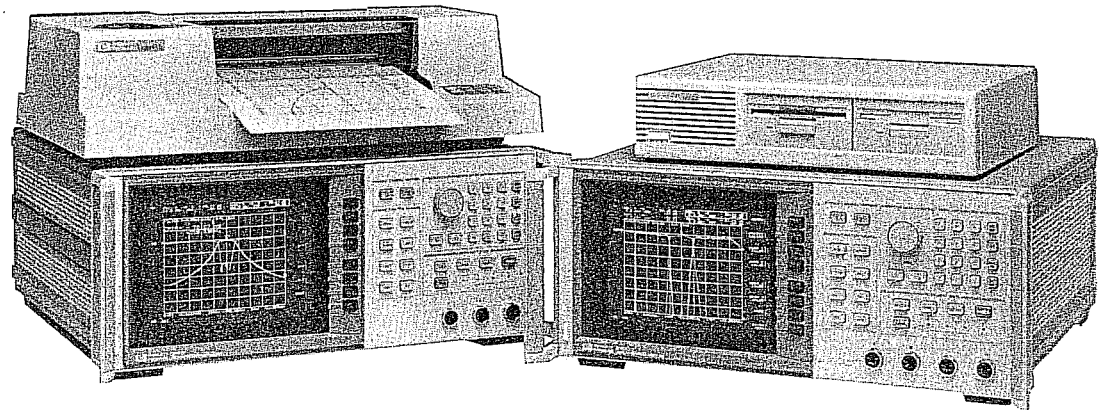
- 76 dB dynamic range
- Accurate swept power measurements
- 40 dB directivity bridges
- 40 GHz in coax, 110 GHz in waveguide
- Buffered plotter/printer output
- External disk and internal register save/recall
- Limit testing built in
- Precision color display

NEW

DESIGNED FOR HP-IB SYSTEMS



HP 8757E and HP 8757C option 001

Measure insertion loss, gain, return loss, SWR, and power quickly and accurately with either the HP 8757C or HP 8757E Scalar Network Analyzers. With high-performance detectors and directional bridges, and a companion HP source and digital plotter, the HP 8757C and 8757E become the basis of a complete measurement system with superb performance.

A Choice of Two Analyzers

For an economical measurement solution, choose the HP 8757E Scalar Network Analyzer. The HP 8757E features three detector inputs and two independent display channels, allowing simultaneous ratioed or non-ratioed measurement of your device's transmission and reflection characteristics, 76 dB dynamic range (+16 to −60 dBm) for measuring high rejection devices, and a choice between AC (square wave modulated) or DC detection techniques. The internal plotter/printer buffer allows you to send your measurement data directly to a plotter and then proceed to the next measurement, typically in less than 5 seconds. The HP 8757E includes a user-friendly interface, and menu-driven, direct-access softkeys, which simplify its operation.

When your application demands maximum system versatility, choose the HP 8757C Scalar Network Analyzer. It offers all of the performance of the HP 8757E, plus more features, limit testing, external disk save/recall, and a color display. Limit testing reduces test time by letting the analyzer make quick and objective pass/fail decisions. External disk save/recall allows your measurement state to be preconfigured by an engineer or skilled specialist and then automatically recalled by production technicians. The result is reduced setup time and greater test integrity at each production station. The precision color display simplifies the separation of measurement information while providing a pleasant display for the technician.

Systems from 10 MHz to 110 GHz

You can conveniently obtain a 20 GHz or 40 GHz coaxial measurement system by ordering the HP 8757XA (10 MHz to 20 GHz) or HP 8757XB (10 MHz to 40 GHz) scalar measurement system. Or, you can configure your own system to 50 GHz in coax or 110 GHz in waveguide.

The HP 8350B sweep oscillator family offers the benefits of a modular system with choices in source frequency range and output power. When testing narrowband, frequency-selective devices, choose a synthesized sweeper from the HP 8360 series or an HP 8340B or 8341B. The HP 8360 series, 8340B, and 8341B provide excellent frequency stability and up to 1 Hz frequency resolution.

Accessories Ensure Measurement Accuracy

Minimize transmission measurement uncertainty by using detectors with an unrivaled match (HP 85025E: >25 dB return loss to 25 GHz). Maximize your reflection measurement accuracy with high directivity directional bridges (HP 85027A,B,D: >40 dB to 20 GHz, HP 85027D: >25 dB to 47 GHz). The HP 8757C/E are compatible with a broad line of high-performance detectors, directional bridges, and other accessories that help reduce your measurement errors.

Feature	HP 8757C			HP 8757E
Display	Color			Monochrome
Display channels	4			2
Detector inputs	3 standard 4 with option 001			3
Dynamic range	76 dB			76 dB
AC/DC detection mode	Yes			Yes
Measurement points: Selectable values	101, 201, 401, 801, 1601			101, 201, 401
Channels Displayed	3 or 4	2	1	1 or 2
Max Points per channel	401	801	1601	401
Plotter/printer buffer	Yes			Yes
Noise figure display capability	Yes			Yes
External disk save/recall	Yes			No
Internal save/recall registers	9			9
Limit testing (channels 1 and 2)	Yes			No
Adaptive normalization	Yes			No
Cursor search functions	Max, Min, bandwidth, n dB			Max, min
SWR display mode	Yes			Yes
Non-standard sweep mode	Yes			Yes
Auxilary voltage display mode	Yes			Yes

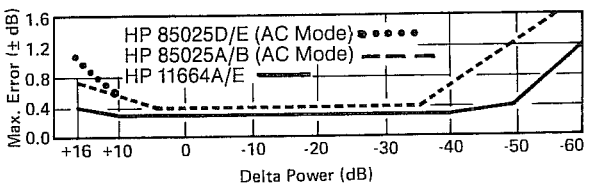
System Specifications

ACCURACY

Transmission Loss or Gain Measurement Accuracy: Transmission loss or gain measurements are made relative to a 0 dB reference point established at calibration. The measurement accuracy is equal to the uncertainty due to the change in power level, called dynamic accuracy, plus mismatch uncertainty. The frequency response errors of the source, detectors, bridge and power splitter may be removed via calibration.

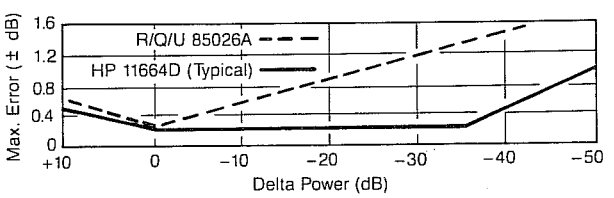
Dynamic Power Accuracy (25 ±5°C, 0 dBm reference):

Coax Detectors* (50 MHz)



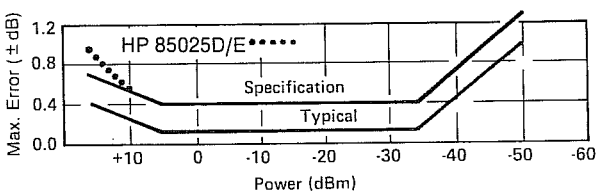
*For ≤20 dB change of power within +10 to −40 dBm, the specification for the HP 8757 with the HP 11664A/E is ±(0.1 dB + 0.01 dB/dB).

Waveguide Detectors

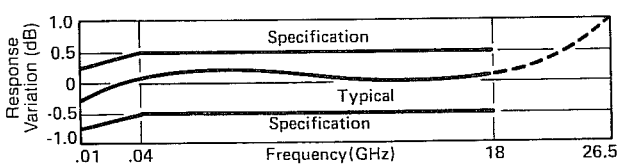


Absolute Power Measurement Accuracy: This specification is useful for determining the accuracy of power measurements in dBm when using the HP 85025A/B/D/E detectors in the DC mode. The total uncertainty is the sum of the detector frequency response, power accuracy, and mismatch uncertainties.

Absolute Power Accuracy (HP 85025A/B/D/E detectors in DC mode, detector offsets removed via power meter cal, 25 ±5°C):



Detector Frequency Response (HP 85025A/B detectors, −10 dBm, 25 ±5°C):

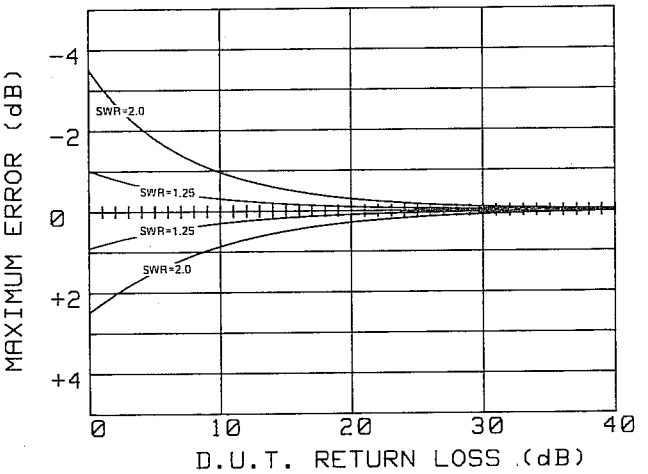


DYNAMIC RANGE (on all HP 8757 detector inputs):

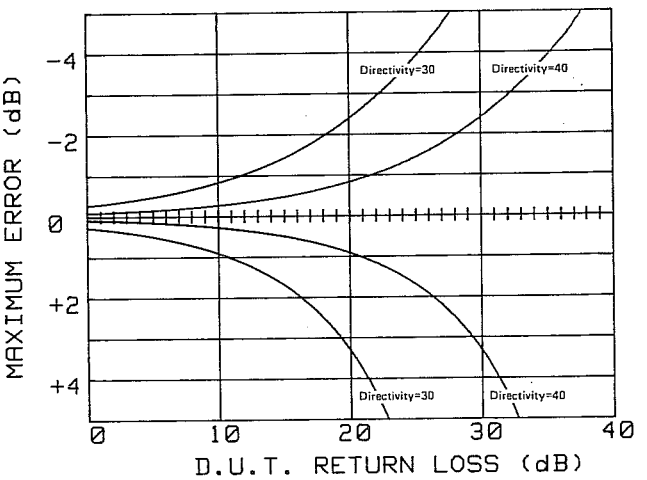
Detector	AC Mode	DC Mode
HP 11664A/E	+16 to −60 dBm	
HP 11664D	+10 to −50 dBm	
HP 85025A/B/D/E	+16 to −55 dBm	+16 to −50 dBm
HP R/Q/U85026A	+10 to −50 dBm	+10 to −45 dBm

Reflection Measurement Accuracy: Uncertainties due to calibration error and the frequency response of the source, detectors and bridge are removed via open/short averaging. The remaining uncertainties are primarily the sum of directivity uncertainty, effective source match uncertainty, and dynamic power accuracy. As shown in the graphs below, directivity is the dominant error term when measuring small reflected signals (high return loss) and source match is dominant when measuring large reflected signals (low return loss).

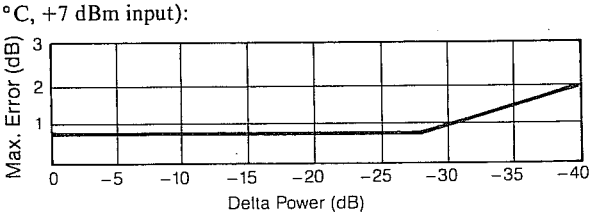
The Effect of Effective Source Match on Reflection Uncertainty:



The Effect of Directivity on Reflection Uncertainty:



Dynamic Power Accuracy (HP 85027/20 bridges, 50 MHz, 25 ±5°C, +7 dBm input):



Directional Bridges

The HP 85020 series and HP 85027 series are directional bridges designed especially for the HP 8757, 8756 and 8755 scalar network analyzers. Each bridge features outstanding directivity and test port match in a compact, rugged package.

Within each bridge, one zero-bias Schottky diode detector measures the return loss of the test device. Ratio measurements can be made by adding a power splitter (HP 11667A/B/C) and detector (HP 11664 series or HP 85025 series).

HP 85027A/B/C/D/E Directional Bridges

The HP 85027 series directional bridges are designed to operate with the HP 8757, 8756 and 8755 scalar network analyzers for reflection measurements from 10 MHz to 47 GHz. A switch on the HP 85027 series bridges allows the user to configure them for operation with the HP 8757 or the HP 8756 and 8755 scalar network analyzers.

When used with the HP 8757 scalar network analyzer, the HP 85027 series bridges allow the user to choose the measurement mode that best suits the application. Use the bridge's AC mode (modulated RF) for measurements in the presence of undesired signals such as broadband noise or electromagnetic interference. Or choose the bridge's DC mode (unmodulated RF) to measure the return loss of modulation sensitive devices such as amplifiers with gain control circuits. Use the companion HP 85025 series detectors for AC and DC measurement versatility or the HP 11664 series detectors for AC only measurements.

High (40 dB) directivity and excellent test port match ensure accurate reflection measurements over a broad swept frequency range. The HP 85027B bridge operates from 10 MHz to 26.5 GHz and has an SMA compatible, precision female 3.5mm test port connector. The HP 85027A/C bridges operate from 10 MHz to 18 GHz. The HP 85027A has a rugged 7mm test port connector and the HP 85027C has a precision Type-N connector. The HP 85027E operates from 10 MHz to 26.5 GHz and has an SMA compatible, precision male 3.5mm test port connector. Reflection measurements from 10 MHz to 47 GHz are possible using the HP 85027D directional bridge.

Measuring SMA devices

Hewlett-Packard recommends using the HP 85027A bridge and an 7mm to 3.5mm adapter for measuring SMA devices from 10 MHz to 18 GHz. For SMA measurements to 26.5 GHz, HP recommends using 3.5mm to 3.5mm adapters (included with the HP 85027B/E bridge) to preserve the HP 85027B/E output connector.

HP 85020A/B Directional Bridges

The economical HP 85020A/B directional bridges also offer high (40 dB) directivity and excellent port match at RF (to 4.3 GHz) frequencies. For 50 ohm measurements choose the HP 85020A. The HP 85020B is designed for 75 ohm environments. Both RF bridges have Type-N connectors.

Detectors

Two types of detectors are available for use with HP scalar network analyzers for measurements up to 60 GHz. All detectors provide excellent impedance match, and therefore minimize mismatch uncertainty in scalar measurements.

HP 85025 and 85026 Series Detectors (AC/DC)

The HP 85025 and 85026 series detectors are designed specifically for operation with the HP 8757 Scalar Network Analyzer and are not compatible with either the HP 8756 or the 8755. The HP 85025/26 detectors detect either a modulated (AC) or an unmodulated (DC) microwave signal. In AC mode, the HP 85025/26 series detect the envelope of the 27.8 kHz modulated microwave signal, provided internally by the HP 8350B Sweep Oscillator with RF plug-in and the HP 8360 series synthesized sweepers or externally with the HP 8340/41 synthesized sweepers. In DC mode, the HP 85025/26 series detectors measure the microwave power directly without modulation. The user can change detection modes from the HP 8757 front panel.

HP 11664 Series Detectors (AC Only)

The HP 11664 series detectors are designed to operate with the HP 8757, 8756 and 8755 scalar analyzers in AC mode only. The HP 11664A/E cover the 10 MHz to 26.5 GHz range, and the HP 11664D covers from 26.5 to 40 GHz.

Detector Adapters

The HP 85025C and the HP 11664C Detector Adapters match the scalar analyzer display to most standard crystal, silicon, and gallium arsenide detectors. This enables the user to operate up to 110 GHz with the HP 8757 and the HP 8756.

The HP 85025C Detector Adapter is designed for use with the HP 8757 only, and can operate in either AC or DC detection modes. A softkey calibration sequence calibrates the HP 8757 display to your particular detector for an accurate display of power level. The analyzer can then account for the voltage versus input power characteristics of the detector in use. This calibration requires two known calibration inputs, one at a high level (linear operating region, above 0 dBm) and one at a low level (square law region, below –20 dBm).

The HP 11664C Detector Adapter is designed for use with the HP 8757, 8756, and 8755 scalar analyzers. The HP 11664C is matched to the particular diode used via two screwdriver adjustments. One adjustment sets the adapter's amplifier gain to the correct power level indication on the scalar network analyzer. The second adjustment matches the input impedance of the adapter to the load impedance of the detector. Together, the voltage versus power characteristics of the detector are calibrated for the scalar analyzer display.

Detector Summary

For use with the HP 8757, 8756, or 8755 in AC detection mode only:

Detector	Freq. Range (GHz)	Connector Type	Return Loss (dB)	Dynamic Range 8757	Dynamic Range 8756	Weight Net	Weight Shipping
11664A[1]	.01-18	Type-N (m)	.01-.04 GHz: 10 dB .04-4 GHz: 20 dB 4-12 GHz: 18 dB 12-18 GHz: 16 dB	+16 to –60 dBm	+10 to –50 dBm	0.17 kg (0.4 lb)	0.9 kg (2 lb)
11664E	.01-26.5	3.5 mm (m)	.01-.04 GHz: 10 dB .04-6 GHz: 20 dB 6-20 GHz 16 dB 20-26.5 GHz: 12 dB	+16 to –60 dBm	+10 to –50 dBm	"	"
11664D	26.5-40	WR-28	12 dB	+10 to –50 dBm	+10 to –50 dBm	0.24 kg (0.5 lb)	1.0 kg (2.2 lb)
11664C	[3]	SMA (m)	[3]	[3]	[3]	0.17 kg (0.4 lb)	0.9 kg (2 lb)

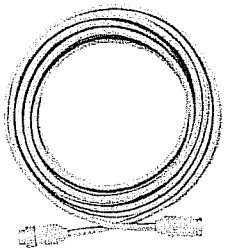
Detector Summary (cont'd)

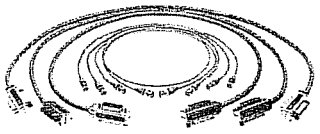
For use with HP 8757 only in either AC or DC detection modes:					AC mode	DC mode		
85025A[1, 2]	.01-18	Type-N (m)	.01-.04 GHz: .04-4 GHz: 4-18 GHz:	10 dB 20 dB 17 dB	+16 to –55 dBm	+16 to –50 dBm	0.24 kg (0.5 lb)	1.0 kg (2.2 kg)
85025B[2]	.01-26.5	3.5mm (m)	.01-18 GHz: 18-26.5 GHz:	Same as 85025A 12 dB	+16 to –55 dBm	+16 to –50 dBm	"	"
85025D	.01-50 GHz	2.4mm (m)	10-40 MHz: 40-100 MHz: .1-14 GHz: 14-34 GHz: 34-40 GHz: 40-50 GHz:	10 dB 20 dB 23 dB 20 dB 15 dB 9 dB	+16 to –55 dBm	+16 to –50 dBm	"	"
85025E	.01-26.5 GHz	3.5mm (m)	10-40 MHz: 40-100 MHz: .1-25 GHz: 25-26.5 GHz:	10 dB 20 dB 25 dB 23 dB	+16 to –55 dBm	+16 to –50 dBm	"	"
R85026A[2] Q85026A[2] U85026A[2]	26.5-40 33-50 40-60	WR-28 WR-22 WR-19	12 dB 12 dB 12 dB		+10 to –50 dBm +10 to –50 dBm +10 to –50 dBm	+10 to –45 dBm +10 to –45 dBm +10 to –45 dBm	" " "	" " "
85025C K57 85025C K71	55-65 GHz 90-110 GHz	WR-15 WR-18			–10 to –50 dBm (typical) –10 to –50 dBm (typical)	–10 to –45 dBm (typical) –10 to –45 dBm (typical)	" "	" "
85025C[2]	[3]	SMA (m)	[3]		[3]	[3]	"	"

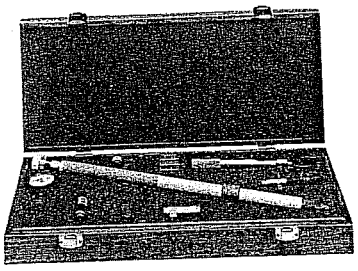
Directional Bridge Summary

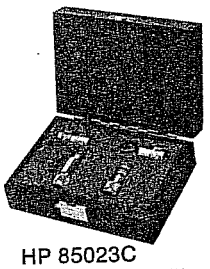
For use with the HP 8757, 8756, or 8755 in AC detection mode only:								
Bridge	Freq. Range (GHz)	Nominal Impedance	Connector Input	Connector Test port	Directivity (dB)	Test Port Match (SWR)	Weight Net	Weight Shipping
85020A	.01-4.3 GHz	50 ohms	Type-N (f)	Type-N (f)	.01-3 GHz: 40 dB 3-4.3 GHz: 34 dB	.01-3 GHz: <1.22 3-4.3 GHz: <1.25	0.5 kg (1.2 lb)	2.3 kg (5 lb)
85020B	.01-2.4 GHz	75 ohms	Type-N (f)	Type-N (f)	40 dB	.01-1.3 GHz: <1.25 1.3-2.4 GHz: <1.43	"	"
For use with the HP 8756, or 8755 in AC detection mode or with the HP 8757 in either AC or DC detection modes								
85027A	.01-18 GHz	50 ohms	Type-N (f)	7mm	40 dB	.01-8.4 GHz: <1.15 8.4-12.4 GHz: <1.25 12.4-18 GHz: <1.43	0.5 kg (1.2 lb)	2.3 kg (5 lb)
85027B	.01-26.5 GHz	50 ohms	3.5mm (f)	3.5mm (f)	.01-20 GHz: 40 dB 20-26.5 GHz: 36 dB	.01-8.4 GHz: <1.15 8.4-20 GHz: <1.43 20-26.5 GHz: <1.78	"	"
85027C	.01-18 GHz	50 ohms	Type-N (f)	Type-N (f)	.01-12.4 GHz: 36 dB 12.4-18 GHz: 34 dB	.01-8.4 GHz: <1.15 8.4-12.4 GHz: <1.25 12.4-18 GHz: <1.43	"	"
85027D	.01-47 GHz	50 ohms	2.4mm (f)	2.4mm (m)	.01-20 GHz: 36 dB 20-26.5 GHz: 32 dB 26.5-40 GHz: 30 dB 40-47 GHz: 25 dB	.01-16 GHz: <1.15 16-30 GHz: <1.25 30-40 GHz: <1.40 40-47 GHz: <2.20 (typical)	"	"
85027E	.01-26.5 GHz	50 ohms	3.5mm (f)	3.5mm (m)	.01-20 GHz: 40 dB 20-26.5 GHz: 36 dB	.01-8.4: <1.15 8.4-20 GHz: <1.43 20-26.5 GHz: <1.75	"	"

1. Option 001 changes to 7mm connector.
2. The HP 85025 and 85026 series detectors and the HP 85025C require HP 8757A firmware revision 2.0 or higher. To upgrade previous revisions order the HP 11614A Firmware Enhancement.
3. Depends on the particular external detector used.

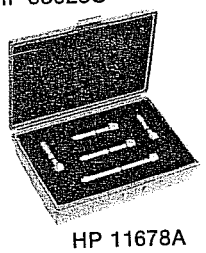

HP 11679A


HP 85022A


HP 85028A


HP 85023C


HP 11668A


HP 11678A

HP 11679A/B Extension Cables

Function: These cables extend the distance between the scalar network analyzer and the detector or bridge to a maximum of 200 feet without degradation of performance.
HP 11679A: 7.6 m (25 ft) extension cable
HP 11679B: 61 m (200 ft) extension cable

HP 85023A/B/C/D/F Verification Kits

The HP 85023 Series system verification kits each contain a set of precision components used to perform a system verification procedure for the HP 8757 scalar network analyzer system. This procedure, which is in the HP 8757/56 Operating and Service Manuals, checks system installation and can be used as a daily functional test.

Choose a system verification kit to match your device under test. For 7mm applications, select the HP 85023A. If you are measuring SMA or 3.5mm devices, choose the HP 85023B. For 50 ohm, Type-N applications, select the HP 85023C. These kits (HP 85023A/B/C) all include an open, short, 10 dB fixed attenuator, 50 ohm termination, and a source to directional bridge adapter of the corresponding connector type. The HP 85023D verification kit, for 75 ohm Type-N measurements, consists of a short, a 75 ohm termination, a 50 ohm 10 dB fixed attenuator and two HP 11852B 50 to 75 ohm minimum loss pads (for 50/75 ohm impedance conversion).

The HP 85023F verification kit includes 2.4mm standards for verifying performance of the HP 8757 system to 50 GHz. Included are a 2.4mm female open, short and 50 ohm load, a 10 dB attenuator, and female to female adapter.

Frequency range: HP 85023A/C, dc to 18 GHz.
HP 85023D, dc to 1.3 GHz.
HP 85023B, dc to 26.5 GHz.
HP 85023F, dc to 50 GHz.
Connector type: HP 85023A, 7mm.
HP 85023B, 3.5mm.
HP 85023C, Type-N, 50 ohm.
HP 85023D, Type-N, 75 ohm.
HP 85023F, 2.4mm, 50 ohm.
Characteristic impedance: HP 85023A/B/C/F, 50 ohm.
HP 85023D, 75 ohm.
Weight: net, 0.5 kg (1.2 lb); shipping, 1.2 kg (2.9 lb).

HP 85022A System Cable Kit

The HP 85022A contains all the BNC and HP-IB cables to connect an HP 8350B sweep oscillator (or the HP 8360 series, HP 8340B/41B synthesized sweepers), an HP Series 200 or 300 computer, and a printer to the HP 8757 or 8756. This kit contains 3 one-meter HP-IB cables (HP 10833A), 3 two-foot BNC cables (HP 11170B), and 1 four-foot BNC cable (HP 11170C).
BNC connectors: N-Male, N-Male.
BNC impedance: 50 ohm.
Weight: net, 0.5 kg (1.2 lb); shipping, 1.2 kg (2.9 lb).

HP 85028A 7mm Directivity Verification Standards for HP 85021A/85027A

The HP 85028A allows on-site verification of the 40 dB directivity of the HP 85021A and 85027A directional bridges. For frequencies below 2 GHz, a precision 52 dB return loss load is used. For frequencies from 2 to 18 GHz, a sliding mismatch is used to establish a ripple pattern from which the directivity can be calculated. The HP 82028A includes a precision 50 ohm termination, a high-performance sliding mismatch, an 7mm open/short, an 7mm connector gage kit, and a torque wrench.
Weight: net, 2.0 kg (4.5 lb); shipping, 3.5 kg (8.0 lb).

HP 11614A Firmware Enhancement

The HP 11614A firmware enhancement updates the HP 8757A scalar network analyzer to firmware revision 2.1. (HP 8757As with serial number prefix 2802A or higher already have revision 2.1 firmware). Firmware revision 2.1 added several new features to previous versions of the HP 8757A. These include the ability to display and plot reflection traces in units of standing wave ratio (SWR), tabular listings of numerical data on an HP ThinkJet printer, full calibration and operation with the HP 85025C detector adapter and R/Q/U85026A waveguide detectors, and the ability to display and plot an external voltage applied to a rear panel input. All revision 2.1 features are HP-IB programmable.

NETWORK ANALYZERS
8757 System Accessories (cont'd)
Models 11613B, 11636A/B, 11665B, 11668A, 11852B

HP 11668A High Pass Filter

The HP 11668A high pass filter accessory is recommended when making measurements on active devices that have gain below 50 MHz. Use of the HP 11668A, placed after the HP 11665B, reduces the modulator drive feedthrough from 8 mV to 1 mV and prevents possible amplifier saturation. Use of the HP 11668A filter is not necessary for passive measurements since the feedthrough from the HP 11665B is −65 dBm and causes no degradation in system performance.

Frequency range: 50 MHz to 18 GHz.

	Insertion Loss	Return Loss
50-100 MHz	≤2.5 dB	≥12 dB
100 MHz-8 GHz	≤1.0 dB	≥16 dB
8-12 GHz	≤1.0 dB	≥14 dB
12-18 GHz	≤1.5 dB	≥14 dB

Maximum input: +27 dBm.
Connectors: N-female, N-male.
Weight: net, 0.13 kg (5 oz); shipping, 0.28 kg (10 oz.).

HP 11678A Low Pass Filter Kit

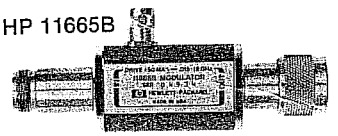
Description: the HP 11678A low pass filter kit contains five filters. Low pass filters reduce harmonics generated by the RF source when making precision measurements.
Frequency Range (low pass filters, cutoff frequency fc)
HP 11688A: 2.8 GHz.
HP 11689A: 4.4 GHz.
HP 11684A: 6.8 GHz.
HP 11685A: 9.5 GHz.
HP 11686A: 13.0 GHz.
Insertion loss: <1.1 dB at 0.95 fc.
Rejection (at 1.25 fc): greater than 40 dB.
Impedance: 50 ohm normal.
Connectors: N-Female, N-Male.
Weight: net, 0.44 kg (1 lb); shipping, 1.2 kg (2.9 lb).

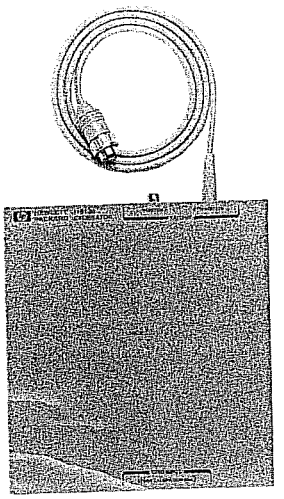
HP 11613B Calibrator

HP 8757 and 8756 verification/calibration is recommended every 12 months. This can be accomplished at an HP service center or on-site using the HP 11613B calibrator and an HP 9000 series 200 or series 300 computer.

The HP 11613B is a dedicated transfer standard for calibration of the HP 8757 and 8756. The HP 11613B provides the standard a 27.778 kHz source and a series of precision attenuators. The calibrator includes software (both 3.5 and 5.25 inch formats) that operates on an HP 9000 series 200 or series 300 computer, the BASIC operating system (BASIC 2.0, and above) and a GP-IO cable for use when calibrating the HP 8756. The software verifies (and adjusts if necessary) the internal calibration parameters stored in the non-volatile memory of the HP 8757 and 8756. All HP 8757 and 8756 detector inputs can be calibrated in a matter of minutes. Re-calibration of the HP 11613B is recommended every two years.
Memory Requirement: 1/2M byte, including BASIC.
Hardware Requirement: HP 98622A 16-bit GP-IO interface card for use with HP 8756.
Dimensions: 40 H x 185 W x 203 mm D (1.5 x 7.3 x 8.0 in).
Cable length: 1.22 m (48 in).
Weight: Net 0.91 kg (2 lbs). Shipping 1.4 kg (3 lbs).

HP 11665B





HP 11613B

HP 11636A/B Power Dividers

The HP 11636A/B power dividers/combiners are recommended when making wideband comparison measurements without ratioing, and in fault location measurements with the HP 8757/85016. Detailed specifications are on page 331.

Other Signal Separation Devices

Many other signal separation devices are available from HP for use with the HP 8757, 8756 and 8755. Coaxial couplers from 0.1 to 18 GHz are available with the HP 770 series, the 790 series, and the HP 11692. Higher directivity HP 752 series waveguide couplers can also be used with the HP 8757, 8756 or 8755 with the addition of appropriate HP 281 series waveguide-to-coax adapters.

11665B Modulator

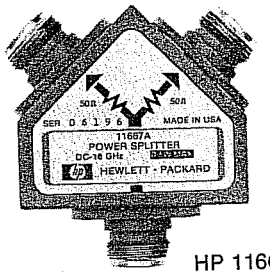
Function: absorbtive on-off modulator designed for and powered by the HP 8757, 8756 or 8755 scalar network analyzers.

Frequency Range	Return Loss On and Off	Insertion Loss On Off
15–40 MHz	≥10 dB	≤7.0 dB ≥35 dB
40 MHz–4 GHz	≥15 dB	≤3.2 dB ≥35 dB
4–8 GHz	≥12 dB	≤3.8 dB ≥40 dB
8–12.4 GHz	≥8 dB	≤4.3 dB ≥45 dB
12.4–18 GHz	≥8 dB	≤5.0 dB ≥45 dB

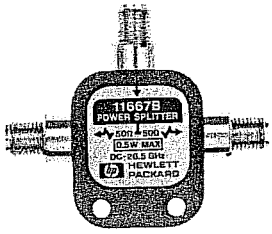
Modulator drive feedthrough: ≤8 mV (peak) at 27.8 kHz at either port when powered by the HP 8757, 8756 or 8755. Reduced to ≤ 1mV (peak) using the HP 11668A. (See HP 11668A High Pass Filter).
Drive current: nominally +50 mA in On condition, −50 mA Off condition.
Weight: net, 0.17 kg (6 oz); shipping, 0.9 kg (2 lb).

HP 11852B 50 ohm/75 ohm Minimum Loss Pad

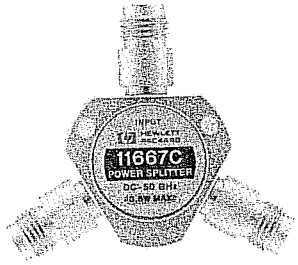
The HP 11852B is a low SWR minimum loss pad required between 75 ohm devices and 50 ohm sources and detectors. For more information, see page 233.



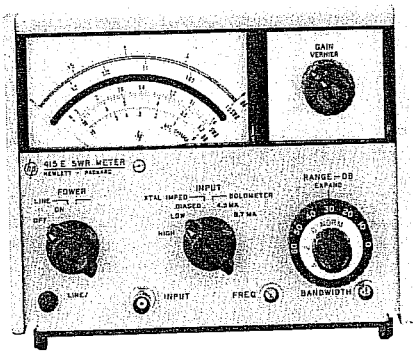
HP 11667A



HP 11667B



HP 11667C



HP 415E

HP 415E SWR Meter

HP 415E SWR Meter is a low noise, 1000 Hz tuned amplifier and voltmeter, calibrated in dB and SWR. Designed for use with square law detectors, it measures SWR, attenuation, and gain directly from metered scales, or drives an X-Y recorder for RF substitution measurements. Front panel INPUT switch selects unbiased low (50-200 Ω) or high (2500-10,000 Ω) impedance crystal, biased crystal (1 V into 1 kΩ), or low or high current bolometer (4.5 or 8.7 mA ± 3% into 200 Ω).

An internal precision 60 dB attenuator allows the HP 415E to operate over a 70 dB range in 10 or 2 dB steps, with ±0.05 dB accuracy for a 10 dB step; maximum cumulative error between any two 10 dB steps is ±0.1 dB. Sensitivity is 0.15 μV rms for full scale deflection at maximum bandwidth (1 μV rms on high impedance crystal imput).

Continuously adjustable bandwidth can be adjusted from 15 Hz for maximum sensitivity at CW frequencies to 130 Hz for swept frequency uses. An optional rechargeable battery pack provides uo to 36 hours of continuous operation for portable use.

Weight: Net 4 kg (9 lb); shipping 5.8 kg (13 lb).
Power: 115-230 V ±10%, 50-400 Hz, 1 VA.

HP 11667A/B/C Power Splitters

The HP 11667A/B/C power splitters are recommended when making wideband ratio measurements using the HP 8757, 8756, or 8755 scalar network analyzer. These two-resistor type splitters provide excellent output SWR at the auxiliary arm when used for source leveling or ratio measurement applications. The tracking between output arms over a frequency range from dc to 50 GHz allows wideband measurements to be made with a minimum of uncertainty.

Frequency Range:
HP 11667A: DC to 18 GHz.
HP 11667B: DC to 26.5 GHz.
HP 11667C: DC to 50 GHz.
Impedance: 50 ohms nominal.
Insertion Loss:
HP 11667A/B: 6 dB nominal.

HP 11667A	DC to 4 GHz	DC to 8 GHz	DC to 18 GHz
Input SWR:	≤1.15	≤1.25	≤1.45
Equivalent Output SWR: (leveling or ratio measurements)	≤1.10	≤1.20	≤1.33
Output Tracking (dB): (between output arms)	≤0.15	≤0.20	≤0.25
Typical Phase Tracking (deg): (between output arms)	0.5	1.5	3.0

HP 11667B/C	DC to 18 GHz	DC to 26.5 GHz	DC to 40 GHz	DC to 50 GHz
Input SWR:				
HP 11667B	≤1.22	≤1.29		
HP 11667C	≤1.22	≤1.38	≤1.50	≤1.65
Equivalent Output SWR: (leveling or ratio measurements)				
HP 11667B	≤1.22	≤1.22		
HP 11667C	≤1.29	≤1.29	≤1.50	≤1.65
Output Tracking (dB): (between output arms)				
HP 11667B	≤0.25	≤0.40		
HP 11667C	≤0.30	≤0.35	≤0.40	≤0.40
Typical Phase Tracking (deg): (between output arms)				
HP 11667B	1.5	2.5		
HP 11667C	2.0	2.5	3.0	3.0
Typical Insertion Loss(dB):				
HP 11667C	6.0	7.0	8.0	8.5

Maximum Input Power: +27 dBm
Connectors:
HP 11667A: N-female on all ports.
HP 11667B: APC-3.5 female on all ports.
HP 11667C: 2.4 mm female on all ports.

Dimensions:
HP 11667A: 46 H x 52 W x 19 mm D (1.8 x 2.0 x 0.7 in.).
HP 11667B: 40 H x 47 W x 10 mm D (1.6 x 1.9 x 0.4 in.).
HP 11667C: 36 H x 36 W x 10 mm D (1.4 x 1.4 x 0.4 in.).

Weight:
HP 11667A: net, 0.14 kg (0.31 lb); shipping 0.22 kg (0.5 lb).
HP 11667B: net, 0.06 kg (0.13 lb); shipping 0.14 kg (0.3 lb).
HP 11667C: net, 0.06 kg (0.13 lb); shipping 0.14 kg (0.3 lb).

NETWORK ANALYZERS
Ordering Information
Model 8757

Ordering Information

The HP 8757 Scalar Network Analyzer is ordered with multiple line items to give you maximum flexibility in specifying a system that meets your needs. This ordering guide lists the HP 8757 line items required for software compatibility. It is not necessary to order any line item you already own. Consult your local HP Sales Office if you would like assistance.

	Price
Complete Measurement Systems	
HP 8757XA 20 GHz Coaxial Scalar System	$38,740
Includes:	
HP 8757C Scalar Network Analyzer	
HP 8350B Sweep Oscillator	
HP 83592C RF Plug-in (0.01 - 20 GHz)	
HP 85027E Directional Bridge (3.5 mm)	
HP 85025E Detector (3.5 mm)	
HP 85022A Cable Kit	
HP 8757XB 40 GHz Coaxial Scalar System	$53,205
Includes:	
HP 8757C Scalar Network Analyzer	
HP 8350B Sweep Oscillator	
HP 83597A RF Plug-in (0.01 - 40 GHz)	
HP 85027D Directional Bridge (2.4 mm)	
HP 85025D Detector (2.4 mm)	
HP 85022A Cable Kit	
Analyzer	
HP 8757C Scalar Network Analyzer	$9,000
Opt. 001 Fourth detector input	$1,500
Opt. 802 HP 9122C Disk Drive and an HP 10833A HP-IB cable	$1,495
Opt. W03* 90 day on-site warranty conversion	N/C
Opt. W30 2 year extended service	$225
HP 8757E Scalar Network Analyzer	$7,500
Opt. W03* 90 day on-site warranty conversion	N/C
Opt. W30 2 year extended service	$190
Sweep Oscillators (choose either HP 8350B with an RF Plug-in, 8360 Series, 8340B, or 8341B)	
Directional Bridges (choose at least one)	
HP 85027A 0.01–18 GHz, 7mm, 50 ohm	$2,550
HP 85027B 0.01–26.5 GHz, 3.5mm female, 50 ohm	$3,050
HP 85027C 0.01–18 GHz, Type-N female, 50 ohm	$2,550
HP 85027D 0.01–47 GHz, 2.4mm male, 50 ohm	$3,500
HP 85027E 0.01–26.5 GHz, 3.5mm male, 50 ohm	$2,950
HP 85020A 0.01–4.3 GHz, Type-N female, 50 ohm	$1,150
HP 85020B 0.01–2.4 GHz, Type-N female, 75 ohm	$1,300
Detectors (choose at least one)	
HP11664A 0.01–18 GHz, Type-N male	$525
Opt. 001 7mm connector	add $50
HP 11664E 0.01–26.5 GHz, 3.5mm male	$700
HP 11664D 26.5–40 GHz, WR-28 waveguide	$1,200
HP 11664C Detector Adapter	$300
HP 85025A 0.01–18 GHz, Type-N male	$900
Opt. 001 7mm connector	add $50
HP 85025B 0.01–26.5 GHz, 3.5mm male	$950
HP 85025D 0.01–50 GHz, 2.4mm male	$1,500
HP 85025E 0.01–26.5 GHz, 3.5mm male	$1,200
HP R85026A 26.5–40 GHz, WR-28 waveguide	$1,500
HP Q85026A 33–50 GHz, WR-22 waveguide	$1,700
HP U85026A 40–60 GHz, WR-19 waveguide	$1,700
HP 85025C Detector Adapter	$600
System Verification Kits (choose at least one)	
HP 85028A 7mm directivity verification standards	$5,000
HP 85023A 7mm, 50 ohm	$625
HP 85023B 3.5mm, 50 ohm	$850
HP 85023C Type-N, 50 ohm	$550
HP 85023D Type-N, 75 ohm	$900
HP 85023F 2.4mm, 50 ohm	$2,100
Filter Kits	
HP 11668 High Pass Filter Kit	$600
HP 11678 Low Pass Filter Kit	$1,875
System Cable Kit	
HP 85022A System Cable Kit	$355
Computer	
HP 98580C Option 102 Series 300, Model 332	$6,780
Disc Drive	
HP 9122 3.5 inch Dual Flexible Disc Drive	$1,465
Software (choose one option)	
HP 85015B System Software for HP 8757	$2,000
Opt. 630 for Computer with HP 9121/22 Disc Drive	N/C
Opt. 655 for either HP 9826 or 9836 Computer	N/C
HP 85016B Transmission Line Test Software for HP 8757	$4,500
Opt. 630: for Computer with HP 9121/22 Disc Drive	N/C
Opt 655: for either HP 9826 or 9836 Computer	N/C
Recommended Accessories	
Printer (choose at least one)	
HP 2225A ThinkJet Printer	$495
HP 2227B QuietJet Printer	$799
HP 3630A Option 002 PaintJet Color Graphics Printer	$1,395
Plotter (choose at least one)	
HP 7440A Opt. 002 Eight-pen Graphics Plotter (8.5" x 11")	$1,295
HP 7550 Eight-pen Vector Plotter (11" x 17")	$3,995
Optional Accessories (for ratio and/or modulation measurements)	
HP 11636A Power Divider DC to 18 GHz	$500
HP 11636B Power Divider DC to 26.5 GHz	$995
HP 11665B Modulator	$900
HP 11667A Power Splitter DC to 18 GHz	$930
Opt. 001 N-male on input port; N-female on output ports:	N/C
Opt. 002 N-female on input port; 7mm on output ports:	add $75
HP 11667B Power Splitter DC to 26.5 GHz	$995
HP 11667C Power Splitter DC to 50 GHz	$1,500
HP 11852B 50 to 75 ohm Minimum Loss Pad	$350
Service and Support Products	
HP 11613B Calibrator	$995
HP 415E SWR Meter	$2300
Opt. 001: rechargeable battery installed	add $105
Opt. 002: rear panel output connector	add $25

* Only where available