

ATS-5X

Audio Transmission Test Set



The ATS-5X is a comprehensive handheld test instrument for installation and troubleshooting of equipment or circuits in leased and dial-up networks. ATS-5X is designed to comply with IEEE and Bell specifications plus, it provides enhanced test capability such as Echo Measurement and Longitudinal Balance to address today's issues in public networks. The ATS-5X can function as a telephone handset on 2-wire and 4-wire circuits with dial, bridge, talk and listen capability. Rugged construction with a bright, clear LCD touchscreen makes control and operation intuitive and very straightforward. Use the ATS-5X to verify proper functionality of your network to send and receive quality voice or tone information. The ATS-5X brings network stability through rapid audio fault identification and improved service quality.

- Benefits:
- Simple/intuitive touchscreen operation
 - Keypad or usb mouse/keyboard to supplement touchscreen
 - Measures echo parameters for quality of service verification.
 - Spectra display for identifying interference sources.
 - Rapid 23-tone measurement of signal-to-noise and total distortion.
 - Slope and P/AR measurements
 - Compact rugged design for field use.
 - Delay emulation to simulate echo.
 - Longitudinal Balance measurement to identify cause of hum/noise.
 - Functions as telephone handset
 - Impulse noise measurement.
 - Large color LCD display of multiple parameters and results
 - Saves measurement data to USB Drive (not supplied).
 - Excellent rechargeable battery life



ATS-5X adds quality and value to the network, saving time and money!

ATS-5X SPECIFICATIONS

TRANSMITTER

Frequency	Range: 50Hz to 20kHz Resolution: 1Hz Accuracy: 20ppm
Transmit Level	Range: -40dBm to +10dBm Resolution: 0.01 dB
Harmonic Distortion (to 20KHz)	<0.5% [-15dBm to +10dBm] [200Hz to 10kHz] <1% [-30dBm to -15dBm] [200Hz to 10kHz] <3% elsewhere
Source Impedance	Settings: 600Ω, 900Ω Accuracy: ±5% Flatness: ±5%

RECEIVER

Frequency	Range: 50Hz to 20kHz Resolution: 1Hz Accuracy: ±1Hz
Receive Level	Range: -80dBm to +10dBm Resolution: 0.01dB Accuracy: ±0.1dB at 1004Hz from +10dBm to -20dBm, ±0.2dB elsewhere Flatness: 0.5dB Type: DFT
Noise Level	Range: 0dBm to +100dBm Resolution: 0.01dB Accuracy: ±2 dB from 0 dBm to 10 dBm, ±1dB elsewhere
Noise with Tone	Range: 0dBm to +100dBm Resolution: 0.01dB Accuracy: ±3 dB from 0dBm to 10 dBm, ± 2 dB elsewhere (IEEE 743-1995 notch filter)
Termination Impedance	Settings: 600Ω, 900Ω, bridging (>25kΩ) Accuracy: ±5% Flatness: ±5%

Filters	C-Message 3.4kHz flat D Filter 15kHz flat 1010Hz Notch C-Message & 1010Hz Notch None (20kHz flat)
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23-TONE

Transmit Level	Range: -40dBm to +4dBm Resolution: 0.01dB Accuracy: ±0.2dB Flatness: 0.1dB
Receive Level	Range: -90dBm to +4dBm Resolution: 0.01dB Accuracy: ±0.2dB Flatness: 0.1dB
Envelope delay distortion	Range: -1800μsec to +1800μsec Resolution: 0.1μsec Accuracy: ±5μsec
Signal/Noise Ratios	
Signal to IM distortion	Range: -100dB to +100dB Resolution: 0.01dB Accuracy: ±0.2dB
Signal to Noise	Range: -100dB to +100dB Resolution: 0.01dB Accuracy: ±0.2dB

IMPULSE NOISE

Filters	All settings
Threshold Level	20dBm to +100dBm
Resolution	0.01dB
Accuracy	±2dB from 20 dBm to 40dBm for 15kHz filter or no filter ±1dB elsewhere
Counting	Max rate: 10 impulses per second (dead time is 100ms) Max value: > 1,000,000
HoldingTone	Standard 1010Hz notch Range: 950 – 1050Hz
Conditions	Count impulses continuously until holding tone detected. Afterwards, count only when holding tone present.

DIALER

DTMF detection	Level	Range: -20dBm to +10dBm Resolution: 0.01dB Accuracy: ±0.2dB
	Frequency	Range: 600Hz – 1800Hz
DTMF dial	Level	0dBm ± 0.2dB
	Twist	< 0.2dB
	Frequency Skew	< 0.1Hz
	On-duration	100 ± 1ms
	Off-duration	50 ± 1ms

Pulse dial

Off-hook duration	60 ms
On-hook duration	90 ms
Inter-digit time	800 ms

SPECTRUM

Level	Range: -120dBm to +10dBm Resolution: 0.01dB
Frequency	Range: 50Hz to 20kHz Resolution: 14Hz

ECHO MEASUREMENT

Time Range	10 – 2000 msec Resolution: 1 msec Accuracy: ±2 msec
Level Range	-60 to 60 dB (relative to 0dBm transmit signal) Resolution: 1 dB Accuracy: ±2 dB

DELAY EMULATOR (4-wire)

Time	Range: 10 – 700 msec Resolution: 1 msec Accuracy: ±2 msec
Attenuation	Range: 0 to 30 dB Resolution: 0.01 dB Accuracy: ±0.3 dB

Peak to Avg. Ratio (P/AR)

Transmitter	Level Range: -40dBm to +2 dBm Level resolution: 0.01 dB Level accuracy: ±0.2 dB P/AR ratio: 100 ±2 counts
Receiver	Level Range: -80dBm to +2dBm Level Resolution: 0.01 dB Level accuracy: ±0.2 dB Filters: 1.3 kHz band-pass filter P/AR Range: 0 to 120 units P/AR Resolution: 1 unit P/AR Accuracy: ±2 units [-30 dBm to +2 dBm], ±4 units elsewhere

LONGITUDINAL

BALANCE

Transmitter	Level	+10dBm
	Accuracy	±0.2dB
	Flatness	0.5dB
Source Impedance	Tip & Ring:	365Ω
Receiver	Level	-90dBm to +10dBm
	Resolution	0.01dB
Balance	Range	0dB to +120dB
	Accuracy	±1dB for balance < 70dB ±3dB for balance >70dB <90dB
	Flatness	0.5dB
	Type	DFT

VOLTAGE LIMITS

(Measurement

Terminals)

DC blocking voltage	60VDC
Max AC voltage	100VPEAK

HOLDING CURRENT

23mA to 25mA

POWER

DC Input	12v DC, 1000ma
Fully Charged Battery Life	6 hours nominal

POWER MODULE

AC Input	100-240v AC, 50-60Hz, 0.5A
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DATA STORAGE

USB Drive	User provided
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PHYSICAL

Size	11.5"L x 3.9"W x 1.5"H (open) 6.0"L x 3.9"W x 2.7"H (closed)
Weight	1.6 lbs
Operating Temp.	-10°C to 55°C
Storage Temp.	-20°C to 80°C
Max Humidity	90% non-condensing



Made in U.S.A.



Specifications subject to change without notice.

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