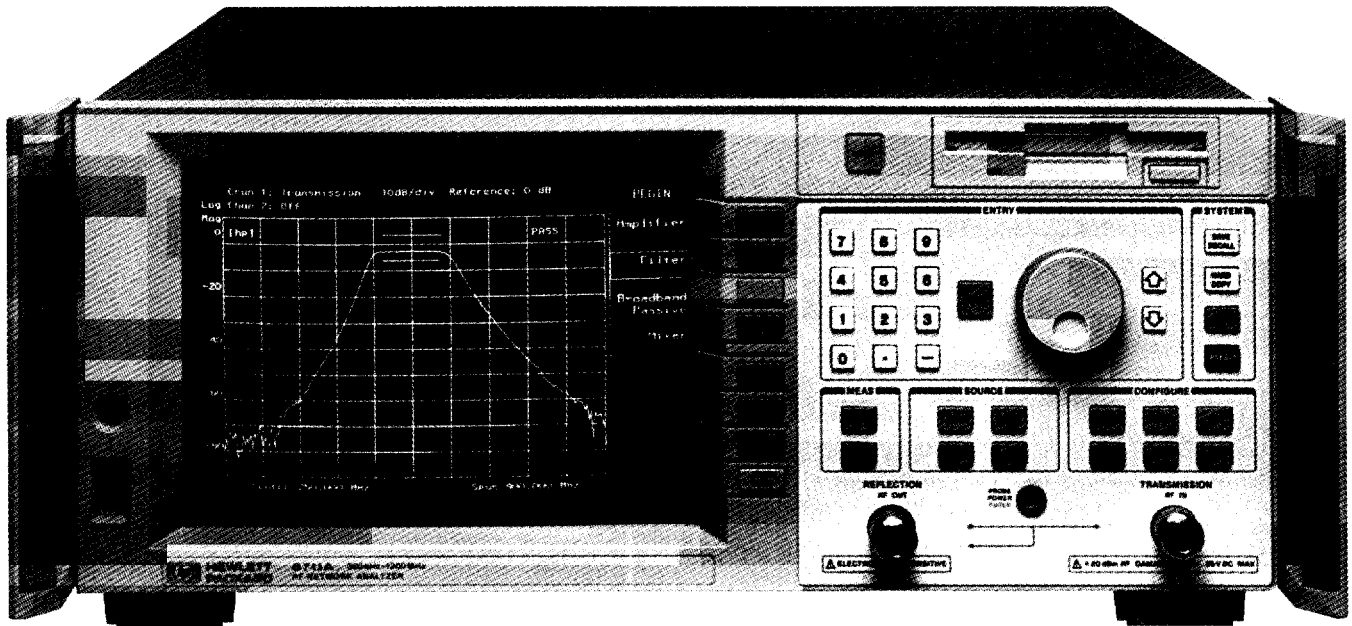


NETWORK ANALYZERS

RF Network Analyzer, 300 kHz to 1300 MHz HP 8711A

- 300 kHz to 1300 MHz
- Internal 3½-in disk drive (LIF/DOS)
- Narrowband/broadband detection
- "Real time" sweep speed (50 ms/sweep)
- Integrated transmission/reflection test set
- Synthesized 1 Hz resolution source
- Internal HP Instrument BASIC
- 90 dB of system dynamic range
- Simple and easy to use



HP 8711A



HP 8711A RF Network Analyzer

The HP 8711A provides speed, accuracy, and measurement versatility at a price that makes it ideal for RF manufacturing. Characterize the transmission/reflection frequency response or measure the insertion loss, gain, return loss, conversion loss, power, or SWR of a variety of RF components. The HP 8711A is a compact, integrated network analyzer that provides fast, simple, and accurate RF testing.

Integrated synthesized source and transmission/reflection test set enable the complete swept frequency characterization of RF components with a single connection. The internal synthesized source is a fast (50 ms/sweep) and stable (1 Hz resolution) stimulus for testing narrowband devices. The HP 8711A's sensitive receivers have both narrowband and broadband detection, which makes the instrument ideal for testing linear and non-linear components that make up RF systems. Broadband detection allows characterization of frequency translation devices, while narrowband detection provides greater than 90 dB of dynamic range for testing high rejection, narrowband devices.

Optional HP Instrument BASIC (IBASIC) puts computer automation capabilities inside the instrument, simplifying measurement setups and testing. A built-in LIF/DOS format 3½-inch floppy disk drive allows unlimited storage of instrument states, measurement and calibration data, and IBASIC programs.

Integrated source, receiver, test set, display, and disk drive result in a network analyzer that is easy to use, ideal for manufacturing, incoming inspection, and maintenance applications.

Designed for Manufacturing

Simplicity, ease of use, and automated functions save device test time. The time saving features of the HP 8711A were designed with high volume manufacturing in mind.

The HP 8711A is capable of displaying multiple measurement parameters simultaneously on the CRT, such as insertion loss and return loss characteristics. Nine internal save/recall registers are available to speed device testing. Storing and recalling complete instrument states internally saves time and reduces operating errors.

Powerful marker functions speed the final test of components by calculating and displaying specified device characteristics (maximum, minimum, 3 dB bandwidth and marker search) in real time, along with measurement data.

Limit testing allows comparison of measured data to user defined test limits and displaying the results on the instrument's display. This feature ensures your devices are aligned and tested to the same specifications at all production test stations.

HP Instrument BASIC and built-in disk drive simplify measurement automation and reduce system cost. IBASIC's unique keystroke recording capability enables automation of manual measurements without the need for any programming. The HP 8711A is PC compatible, use an IBM compatible personal computer and the analyzer's DOS disk format to control your measurement system and transfer data directly to popular MS-DOS programs. Peripherals are supported (printers and plotters) through serial, parallel, and HP-IB interfaces.

Specifications Summary

Source Characteristics

Frequency

Range: 300 kHz to 1300 MHz

Resolution: 1 Hz

Accuracy: < 5 ppm

Output

Power range: 0 to 16 dBm

w/attenuator -60 to 13 dBm

75 Ω reduces output by 3 dB

Resolution

Port flatness: +/-1.0 dB

w/attenuator +/-2.0 dB

Signal purity

Harmonics: < -30 dBc

Spurious: < 30 dBc

Phase noise: < 67 dBc/Hz, at 10 kHz (typical)

Receiver Characteristics

Frequency range

Narrowband: 300 kHz to 1300 MHz

Broadband: 10 MHz to 1300 MHz

Dynamic range

50 Ω Narrowband: > 90 dB

Broadband: > 66 dB

75 Ω Narrowband: > 87 dB

Broadband: > 63 dB

Maximum input

Narrowband: 10 dBm, 0.8 dB compression

Broadband: 16 dBm, 0.5 dB compression

Input damage level: 20 dBm

Test Set Characteristics

Test port match: 20 dB

System directivity: 40 dB

RF Connectors

Test ports: 50 Ω Type-N(f)

75 Ω Type-N(f)

Physical Characteristics

Size: 180 mm H x 430 mm W x 480 mm D (7 in x 17 in x 18.75 in)

Weight: Net, 20.5 kg (45 lbs); shipping, 25 kg (55 lbs)

Detectors/Bridges

External detectors (50 and 75 Ω) and bridge are available for remote device measurements. An unmodulated dc detection mode measures the microwave power directly without using modulation techniques.

HP 86200A 50 Ω Scalar Detector

An external scalar detector for use when measuring external 50 Ω devices.

HP 86201A 75 Ω Scalar Detector

An external scalar detector for use when measuring external 75 Ω devices.

HP 86205A 50 Ω Bridge

An external directional bridge which offers high directivity and excellent port match designed for 50 Ω device measurements.

HP 86207A 75 Ω Bridge

An external directional bridge which offers high directivity and excellent port match designed for 75 Ω device measurements.

Upgrade Kits

The following upgrade kits add optional measurement capability to existing HP 8711A network analyzers.

HP 86223A Attenuator Upgrade Kit

Provides the necessary components to retrofit an HP 8711A with a 60 dB step attenuator (Option 1E1). Includes installation at an HP service center. Also available as HP p/n 08711-60060.

HP 86224A IBASIC Upgrade Kit

Provides the necessary components to retrofit an HP 8711A with IBASIC capabilities (Option 1C2). Includes installation at an HP service center. Also available as HP p/n 08711-60061.

HP 86226A Firmware Upgrade Kit

Provides the necessary components to upgrade HP 8711A to current firmware revision.

Calibration Kits

Accuracy enhancement characterizes the systematic errors by measuring known devices (standards) over the frequency range of interest. Kits for the HP 8711A contains standards to characterize these errors.

HP 85032E 50 Ω Calibration Kit

Contains 50 Ω Type N standards used to calibrate the HP 8711A for measurements of devices with 50 Ω Type N connectors. Standards include fixed termination, open circuit and short circuit.

HP 85036E 75 Ω Calibration Kit

Contains 75 Ω Type N standards used to calibrate the HP 8711A for measurements of devices with 75 Ω Type N connectors. Standards include fixed termination, open circuit, and short circuit.

HP 85039E 75 Ω Calibration Kit

Contains 75 Ω Type F standards used to calibrate the HP 8711A for measurements of devices with 75 Ω Type F connectors. Standards include fixed termination, open circuit, and short circuit.

Accessories

HP 11852B 50/75 Ω Minimum Loss Pad

A low SWR minimum loss pad required when measurements are made on 75 Ω devices using a 50 Ω measurement system.

HP 11853A Type N Accessory Kit

Accessory kit which provides the RF components required for measuring devices having 50 Ω Type N connectors.

HP 11854A BNC Accessory Kit

Accessory kit which provides the RF components required for measuring devices having 50 Ω BNC connectors.

HP 11855A Type N Accessory Kit

Accessory kit which provides the RF components required for measuring devices having 75 Ω Type N connectors.

HP 11856A BNC Accessory Kit

Accessory kit which provides the RF components required for measuring devices having 75 Ω BNC connectors.

HP 86211A Type N/Type F Adapter Kit

Adapter kit which provides Type N to Type F adapters necessary when measuring Type F devices on a network analyzer with Type N ports.

HP 86212A Type N/TNC Adapter Kit

Adapter kit which provides Type N to TNC adapters necessary when measuring TNC devices on a network analyzer with Type N ports.

Test Port Cables

Replacement test port cables are available as HP part numbers. The analyzer ships with the 50 Ω BNC cable as standard.

HP 8120-1839 BNC Test Port Cable, 50 Ω

HP 5063-0061 BNC Test Port Cable, 75 Ω

HP 8120-4781 Type N Cable, 50 Ω

HP 8120-2408 Type N Cable, 75 Ω

Ordering Information

	Price
HP 8711A Network Analyzer	\$13,500
Opt 1EC 75 System Impedance	\$0
Opt 1E1 60 dB Attenuator	\$800
Opt 1C2 IBASIC Capability	\$1,350
Opt 1CL DIN Keyboard	\$125
Opt 1CF Soft Carrying Case	\$250
Opt 1CM Rack Mount	\$75
HP 86223A Attenuator Upgrade Kit	\$1,150
HP 86224A IBASIC Upgrade Kit	\$1,550
HP 86226A Firmware Upgrade Kit	\$50
HP 85032E 50 Ω Calibration Kit	\$650
HP 85036E 75 Ω Calibration Kit	\$650
HP 11853A Type-N Accessory Kit	\$500
HP 11854A BNC Accessory Kit	\$500
HP 11855A Type-N Accessory Kit	\$500
HP 11856A BNC Accessory Kit	\$500
HP 86200A 50 Ω Scalar Detector	\$600
HP 86201A 75 Ω Scalar Detector	\$600
HP 86205A 50 Ω Bridge	\$1,300
HP 86207A 75 Ω Bridge	\$1,300
HP 86211A Type-N/Type-F Adapter Kit	\$300
HP 86212A Type-N/TNC Adapter Kit	\$700
HP 8120-1839 BNC Test Port Cable, 50 Ω	\$20
HP 5063-0061 BNC Test Port Cable, 75 Ω	\$75
HP 8120-4781 Type-N Cable, 50 Ω	\$280
HP 8120-2408 Type-N Cable, 75 Ω	\$800

