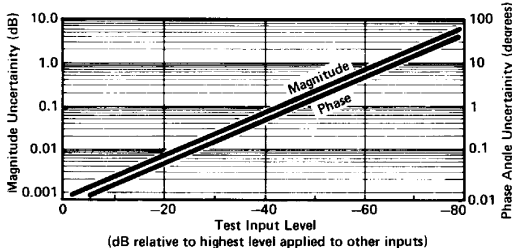


Table 1-1. HP 8754A Network Analyzer Specifications (1 of 2)

SOURCE	RECEIVER
FREQUENCY	INPUT
<p>Range: 4 MHz to 1300 MHz</p> <p>Sweep Modes: Linear full sweep (4 MHz to 1300 MHz) and calibrated sweep widths with variable start or center frequency.</p> <p>Markers: Internal, crystal-generated harmonic markers; amplitude markers for rectangular displays, intensity markers for polar displays.</p> <p>Spacing: 1, 10, and 50 MHz</p> <p>Accuracy: $\pm 0.01\%$</p> <p>Digital Frequency Readout: Indicates frequency of variable marker in linear full sweep mode and start or center frequency in calibrated sweep width mode.</p> <p>Resolution: 1 MHz</p> <p>Accuracy: ± 10 MHz (20°C to 30°C). Readout is adjustable for calibration to internal crystal markers.</p>	<p>Frequency Range: 4 MHz to 1300 MHz</p> <p>Input Channels: Three Inputs, R, A, and B. Two test inputs (A and B) with 80 dB dynamic range and a reference input (R) with 40 dB dynamic range.</p> <p>Impedance: 50Ω. Input port match ≥ 20 dB return loss (≤ 1.22 SWR).</p> <p>Maximum Input Level: 0 dBm</p> <p>Damage Level: +20 dBm (50 Vdc)</p> <p>Noise Level: < -80 dBm, A and B inputs</p> <p>Minimum R Input Level: -40 dBm (≥ -40 dBm required to operate R input phase lock)</p> <p>Crosstalk Between Channels: > 83 dB</p> <p>Error Limits:</p>
OUTPUT	
<p>Power:</p> <p>Range: Calibrated 0 to +10 dBm</p> <p>Accuracy: ± 0.8 dB at 50 MHz</p> <p>Flatness: ± 0.5 dB</p> <p>Spectral Purity (at +10 dBm RF output level):</p> <p>Residual FM¹: ≤ 7 kHz RMS (10 kHz bandwidth bandwidth)</p> <p>Harmonics: -28 dBc</p> <p>Spurious Signals: 4 MHz to 500 MHz, -65 dBc 500 MHz to 1300 MHz, -50 dBc</p>	<p>MAGNITUDE</p> <p>Frequency Response (flatness):</p> <p>Absolute (A, B, R): ± 1 dB</p> <p>Ratio (A/R, B/R): ± 0.3 dB</p> <p>Dynamic Accuracy ($+20^{\circ}\text{C}$ to $+30^{\circ}\text{C}$):</p> <p>± 0.3 dB from 0 to -50 dBm</p> <p>± 0.5 dB from -50 to -60 dBm</p> <p>± 1 dB from -60 to -70 dBm</p> <p>± 2.5 dB from -70 to -80 dBm</p>
GENERAL	
<p>Trigger Modes: AUTO (repetitive) and TRIG (single sweep triggered by front-panel pushbutton or rear-panel PROGRAMMING connector)</p> <p>RF Output Connector: Type N Female</p>	

¹ Applies in swept and CW modes.

Table 1-1. HP 8754A Network Analyzer Specifications (2 of 2)

RECEIVER (Cont'd)	DISPLAY (Cont'd)
Reference Offset: Range: ± 199 dB in 1 dB steps Accuracy: Included in Dynamic Accuracy above. Display Resolution: 10, 2.5, 1, 0.25 dB/div Display Accuracy: $\pm 2\%$ ± 0.05 division	Reference Position: Reference lines for Channel 1, Channel 2, and Polar Center can be independently set to any position on the CRT for calibration. Display resolution expands about the Reference Position line.
PHASE Frequency Response: $\leq \pm 2.5^\circ$ Range: $\pm 180^\circ$ Dynamic Accuracy: $\pm 2^\circ$ from 0 to -50 dBm $\pm 4^\circ$ from 0 to -70 dBm Reference Offset: Range: $\pm 199^\circ$ in 1° steps Accuracy: $\pm 1\%$ Display Resolution: $90^\circ, 45^\circ, 10^\circ, 2.5^\circ$ /major division Display Accuracy: $\pm 2\%$ ± 0.05 division	Graticule size: Rectangular (cartesian): 100 mm (3.94 in.) horizontal by 80 mm (3.15 in.) vertical. Polar: 80 mm (3.15 in.) in diameter Both graticules internal to CRT Smith Chart Overlays: Viewing: 0.2 expanded, 0.1 expanded, compressed 2.0, regular Photographic: 0.2 expanded, 0.1 expanded, compressed, 2.0, regular Phosphor: P39
POLAR See Magnitude and Phase specifications for Frequency Response, Dynamic Accuracy, and Reference Offset. Display Accuracy: Actual value is within 2.5 mm of displayed value.	GENERAL Magnitude/Phase Output: -10 mV/degree and -100 mV/dB at BNC female connector multiplexed by TTL level or contact closure at pin of PROGRAMMING connector for use with external digital voltmeter.
DISPLAY Measurement Functions: CRT displays either polar trace or two independent rectangular traces. Channel 1: A Magnitude Absolute (dBm) R Magnitude Absolute (dBm) A/R Magnitude Ratio (dB) B/R Magnitude Ratio (dB) Channel 2: B Magnitude Absolute (dBm) B/R Magnitude Ratio (dB) B/R Phase (degrees) Polar: A/R Magnitude Ratio (dB) and Phase (degrees)	Accuracy: Magnitude: See Magnitude Dynamic Accuracy specification. Phase: $\pm 1.5\%$ (0 to $\pm 170^\circ$), $\pm 2\%$ ($\pm 170^\circ$ to $\pm 180^\circ$). Environmental: Temperature: Operating: 0°C to $+55^\circ\text{C}$ except where noted Storage: -40°C to $+75^\circ\text{C}$ Power: Selection of 100, 120, 220, and 240 Vac $+5\%$, -10% ; 48 to 66 Hz; 200 VA maximum Dimensions: 133 mm x 425 mm x 505 mm (5.25 in. x 16.75 in. x 19.875 in.) Weight: Net, 17.7 kg (39 lb); Shipping: 20 kg (44 lb)

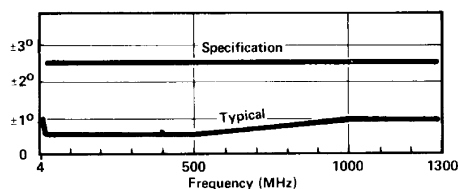
Table 1-2. HP 8754A Performance Characteristics (1 of 2)

SOURCE	RECEIVER (Cont'd)
FREQUENCY CHARACTERISTICS	Frequency Response (Flatness): Ratio (A/R, B/R):
Sweep Width Accuracy:	
500 to 1000 MHz: Typically $\pm 2\%$	
50 to 200 MHz: Typically $\pm 5\%$	
1 to 20 MHz: Typically $\pm 8\%$	
Stability:	
Temperature: Typically ± 400 kHz/ $^{\circ}\text{C}$	
Time: Typically ± 100 kHz/hour	
OUTPUT CHARACTERISTICS	Dynamic Accuracy (+20° to +30°C): Typically less than 0.01 dB/dB from -10 dBm to -40 dBm
Impedance: 50 Ω . Source match typically less than 1.4 SWR (>16 dB return loss).	
Power Range: Uncalibrated to typically +13 dBm	
Spectral Purity (at +10 dBm):	
Harmonics: Typically -35 dBc	
Spurious Signals:	
4 to 500 MHz: Typically -75 dBc	
500 to 1300 MHz: Typically -60 dBc	
GENERAL CHARACTERISTICS	
Sweep Time:	
Approximately 10 ms to 500 ms in FAST mode	
Approximately 1 sec to 50 sec in SLOW mode	
RECEIVER	
MAGNITUDE CHARACTERISTICS	Reference Offset:
Frequency Response (flatness): Absolute (A, B):	Accuracy: Typically less than $\pm 0.1\%$ of value.
	Vernier Range: Typically ± 80 dB of variable offset used for calibration of ratio measurements.
	Error Resulting from Change in Harmonic Number:
	Ratio (A/R and B/R): Typically ≤ 0.05 dB
	Absolute (A, B, and R): Typically ≤ 0.2 dB
	Absolute Power Measurements (A, B, and R):
	Calibrated in dBm; typically $< \pm 0.5$ dBm with 0 dBm, 50 MHz input

Table 1-2. HP 8754A Performance Characteristics (2 of 2)

RECEIVER (Cont'd)**PHASE CHARACTERISTICS**

Frequency Response:



Reference Offset Range: Vernier provides typically $\pm 20^\circ$ of variable offset used for phase calibration.

Electrical Length Adjustment Range: Typically 160 mm.

Phase Error Resulting from Change in Harmonic Number: Typically $\leq 0.5^\circ$.

DISPLAY:

Video Filter: Typically 100 Hz (10 kHz without filter)

GENERAL CHARACTERISTICS

External Sweep Input: 0 to +10V nominal. BNC female connector used to sweep CRT display when receiver is used with an externally swept source or to remotely program the frequency of an internal RF source from an external digital-to-analog converter.

Sweep Output: -5V to +5V nominal, BNC female connector, used to frequency modulate (sweep) external generator.

GENERAL CHARACTERISTICS (Cont'd)**X-Y Recorder/External CRT Output:**

Horizontal: 0.1V/Div. (0 to 1V).

Vertical: 0.1V/Div. (± 0.4 full scale).

Penlift/Blanking: +5V Blanking and Penlift; -5V intensifies crystal markers.

Connectors: BNC female.

External Marker Input: typically -13 dBm RF signal into the External Marker Input will produce an amplitude (rectilinear) or intensity (polar) marker on the trace at the frequency of the RF signal. BNC female connector, 50 Ω .

Probe Power: +15 Vdc and -12.6 Vdc, for use with 10855A Preamplifier or 1121A AC Probe. Two probe power jacks are available.

Storage-Normalizer Interfaces: directly compatible with both the HP 8750A Storage-Normalizer and the HP 8501A Storage-Normalizer. All 8501A features except CRT labels and graphics are available when the 8501A is used in conjunction with the 8754A.

Programming Connector:

Function: 25 pin Amphenol connector (with mating connector). Outputs include magnitude/phase and sweep outputs and inputs described above as well as measurement mode selection by TTL levels or contact closures.

POLAR CHARACTERISTICS**Electrical Length Adjustment Range:**

Typically 160 mm, resulting in an 80-mm adjustment to the reference plane in a reflection measurement.