

935AT Communications Test Set Specifications

Fax/Modem TIMS



Peak-to-Average Ratio (P/AR)

Transmit Level Range	0 dBm to -40 dBm
Resolution	0.1 dB
Receive Level Range	-40 dBm to +12 dBm
Resolution	0.1 dB
P/AR Measurement Range	0 to 120 P/AR units
Resolution	1 P/AR unit
Accuracy	±1 P/AR unit

Phase/Amplitude Jitter and Hits

Phase and Amplitude Jitter Measurements

Received Holding Tone Level	+10 dBm to -40 dBm (Metallic) 0.0 dBm to -40 dBm (PCM)
Holding Tone Frequency Range	990–1030 Hz
Phase Jitter Measurement	0.0° to 30.0° peak-to-peak
Accuracy	±5%, ±0.2°
Amplitude Jitter Measurement	0.0–30.0% peak
Filters	4–300 Hz, and 20–300 Hz

Transients (Hits) Measurements

Phase Hits	5° to 50° peak in 1° steps
Gain Hits	±1 to ±10 dB in 1 dB steps
Dropouts	Tone level drops below 12 dB ±1 dB
Guard Interval	Per IEEE STD. 743-1995
Timer	1–99 m or continuous
Counter Capacity	0–9999 for LO, MD, and HI

Envelope Delay Distortion

Modes	SEND and REPEAT (Master and Slave)
Transmitter	50% AM signal at modulation frequency of 83.33 Hz
Carrier Frequency	304–3504 Hz \pm 2 Hz
Carrier Level	0.0 dBm to -40 dBm (Metallic) 0.0 dBm to -40 dBm (PCM)
Flatness	\pm 0.2 dB (304–3504 Hz)
Receiver Input Level	+10 dBm to -40 dBm (Metallic) 0.0 dBm to -40 dBm (PCM)
Distortion Measurement Range	+9000, -3000 μ s
Accuracy	\pm 10 μ s 604–3504 Hz \pm 30 μ s 304–603 Hz

Intermodulation Distortion

Transmitter Spectrum	Four equal-level tones (857, 863, 1372, and 1388 Hz)
Harmonic Distortion	>35 dB below tone level
Transmitter Level Range	0 dBm to -40 dBm RMS (Metallic) -6 dBm to -40 dBm RMS (PCM)
Accuracy	\pm 1.0 dB
Receiver Input Level	0 dBm to -40 dBm RMS (Metallic) -6 dBm to -40 dBm RMS (PCM)
Distortion Products	2nd Order centered at 520 Hz and 2240 Hz 3rd Order centered at 1900 Hz
Distortion Range	10–70 dB below signal-2nd Order 10–70 dB below signal-3rd Order
Resolution	1 dB
Accuracy	\pm 1 dB
Signal-to-Noise Test	Removes low tone pair and increases level of remaining tone pair by 3 dB.

Absolute Delay

Modes	Send and Repeat
Transmitter	50% AM signal with a Modulation Frequency of 83.3 Hz
Frequency	1020 Hz Send, 1800/1850 Hz Repeat
Level	0.0 dBm to -40.0 dBm
Flatness	\pm 0.2 dB
Delay Range	0–1.2 s
Accuracy	\pm 0.1 ms
Harmonic Distortion	>35 dB below tone level

3-Level Impulse Noise

Weighting Filter	C-Notch
Threshold Range	30–106 dBmC
Accuracy	±1.0 dB
Threshold Spread	2, 4, 6, or 8 dB steps
Timer	1–99 m or continuous
Counter Capacity	0–9999 for LO, MD, and HI.
Measurements Range	7–99 measurements per second

23 Tones

Transmitter

Composite Level	-40 dBm to -6 dBm
Individual Tones	
Level	-13.6 dB below composite level
Flatness	±0.1 dB
Frequencies	203.125 to 3640.625 Hz in 156.25 Hz steps ±10 ppm
Phase	per IEEE 743 ±0.25°
Peak to RMS Ratio	8.79

Receiver

Range	-40 dBm to -6 dBm
Level	±0.2 dB
Attenuation	±0.2 dB

Envelope Delay Distortion

Accuracy	±10 secs
Range	10,000 secs
Frequencies	281.15 to 3562.5 Hz in 156.25 Hz steps
Signal-to-Noise	±2 dB from 10–24 dB ±1 dB from 25–40 dB ±2 dB from 41–45 dB
Signal-to-Total Distortion	±2 dB from 10–24 dB ±1 dB from 25–40 dB ±2 dB from 41–45 dB
Intermodulation Distortion (2nd and 3rd order)	±2 dB from 20–29 dB ±1 dB from 30–46 dB ±2 dB from 47–55 dB ±3 dB from 56–60 dB

