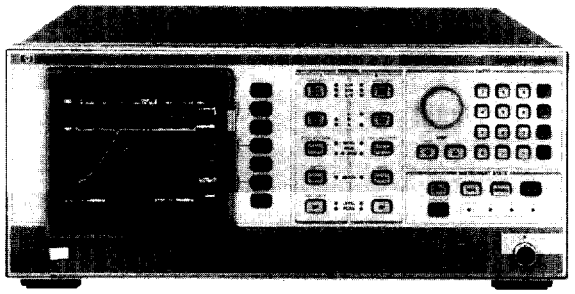
NETWORK ANALYZERS

Scalar Network Analyzer, 10 MHz to 40 GHz

Model 8756A/S

- High (40 dB) directivity bridges
- "Autoscale" for fast measurements
- Full HP-IB programmability
- Fully annotated digital display
- Nine "Save/Recall" registers
- Direct digital plot capability



HP 8756A

DESIGNED FOR HP-IB SYSTEMS

Description

Measure insertion loss and gain, return loss, and absolute power quickly and accurately with the HP 8756A scalar network analyzer. These scalar measurements can be performed over a broad 10 MHz to 40 GHz frequency range. The HP 11664 diode detectors and AC modulation make accurate, reliable, and drift-free measurements. High-directivity directional bridges covering RF and microwave frequencies produce excellent reflection measurements. The HP 85020 and 85021 bridges, HP 11664 detectors and other scalar accessories are described on pages 597 through 602.

Easy-to-Use

The HP 8756A features two independent display channels with separate controls. Complete measurements can be performed using only five control keys for each channel.

Make even faster measurements with one key—the "Autoscale" key. Press it and the built-in microprocessor chooses the optimum scale and reference level to display your measurement. Use the convenient display cursor to read out magnitude and frequency at each data point.

For Automatic or Manual Systems

When used with the HP 8350B sweep oscillator or HP 8341A/8340A synthesized sweepers, the HP 8756A acts as a system controller by managing the other instruments through the "8756 System Interface." Using the system interface, the HP 8756A extracts frequency information from the sweeper and uses it to annotate the digital display.

When used alone, the HP 8756A can save and recall up to nine front-panel states. With the HP 8350B or 8340A/41A, it saves and recalls not only its own front-panel state, but the sweeper's as well.

Another benefit of the HP 8756A/8350B combination is "Alternate Sweep"; the ability to sweep two different frequency ranges or power levels and display them simultaneously.

System control also extends to an HP-IB digital plotter. The HP 8756A can directly plot the CRT's image onto a plotter such as the HP 7475A or 7470A. Crisp, permanent, annotated plots can be created just by selecting the Plot soft key.

Programmability Features

Since all of the controls of the HP 8756A are completely programmable, computer-controlled automatic systems can make full use of the HP 8756A and its built-in features. Order the HP 8756S automatic scalar network analyzer system and choose the configuration of source, analyzer, computer, and peripherals for your needs. Add the HP 85015B system software for custom testing and storage of data and measurement configurations.

Specifications

Function: The HP 8756A processes and displays the demodulated 27.8 kHz signals from the HP 11664 detectors and the HP 85020 or 85021 bridges.

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 HP 11664A/B/E Detector. Measurement taken over +10 to −50 dBm at 25°C and at 50 MHz.

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

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).

Resolution

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

Sweep time: minimum sweep time ≥150 ms.

Averaging: 2, 4, 8, 16, 32, 64, 128, or 256 traces may be averaged. Independent control of each display channel.

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

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.

Transfer Speed

ASCII format, trace: 800 ms typical.
ASCII format, point: 10 ms typical.
Binary format, trace: 35 ms typical.
Binary format, point: 5 ms typical.

Description: the HP 8756A System Interface is an HP-IB port used exclusively by the HP 8756A to control and extract information from a sweep oscillator and a digital plotter.

Sweep oscillators: HP 8350B with RF plug-in, HP 8340A/8341A synthesized sweep oscillators.

Plotters: HP 7470A Opt. 002, HP 7475A Opt. 002, HP 7550A Opt. 002, HP 9872C.

Power requirements: 48 to 62 Hz, 115/230V ±10%, typically 100 watts.

Dimensions: 178 H x 425.5 W x 451 mm D (7.0 x 16.75 x 17.75 in.).

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

Ordering Information	Price
HP 8756A scalar network analyzer	$8,500