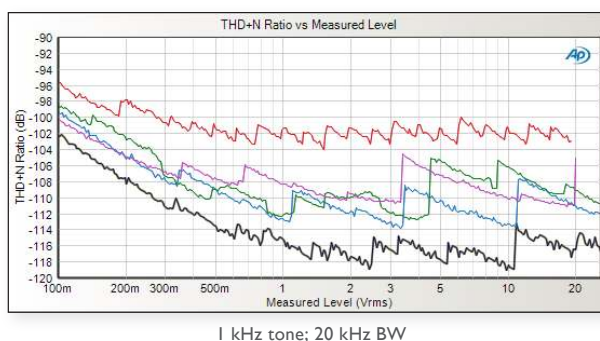
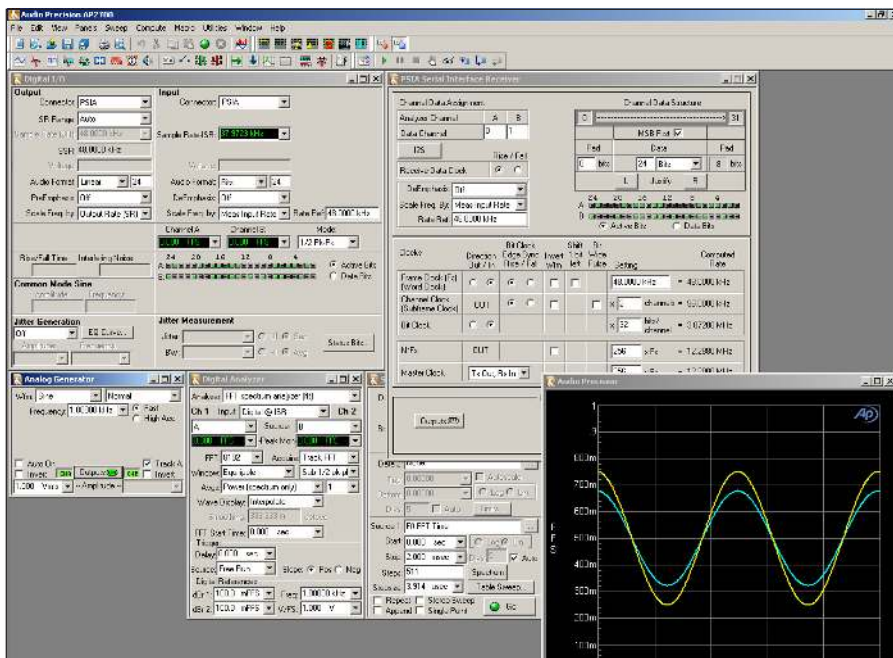
The Digital Input/Output panel provides complete control and display of serial interface parameters including connector and format selection, sample rate, resolution, pulse amplitude, active data bits, error flags and received jitter amplitude. A Status Bits panel enables you to set and read interface metadata in both professional and consumer formats. Metadata is displayed in both hex and English interpretations.

Test the performance of AES3/IEC60958 receivers with sub-standard signals by introducing impairments to the output serial interface signal. Impairments include variable sample rate, pulse amplitude and rise and fall times, the addition of noise, common-mode signals, controllable jitter and a long cable simulation.

Use the Digital Interface Analyzer tool to measure and display the interface signal or jitter waveform and spectrum, histograms for a number of interface measurements or to generate an eye pattern. Add jitter of various types and amplitudes to the generated bitstream and measure the effect on the receiver and the resulting audio signal.

## Chip-level design with the PSIA

The Programmable Serial Interface Adapter (PSIA-2722) enables the connection of chip-level devices, such as analog-to-digital converters, digital-to-analog converters or sample rate converters to a 2700 Series analyzer. The PSIA offers more connectivity options than any other serial digital audio adapter, including a variety of interface protocols beyond I<sup>2</sup>S, different logic families and voltage levels, clock rates, word orientations, and formats.



### ▲ MAXIMUM FLEXIBILITY

AP2700 panel-based UI allows power users to create nearly any audio measurement imaginable.

### ◀ LOWEST THD+N

The performance of five audio analyzers available on the market today. The 2700 Series is the black trace at the bottom. The second-best trace (blue) is AP's APx525.

### SYSTEM PERFORMANCE

Residual THD+N, 1 kHz  
-112 dB, +1.0  $\mu$ V, 22 kHz BW  
Typical <-115 dB (1 kHz, 2V)

### GENERATOR PERFORMANCE

Sine Frequency Range  
10 Hz–204 kHz  
Frequency Accuracy  
2 ppm  
IMD Test Signals  
SMPTE, CCIF, DFD, DIM, TIM, DIN  
Maximum Amplitude (balanced)  
26.66 Vrms  
Amplitude Accuracy  
 $\pm 0.06$  dB  
Flatness (20 Hz–20 kHz)  
 $\pm 0.008$  dB (typically <0.003 dB)  
Analog Output Configurations  
Unbalanced & balanced  
Digital Output Sampling Rate  
28 kHz–200 kHz  
Dolby Digital Generator  
Optional

### ANALYZER PERFORMANCE

Maximum Rated Input Voltage  
160 Vrms  
Maximum Bandwidth  
>500 kHz  
IMD Measurement Capability  
SMPTE, CCIF, DFD, DIM, TIM, DIN  
Amplitude Accuracy (1 kHz)  
 $\pm 0.05$  dB  
Flatness (20 Hz–20 kHz)  
 $\pm 0.008$  dB  
Residual Input Noise (22 kHz BW)  
 $\leq 1.0$   $\mu$ V [-117.8 dBu]  
Individual Harmonic Analyzer  
d2–d15  
Max FFT Length  
32K points  
DC Voltage Measurement  
Yes

### ISO/IEC:17025 ACCREDITED

Accredited by A2LA for equipment calibration under ISO/IEC: 17025. Calibration report and test data included with all new instruments.



2700 Series Audio Analyzer Key Specifications