

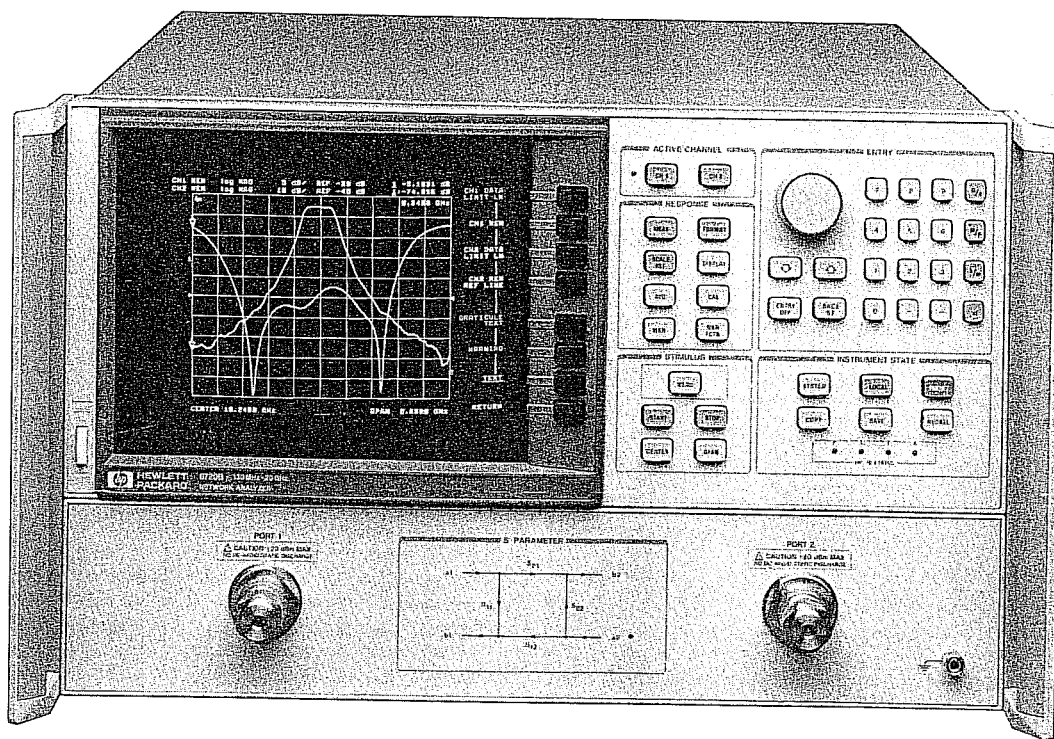
NETWORK ANALYZERS

Microwave Network Analyzers, 130 MHz to 13.5 or 20 GHz

235

HP 8719A, 8720B, 85162A

- 130 MHz to 13.5 or 20 GHz frequency range
- Fast-sweeping synthesized source built in
- Integrated switching s-parameter test set
- Direct save/recall to an external disk drive
- Up to 95 dB dynamic range
- Built-in accuracy enhancement



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HP 8720B

HP 8719A, 8720B Microwave Network Analyzers

The HP 8719A or 8720B microwave network analyzers characterize microwave components and networks to 13.5 or 20 GHz. These vector network analyzers include a fast-sweeping synthesized source, switching s-parameter test set, and large, full color display in a single integrated package. These compact instruments are economical and easy to use. They are ideal choices for manufacturing, incoming inspection, and final test.

Affordable Analyzers with Excellent Performance

The integral source is fully synthesized, even while sweeping, and it provides stability and accuracy within 10 ppm (typical). Yet, the source sweeps extremely fast: measurement update times are typically about 1 ms per point. Frequency resolution is 100 kHz standard; option 001 provides 1 Hz resolution for narrow-band or long devices.

With tuned receivers and variable-bandwidth IF filters, the HP 8719A and 8720B microwave network analyzers provide over 85 dB of dynamic range. Option 003 boosts the forward dynamic range to 95 dB; solutions to 100 dB are available. The built-in test set measures all four s-parameters (both forward and reverse) with a single connection.

A step attenuator controls incident power level from -10 to -65 dBm in 5 dB steps, and two internal tees provide bias to active devices through the test ports.

Two independent channels can display reflection and transmission characteristics at the same time. The receiver detects both magnitude and phase, and presents results in a variety of useful formats, including group delay, deviation from linear phase, complex impedance, or SWR, on rectangular, polar, or Smith charts.

Built-in vector accuracy enhancement supports calibration kits in 3.5 mm, 7 mm, and type-N connectors; a user kit supports waveguide. Choose from a simple response normalization to full 2-port error correction. And the frequency subset feature lets you zoom in on a response without recalibrating.

Time domain capability (option 010) computes and displays the DUT's response versus time or distance (instead of frequency). Use time domain to locate and quantify individual discontinuities in a network. Or apply the gating feature to remove the effects of unwanted reflections (separated in time), then view the DUT's true response versus frequency.

Time-Saving Productivity Features

Limit test capability makes pass/fail decisions quantitative and decisive. Define up to 22 test limits per channel, based on the specifications of your components. Tuning is faster, and testing is more consistent.

To document results without a computer, the copy feature sends the entire display to a compatible plotter or printer.

Annotate specific trace features with markers — up to four per channel, all displayed at once. Advanced marker functions track a maximum or minimum point (while tuning), or compute the delta between two markers. For bandpass filters, markers automatically determine center frequency, bandwidth, and Q.

With save/recall capability, an experienced user can define and save test configurations for each DUT. Other users can recall identical conditions later, and align/test each DUT consistently. Use five internal memory registers, or save/recall directly to an external CS80 disk drive.

Software

Automate the HP 8719A or 8720B microwave network analyzers with HP-IB for added capability. The HP 85162A Measurement Automation Software guides you through measurements and simplifies test configuration. You can measure transistors quickly and completely with the HP 85014C Active Device Measurements Application Pac. The software includes models to de-embed the HP 85014A transistor fixture, and also controls the bias supply. Or, you can use the HP 85165A Resonator Measurement Software to characterize SAW devices and crystal.

NETWORK ANALYZERS

Accessories (cont'd)

8753C Series

HP 85032B 50 Ω Type N Calibration Kit

The HP 85032B Calibration Kit contains precision 50 Ω type N standards used to calibrate the HP 8753C and its 50 Ω test sets for measurement of devices with 50 Ω type N connectors. Precision phase-matched 7 mm to 50 Ω type N adapters are included for accurate measurements of non-insertable devices. Standards include fixed terminations, open circuits, and short circuits.

HP 85033C 3.5 mm Calibration Kit

The HP 85033C Calibration Kit contains precision 3.5 mm standards used to calibrate the HP 8753C and its 50 Ω test sets for measurement of devices with 3.5 mm and SMA connectors. Standards include fixed terminations, open circuits, and short circuits. Precision 7 mm to 3.5 mm adapters are included for accurate measurements of non-insertable devices.

HP 85036B 75 Ω type N Calibration Kit

The HP 85036B Calibration Kit contains precision 75 Ω type N standards used to calibrate the HP 8753C and its 75 Ω test sets for measurement of devices with 75 Ω type N connectors. Standards include fixed terminations, open circuits, and short circuits. Precision phase-matched adapters are included for accurate measurements of non-insertable devices.

Verification Kits

Measuring known devices, other than the calibration standards, is a convenient way of verifying that the HP 8753C measurement system is operating properly.

HP 85029B 7 mm Verification Kit

The HP 85029B Verification Kit contains a set of precision 7 mm devices, with data traceable to NBS, used to verify the calibrated performance of an HP 8753C measurement system. The devices have precision 7 mm connectors and include a 20 dB pad, a 50 dB pad and a mismatch attenuator. Verification process requires only an HP 85031B calibration kit, an HP 85029B verification kits and an external 3.5" disc drive connected to the HP 8753C.

Software

Software operates with a BASIC operating system using an HP Series 300 computer (2 megabytes of memory required).

HP 85160A Measurement Automation Software

Measurement Automation Software simplifies device measurements by providing guided measurements, limit testing, sequencing to test all four S-parameters, data formatting flexibility (data files can be formatted to be compatible with Touchstone[®] linear circuit simulation programs) and complete save/recall capability to a floppy disc. Once configured, simply recall a test file and calibration data, connect the device-under-test, and output the results.

HP 85165A Resonator Measurement Software

Resonator Measurement Software performs complete characterization of crystals, SAWs, and other resonant devices using the HP 8753C. The software guides the user through the measurement process and calculates key parameters of the device under test according to the EIA-512 resonator measurement standard.

Service and Support Products

Service and support products are available for HP 8753C measurement systems. On-site support products require a specific 50 ohm two-port measurement configuration.¹ Contact your local HP sales office for availability and price.

Ordering Information

	Price
HP 8753C Network Analyzer	\$25,500
Option 002 Harmonic Measurement Capability	3,000
Option 006 6 GHz Receiver Option	3,000
Option 010 Time Domain Capability	4,800
Option 802 add Dual Disc Drive and HP 10883A cable	1,495
Option 908 Rack Mount Kit (without handles)	35
Option 910 Extra Operating and Service Manual	150
Option 913 Rack Mount Kit	40
HP 85047A 6 GHz S-Parameter Test Set	9,800
Option 913 Rack Mount Kit	40
HP 85046A 50 Ohm S-Parameter Test Set	8,000
Option 913 Rack Mount Kit	40
HP 85046B 75 Ohm S-Parameter Test Set	8,000
Option 913 Rack Mount Kit	40
HP 85044A 50 Ohm Transmission/Reflection Test Set	3,200
HP 85044B 75 Ohm Transmission/Reflection Test Set	3,700
HP 85029B Precision 7 mm Verification Kit	1,600
HP 85031B Precision 7 mm Calibration Kit	1,200
HP 85032B 50 Ohm type N Calibration Kit	1,600
HP 85033C Precision 3.5 mm Calibration Kit	2,500
HP 85036B 75 Ohm type Calibration Kit	2,000
HP 85043B Systems Rack	2,900
HP 85033A SMA Kit	1,000
HP 85160A Measurement Automation Software	1,500
HP 85165A Resonator Measurement Software	5,000
HP 11850C 50 Ohm Power Splitter	900
HP 11850D 75 Ohm Power Splitter	1,400
HP 11851B type N RF Cable Kit	800
HP 11852B 50 to 75 Ohm Minimum Loss Pad	350
HP 11853A 50 Ohm type N Accessory Kit	350
HP 11854A 50 Ohm BNC Accessory Kit	350
HP 11855A 75 Ohm type N Accessory Kit	450
HP 11856A 75 Ohm BNC Accessory Kit	450
HP 11857B 75 Ohm type N Test Port Extension Cables	1,455
HP 11857D 50 Ohm APC-7 Test Port Extension Cables	1,050
HP 11600B/11602B Transistor Fixtures	1,800
HP 11858A Transistor Fixture Adapter	980

¹The specific 50 ohm two-port measurement system includes the HP 8753C, the HP 85046A S-parameter test set, the HP 85031B 7 mm calibration kit, and the HP 11857D 7 mm test port extension cable set. This is a minimum configuration required for on-site verification.

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