Table 1-1. Model 8756A Specifications and General Requirements

8756A
SCALAR NETWORK ANALYZER

SPECIFICATIONS

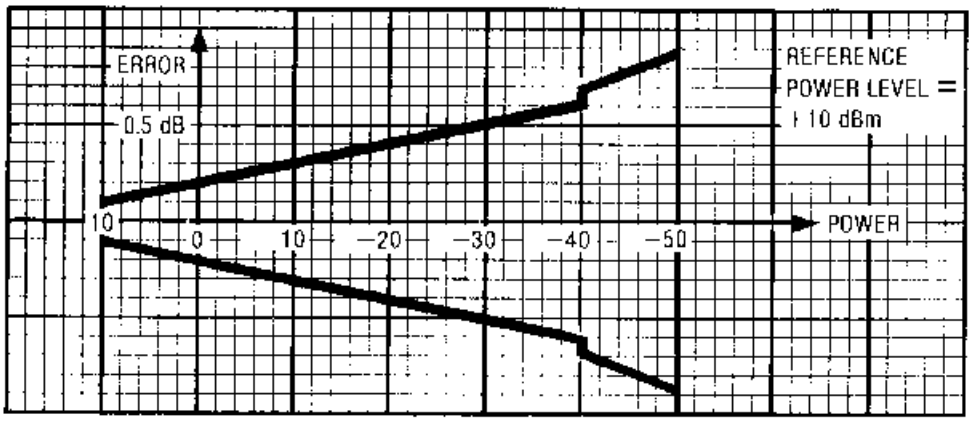
Dynamic Range: +10 dBm to −50 dBm in all three inputs (A, B, and R).

Dynamic Accuracy: Dynamic accuracy of a single channel measurement using 11664A/B Detector. Measurement taken over +10 to −50 dBm at 25°C ±5°C, at a CW frequency.

±(0.1 dB +0.01 dB/dB) from +10 to −40 dB.
±(0.2 dBm +0.02 dB/dB) from −40 to −50 dBm.

Modulator Drive: 3 separate modulator drive outputs on rear panel, each capable of driving one HP 11665B Modulator. Modulation drive may be turned on and off via the front panel or HP-IB. In the "OFF" state, the modulator drive signal turns the 11665B fully on (minimum insertion loss).

Frequency 27.8 kHz +100 Hz.
Symmetry 50% ±2%.



Dynamic Accuracy

GENERAL REQUIREMENTS

Sweep Voltage: Horizontal sweep voltage provided by the Sweep Oscillator through the Sweep Input on the back panel of the HP 8756A.

Voltage level: 0 to +10V.

Voltage Levels	
Blanked	+5V typical
Unblanked	0V typical
Marker	−4V typical
Active Marker	−8V typical

Modulation Requirements: Square-wave amplitude modulation.

Frequency 27.8 kHz.
≥30 dB on/off ratio.
45% to 55% symmetry.

Marker and Blanking Requirements: Blanking and marker signals are provided by the Sweep Oscillator through the Pos Z Blank input on the back panel of the HP 8756A.

Sweep Time: Minimum sweep time ≥150 ms.

Table 1-2. Supplemental Characteristics for 8756A

SUPPLEMENTAL CHARACTERISTICS

NOTE: Values in this table are not specifications but are typical characteristics included for user information.

Scale Resolution: 0.1, 0.2, 0.5, 1, 2, 5, 10, or 20 dB per division. Independently controlled for each measurement channel.

Reference Offset: Offset level adjustable in 0.01 dB increments from −70.00 to +20.00 dBm (absolute) or −90.00 to +90.00 dB (ratio).

Measurements: Two independent display channels selectable for: A, B, R, A/R, B/R, or A/B inputs.

DISPLAY CHARACTERISTICS

Resolution:
Vertical: 0.006 dB for display.
0.01 dB for "Display Cursor".
Horizontal: 401 points.

Graticule: 8 vertical, 10 horizontal divisions.
1 division approximately 0.9 cm.

Averaging: Averaging Factors of 2, 4, 8, 16, 32, 64, 128, or 256 may be selected for each channel.

Normalization: Traces are stored and normalized to 0.006 dB resolution, independent of scale/division or offset. The horizontal resolution is 401 points.

HP-IB CHARACTERISTICS

Interface: HP-IB interface operates according to IEEE 488-1978 standard.

Speed:
ASCII format, trace: 800 ms typical.
ASCII format, point: 10 ms typical.
Binary format, trace: 35 ms typical.

User-accessible Graphics: Number of vectors: typically 750 two-inch vectors with 60 Hz refresh rate.
Writing speed: typically 10 μs per vector.

Transfer Formats: Data may be transferred as either ASCII strings (nominally 6 characters per reading) or as 16 bit integers. Readings may be taken at a single point or as an entire 401 point measurement trace.

Programmable Functions:
Input selection (A, B, R, A/R, B/R, A/B)
Scale/division
Reference Level
Normalization
Averaging
Open/short calibration
Instrument preset
Save/recall registers
Trace and calibration memory
Autoscale
Plot
Modulation on/off

Interrupts: HP-IB Service Requests are generated for the following conditions:
Front-Panel key pressed
Sweeper out of range
Illegal command
Instrument self-test error

SYSTEM INTERFACE

Description: The 8756 System Interface is a port used exclusively by the 8756A to control and extract information from compatable digital plotters and sweep oscillators.

GENERAL

Operating Temperature Range: 0°C to +55°C.

Power: 100, 120, 220, or 240 +5% −10%, 50 to 60 Hz. Approximately 100 volt-amps.

Dimensions: 188H X 425.5W X 451 mm D (7.4 X 16.75 X 17.75 in).

Weight: Net, 15 kg (33 lb).
Shipping, 20 kg (44 lb).

Table 1-3. Recommended Test Equipment (1 of 2)

Instrument	Critical Specifications	Recommended Model	Use*
Sweep Oscillator	0 − 10V SWEEP OUT Ramp Positive Z-Axis Blanking HP-IB Programmable	HP 8350B (HP 8350A)	P, A, T
RF Plug-in	Compatible with Sweep Oscillator Internal 70 dB Step Attenuator Frequency Range: Includes 50 MHz Leveled Power Output: ≥13 dBm at 50 MHz	HP 83525A Opt 002	P, A, T
Detector	No Substitute	HP 11664A (HP 11664B)	P, A, T
12 dB Step Attenuator	1 dB Steps Type N (f) Connectors Calibration Data at 50 MHz to 0.01 dB Resolution	HP 355C Opt 001 Opt J14	P, A, T
120 dB Step Attenuator	10 dB Steps Type N (f) Connectors Calibration Data at 50 MHz to 0.01 dB Resolution	HP 355D Opt 001 Opt H88	P, A, T
Oscilloscope	Dual Channel Bandwidth: ≥100 MHz	HP 1740A	P, T
Oscilloscope Probes	10:1 Divider (3 required)	10 10041A	T
Universal Counter	Frequency Range: ≥30 kHz Frequency Resolution: ≤1 Hz Time Internal Resolution: ≤100 ms	HP 5316A	P, T
Digital Voltmeter	Accuracy: ≤0.03% Resolution: ≤5 mV Input Impedance (DC): ≥10 MΩ	HP 3456A (HP 3455A)	A, T
Power Meter	HP-IB Programmable	HP 436A	A,T
Power Sensor	Frequency Range: Includes 50 MHz Sensitivity: ≤−55 dBm (HP 11708A 50 MHz Reference Attenuator Included) Compatible with Power Meter	HP 8484A	P, A, T
Signature Multimeter	Signature Analyzer Clock Frequency: ≥10 MHz	HP 5005A/B	T
Logic Probe	TTL Compatible Data Rate: ≥16 MHz Compatible with Logic Pulser	HP 545A (HP 10525T)	T

Table 1-3. Recommended Test Equipment (2 of 2)

Instrument	Critical Specifications	Recommended Model	Use*
Logic Pulser	TTL Compatible	HP 546A (HP 10526T)	T
Current Tracer	TTL Compatible Compatible with Logic Pulser	HP 547A	T
Service Kit	No Substitute	HP P/N 08756-60020	T
(Equipment below required for Calibration Constants Adjustment Procedure only)			
Modulator	On/Off Ratio: ≥ 30 dB at 50 MHz Modulation Rate: 27.778 kHz	HP 11665B	A, T
Controller	Personal Computer (No Substitute)	HP 85F	A, T
Printer/Plotter ROM	Compatible with Controller	HP P/N 00085-15002	A, T
Advanced Programming ROM	Compatible with Controller	HP P/N 00085-15005	A, T
16K Memory Module	Compatible with Controller	HP 82903A	A, T
"CAL56A" Program Tape	No Substitute	HP P/N 08756-10001	A, T
Adapter	N(f) to N(F)	HP P/N 1250-1472	A, T
Adapter	N(m) to N(m)	HP P/N 1250-1475	A,T
Band Pass Filter	CF = 50 MHz, BW = 10 MHz Rejection >20 dB at 20 MHz >20 dB at 100 MHz SWR ≤1.2	Telonic P/N 50-10-2-EF	A, T