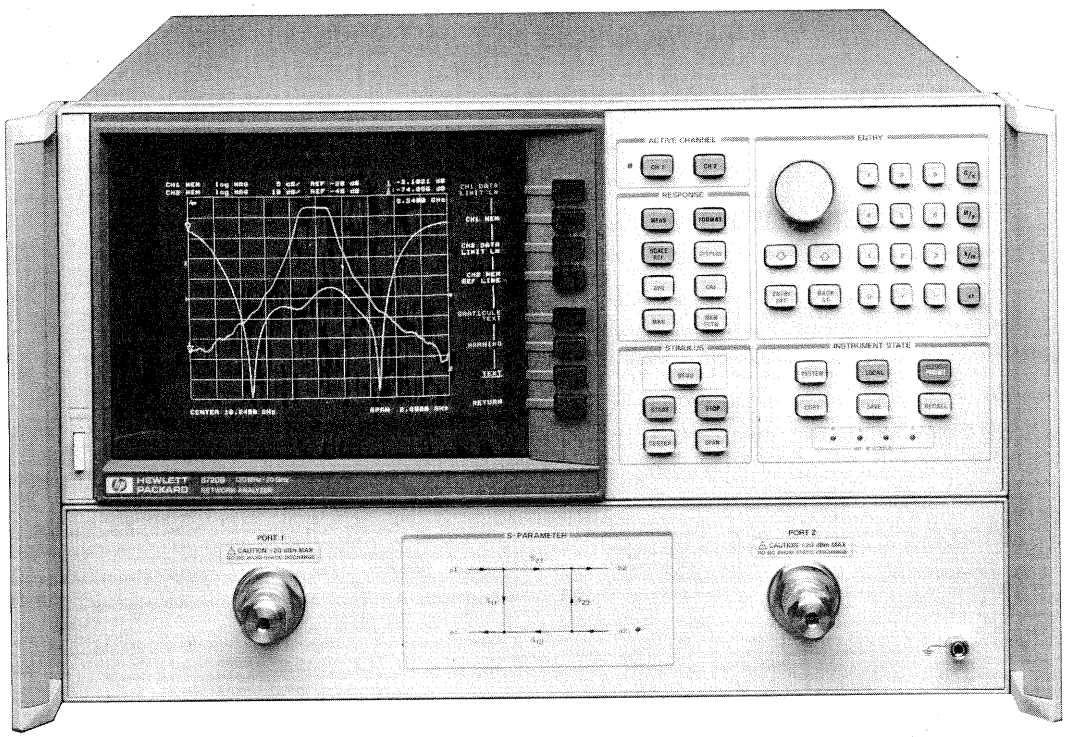
Microwave Network Analyzers, 130 MHz to 13.5 or 20 GHz

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



DESIGNED FOR HP-IB SYSTEMS

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 85041A transistor fixture, and also controls the bias supply. Or, you can use the HP 85165A Resonator Measurement Software to characterize SAW devices and crystal.