



ATS-2 Audio Analyzer

General purpose audio analyzer for production test & broadcast



ATS-2 audio analyzer

Key Features

- Digital interface analysis with Performance Option
- Super fast production test using multitone analyzer
- AP Basic scripting with “learn mode,” LabVIEW & GPIB
- User-defined sweeps and switcher support up to 192 channels

HST: 7 results in 6 seconds

- Output level
- Frequency response
- Interchannel phase
- Distortion
- Noise in the presence of signal
- Crosstalk
- DC offset

The ATS-2 is a general-purpose audio analyzer well suited to the design lab, broadcast facility or production line—anywhere you need high-precision, feature-rich audio test and measurement.

The ATS-2 offers excellent value for any technician who wishes to integrate a fully functional audio analyzer into an IEEE.488 (GPIB) controlled test system. It is also ideally suited for the production line or broadcast verification when used with AP’s High Speed Tester application.

The Harmonic Distortion Analyzer provides insights into a variety of circuit malfunctions while the Multitone Analyzer with FFTs performs multiple performance tests extremely quickly.

The **Performance Option** can be added to provide a high bandwidth analysis capability and serial digital interface measurements. The Audio Analyzer, Harmonic Analyzer, FFT Analyzer, and Multitone Analyzer bandwidths are increased from 30 kHz to 120 kHz. The Digital Interface Analyzer adds Jitter Spectrum analysis, Jitter Waveform, Interface Spectrum analysis, Interface Waveform (Oscilloscope), Eye pattern, Interface amplitude histogram, Interface Rate histogram, and Interface bit-width histogram.

High Speed Production Test with ATS-2

High Speed Tester (HST) is a fast, accurate and easy-to-operate audio test application designed for the ATS-2 that is ideal for high speed production test or testing transmission quality across a broadcast network. HST tests output level, frequency response, interchannel phase, distortion, noise in the presence of signal, crosstalk and DC offset against user-defined limits in just six seconds.

The simplified user interface is optimized for high volume testing with clear pass/fail results and user instructions. A log file is automatically generated ready to be emailed for trend analysis or an FFT can be saved for detailed troubleshooting.

Models & Options

ATS-2 has one model and one option.

ATS-2	Analog and Digital Input and Output, with DSP.
Performance option	Increases analyzer bandwidth to 120 kHz and adds digital interface analysis.
PC interface	USB, GPIB, APiB



HST has the most advanced triggering algorithm in the industry. One key advantage of the Audio Precision approach is that HST is triggered by the content of the multitone rather than a level trigger, so it works with externally generated stimulus (like a broadcast tone or MP3 played on a personal audio device). HST also has a very wide tolerance for distortion and level, meaning it can listen indefinitely until it hears the correct multitone avoiding false triggering while normal program material is played.

Production Test

HST is an ideal application for customers looking for high-speed production test. In addition testing play-back devices, HST can use the instrument's generator to drive the input of the device under test. Both input and output can be set to digital or analog, and limits, user prompts and sample rate can be defined easily via a new setup utility.

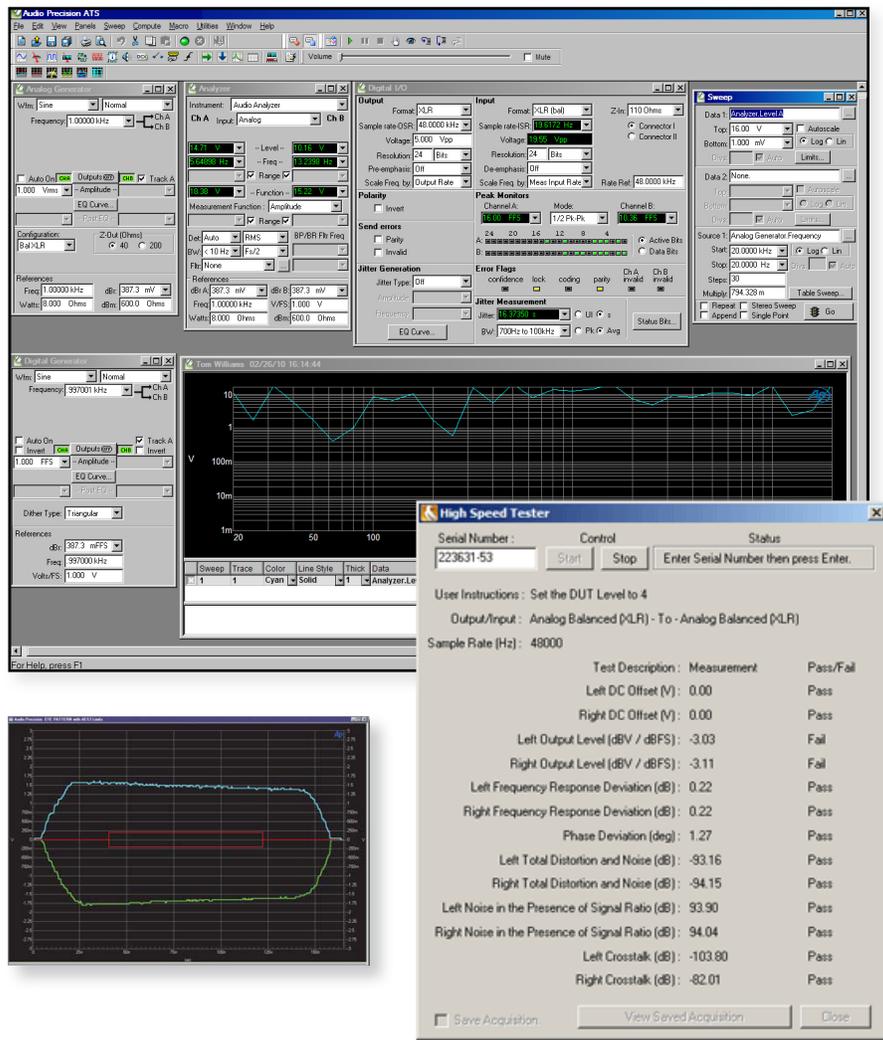
This flexibility allows HST to test almost any type of audio device - amplifiers, receivers, DACs, ADCs, signal processors, MP3 players, TVs, DVD/CD players etc - quickly and easily.

Broadcast Signal Fidelity Test

National radio networks use High Speed Tester to test broadcast audio quality throughout their service areas.

A series of ATS-2 audio analyzers with HST are stationed across the signal area and connected to receivers. The central transmitting station broadcasts the HST multitone (a one second burst, usually as part of a call sign late at night). HST is triggered by the burst, and measurements of the transmission are recorded to a log file. The log file is emailed back to station engineers while HST resets itself and listens for the next burst.

HST can also be used to verify quality of service agreements with telecom carriers transmitting packetized content over fiber. Carriers will tend to compress data as much as possible to conserve bandwidth: HST ensures that audio quality is any compression used during transmission is as agreed in the service contract.



ATS-2 key specifications

SYSTEM PERFORMANCE

Residual THD+N (20 kHz BW)
-101 dB + 1.6 μV

GENERATOR PERFORMANCE

- Sine Frequency Range
2 Hz to 61.6 kHz (SR=131.072 kS/s)
- Frequency Accuracy
±0.015625 Hz
- IMD Test Signals
SMPTE, DIN
- Maximum Amplitude (balanced)
16 Vrms
- Amplitude Accuracy
±0.09 dB (±1.0%)
- Flatness (20 Hz-20 kHz)
±0.007 dB
- Analog Output Configurations
unbalanced & balanced
- Digital Output Sampling Rate
28.8 kHz-108 kHz
- Dolby Digital Generator
No

ANALYZER PERFORMANCE

- Maximum Rated Input Voltage
140 Vrms (dc to 20 kHz)
- Maximum Bandwidth
<10 Hz to 120 kHz
(with performance option)
- IMD Measurement Capability
SMPTE, DIN
- Amplitude Accuracy (1 kHz)
±0.09 dB (±1.0%)
- Amplitude Flatness (20 Hz-20 kHz)
±0.01 dB
- Residual Input Noise (20 kHz BW)
1.6 μVrms
- Max FFT Length
32K points
- DC Voltage Measurement
Yes



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