



## Specifications Summary

### Test Set

Integrated S-parameter with complete forward and reverse measurements in 50 Ω (standard) or 75 Ω (Opt 075). External test sets supported with Opt 011.

### Test Port Output

#### Frequency characteristics

**Range:** 30 kHz to 3 GHz (std.); 30 kHz to 6 GHz (Opt. 006)

**Resolution:** 1 Hz

**Accuracy:** ±10 ppm at 25°C ± 5° C

#### Output characteristics

**Power range:** -85 to 10 dBm

**Resolution:** 0.05 dB

**Sweep range:** 25 dB

**Level accuracy:** ±1.0 dB

**Level linearity:** (-15 to +5 dBm) ±0.2 dB  
(+5 to +10 dBm) ±0.5 dB

**Impedance:** 50 Ω

**2nd harmonic:** < -25 dBc at +10 dBm

**3rd harmonic:** < -25 dBc at +10 dBm

**Nonharmonic spurious (typical)**

**Mixer-related:** < -30 dBc at +10 dBm

### Test Port Input Characteristics

**Frequency range:** 30 kHz to 3 GHz (std.); 30 kHz to 6 GHz (Opt. 006)

#### Average noise level

**3 kHz BW:** -82 dBm (<3 GHz), -77 dBm (3 to 6 GHz)

**10 Hz BW:** -102 dBm (<3 GHz), -97 dBm (3 to 6 GHz)

**Maximum input level:** +10 dBm

**Damage level:** +26 dBm or 35 Vdc

**Impedance:** 50 Ω (75 Ω with Opt 075)

**Harmonics:** (Opt 002)

**2nd harmonic:** < -15 dBc at +8 dBm

**3rd harmonic:** < -30 dBc at +8 dBm

### Group Delay Characteristics

**Range:** 1/(2 × minimum aperture)

**Aperture (selectable)**

**Maximum:** 20% of frequency span

**Minimum:** (freq. span)/(no. of pts. -1)

### Physical Characteristics

**Size:** 222 mm H × 425 mm W × 508 mm D (8.75 in × 16.75 in × 20.0 in)

## Upgrade Kits

Upgrade kits retrofit the latest operating systems or add optional measurement capability to existing HP 8753A/B/C/D network analyzers.

### HP 11882A Upgrade Kit for the HP 8753A

This kit upgrades an HP 8753A to an HP 8753B with revision 3.0 firmware. New measurement capabilities include mixer measurements, support of 6 GHz and solid-state test sets, interpolative error correction, and the test sequencing function (for built-in automatic measurements). Options for 6 GHz receiver and harmonic measurements can also be added to an HP 8753A after the HP 11882A kit has been installed. This kit includes installation at an HP service center.

### HP 11883A Harmonic Measurements Upgrade

This upgrade kit adds harmonic measurement capability (Opt 002) to an HP 8753B/C/D network analyzer. This kit includes installation at an HP service center.

### HP 11884A 6 GHz Receiver Upgrade

This kit extends the operating frequency range of the HP 8753B/C receiver from 3 GHz to 6 GHz. To make transmission/reflection measurements above 3 GHz, the HP 85047A S-parameter test set is required. This kit includes installation at an HP service center.

### HP 11884B 6 GHz Upgrade

This kit extends the operating frequency range of the HP 8753D from 3 GHz to 6 GHz. No additional test set is needed. Includes installation at an HP service center. Not compatible with Opt 075 or Opt 011.

### HP 11884C 6 GHz Upgrade for HP 8753D Opt 011

This kit extends the operating frequency range of the HP 8753D Opt 011 from 3 GHz to 6 GHz. Includes installation at an HP service center. Not compatible with Opt 075.

### HP 85019A Time Domain Upgrade Kit

This upgrade kit adds time domain analysis capability (Opt 010) to an existing HP 8753A network analyzer. This kit is user installable.

### HP 85019B Time Domain Upgrade Kit

This upgrade kit adds time domain analysis capability (Opt 010) to an existing HP 8753B/C/D network analyzer. This kit is user installable.

### HP 86387A Mixer Measurement Upgrade for HP 8753B

This upgrade adds mixer measurement capability to an existing HP 8753B. Phase lock hardware and firmware revision 3.0 is included. This kit includes installation at an HP service center.

### HP 86387B Mixer Measurement Upgrade for HP 8753C

This upgrade adds mixer measurement capability to an existing HP 8753C. Phase lock hardware and firmware revision 4.1 is included. This kit includes installation at an HP service center. Not required for HP 8753Cs with firmware revision 4.02 or higher.

### HP 86388A Upgrade Kit for the HP 8753B

This kit adds the latest firmware revision to an existing HP 8753B. Significant enhancements include disk file compatibility with HP 8753C network analyzers and support of solid-state switching test sets. This kit is user installable.

## Transmission/Reflection Test Sets

The transmission/reflection test sets provide the capability to simultaneously measure the reflection and transmission characteristics of two port devices. The device must be physically turned around to measure its reverse direction characteristics. These test sets are used with the HP 8753A/B/C or the HP 8753D Opt 011 only.

### HP 85044A/B Transmission/Reflection Test Sets

The HP 85044A/B test sets provide the capability to measure the reflection and transmission characteristics of 50 Ω and 75 Ω devices, respectively.

## Specifications Summary

	HP 85044A	HP 85044B
<b>Impedance:</b>	50 Ω	75 Ω
<b>Frequency Range:</b>	300 kHz to 3 GHz	300 kHz to 2 GHz
<b>Directivity<sup>2</sup>:</b>	35 dB to 1.3 GHz 30 dB to 3.0 GHz	35 dB to 1.3 GHz 30 dB to 2.0 GHz

### Typical Tracking

Transmission magnitude, phase <sup>2,3</sup> :		
0.3 MHz to 2.0 MHz	±1.5 dB, ±10°	±1.5 dB, ±10°
2.0 MHz to F <sub>max</sub>	±1.5 dB, ±10°	±1.5 dB, ±10°
Reflection magnitude, phase <sup>2,3</sup> :		
0.3 MHz to 2.0 MHz	±1.5 dB, ±25°	±1.5 dB, ±25°
2.0 MHz to F <sub>max</sub>	±1.5 dB, ±10°	±1.5 dB, ±10°
Effective source match <sup>2,3</sup> (test ports):		
0.3 MHz to 2.0 MHz	14 dB	14 dB
2.0 MHz to 1.3 GHz	20 dB	17 dB
1.3 GHz to F <sub>max</sub>	16 dB	16 dB

### RF Connectors

<b>Test port:</b>	Precision 7 mm	75 Ω Type-N (female)
<b>All others:</b>	50 Ω Type-N (female)	50 Ω Type-N (female)

### Physical Characteristics

**Size:** 63 mm H × 191 mm W × 204 mm D (2.44 in × 7.5 in × 8.0 in)  
**Weight:** Net, 1.7 kg (3.8 lb); shipping, 2.0 kg (4.4 lb)

<sup>1</sup>Degrees, specified as deviation from linear phase.

<sup>2</sup>F<sub>max</sub> is the upper frequency limit of the associated test set.

<sup>3</sup>Can be improved through accuracy enhancement.

# NETWORK ANALYZERS

## Accessories (cont'd)

### HP 8753D Series

#### HP 85032B 50 $\Omega$ Type-N Calibration Kit

The HP 85032B calibration kit contains precision 50  $\Omega$  Type-N standards used to calibrate the HP 8753D and its 50  $\Omega$  test sets for measurement of devices with 50  $\Omega$  Type-N connectors. Precision phase-matched 7 mm to 50  $\Omega$  Type-N adapters are included for accurate measurements of non-insertable devices. Standards include fixed terminations, open circuits, and short circuits.

#### HP 85033D 3.5 mm Calibration Kit

The HP 85033D calibration kit contains fixed loads and one-piece open and short circuits to calibrate the HP 8753 and 50  $\Omega$  test sets for measurement of devices with precision 3.5 mm and SMA connectors. Phase-matched 7 mm to 3.5 mm adapters for male and female connectors are included for use with 7 mm test port cables.

#### HP 85036B 75 $\Omega$ Type-N Calibration Kit

The HP 85036B calibration kit contains precision 75  $\Omega$  Type-N standards used to calibrate the HP 8753 and its 75  $\Omega$  test sets for measurement of devices with 75  $\Omega$  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.

#### HP 85039A Type-F Calibration Kit

The HP 85039A calibration kit contains Type-F male open, short, and load standards to calibrate the HP 8753D and 75  $\Omega$  test sets for measurement of devices with 75  $\Omega$  Type-F connectors. The kit also includes Type-N to Type-F adapters.

#### HP 85060 Series Electronic Calibration Modules and Control Unit

This series provides electronic calibration (ECal) capability for the HP 8753D. The usual calibration kit standards are replaced by a control unit to present many different impedances to the test ports. A full two-port calibration can be done with a single connection in just a few minutes, with less chance for error and less wear on connectors. ECal requires an HP 85060C electronic calibration control unit and HP 85060 series calibration modules of the appropriate connector type.

#### Verification Kits

Measuring known devices, other than the calibration standards, is a convenient way of verifying that the HP 8753 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 NIST, used to verify the calibrated performance of an HP 8753A/B/C/D measurement system. The devices have precision 7 mm connectors and include a 20 dB pad, a 50 dB pad, and a mismatch attenuator. The verification process requires only an HP 85031B calibration kit, an HP 85029B verification kit.

Option 001 is intended solely for use with the HP 8702B lightwave component analyzer. Option 001 adds verification data that is compatible with the HP 8702B.

#### Ordering Information

	Price
<b>HP 8753D</b> Network Analyzer, 30 kHz to 6 GHz Integrated network analyzer with built-in color display, S-parameter test set, disk drive, and 30 kHz to 3 GHz synthesized source. Standard 50 $\Omega$ version has two 7 mm test ports.	\$34,500
<b>Opt 002</b> Harmonic Measurement Capability	+\$3,500
<b>Opt 006</b> 6 GHz Frequency Extension	+\$5,000
<b>Opt 010</b> Time Domain Capability	+\$5,300
<b>Opt 011</b> Delete Built-in Test Set	-\$6,500
<b>Opt 075</b> 75 $\Omega$ Impedance	\$0
<b>Opt 1D5</b> High Stability Frequency Reference	+\$1,000
<b>HP 85047A</b> 50 $\Omega$ S-Parameter Test Set—6 GHz	\$11,000
<b>Opt 009</b> Mechanical Test Port Switch	-\$1,000
<b>Opt 913</b> Rack Mount Kit (5062-4069)	+\$41
<b>HP 85046A</b> 50 $\Omega$ S-Parameter Test Set—3 GHz	\$9,180
<b>Opt 009</b> Mechanical Test Port Switch	-\$1,000
<b>Opt 913</b> Rack Mount Kit (5062-4069)	+\$41
<b>HP 85046B</b> 75 $\Omega$ S-Parameter Test Set—3 GHz	\$9,180
<b>Opt 009</b> Mechanical Test Port Switch	-\$1,000
<b>Opt 913</b> Rack Mount Kit (5062-4069)	+\$41
<b>HP 85044A</b> 50 $\Omega$ Transmission/Reflection Test Set	\$3,570
<b>HP 85044B</b> 75 $\Omega$ Transmission/Reflection Test Set	\$4,080
<b>HP 85029B</b> Precision 7 mm Verification Kit	\$1,735
<b>Opt 001</b> Data for HP 8702B	\$0
<b>HP 85031B</b> Precision 7 mm Calibration Kit	\$1,225
<b>HP 85032B</b> 50 $\Omega$ Type-N Calibration Kit	\$1,940
<b>HP 85033D</b> 3.5 mm Calibration Kit	\$2,950
<b>HP 85036B</b> 75 $\Omega$ Type-N Calibration Kit	\$2,040
<b>HP 85039A</b> Type-F Calibration Kit	\$2,350
<b>HP 85060C</b> Electronic Calibration Control Unit	\$6,100
<b>HP 85060</b> Series Electronic Calibration Modules	Price varies
<b>HP 85043D</b> System Rack	\$3,265
<b>HP 11882A</b> Upgrade Kit for HP 8753A	\$3,470
<b>HP 11883A</b> Harmonic Measurements (Opt 002) Upgrade	\$3,570
<b>HP 11884A</b> 6 GHz Receiver (Opt 006) Upgrade	\$3,570
<b>HP 11884B</b> 6 GHz (Opt 006) Upgrade Kit for HP 8753D	\$6,000
<b>HP 11884C</b> 6 GHz (Opt 006) Upgrade Kit for HP 8753D Opt 011	\$6,000
<b>HP 85019A</b> Time Domain (Opt 010) Upgrade (HP 8753A)	\$5,410
<b>HP 85019B</b> Time Domain (Opt 010) Upgrade (HP 8753B/C/D)	\$5,410
<b>HP 86387A</b> Mixer Measurement Upgrade Kit for the HP 8753B	\$1,120
<b>HP 86387B</b> Mixer Measurement Upgrade Kit for the HP 8753C	\$1,120
<b>HP 86388A</b> Upgrade Kit for HP 8753B (Rev. 3.00)	\$305
<b>HP 86389A</b> Solid-State Switch Upgrade Kit (for HP 85046A/B Test Sets)	\$1,530
<b>HP 86389B</b> Solid-State Switch Upgrade Kit (for HP 85047A Test Sets)	\$1,530
<b>HP 86205A</b> 50 $\Omega$ Bridge	\$1,325
<b>HP 86207A</b> 75 $\Omega$ Bridge	\$1,325
<b>HP 11850C</b> 50 $\Omega$ Power Splitter	\$970
<b>HP 11850D</b> 75 $\Omega$ Power Splitter	\$1,735
<b>HP 11851B</b> 50 $\Omega$ /Type-N RF Cable Kit	\$1,020
<b>HP 11852B</b> 50 $\Omega$ /75 $\Omega$ Minimum Loss Pad	\$510
<b>HP 11853A</b> 50 $\Omega$ Type-N Accessory Kit	\$510
<b>HP 11854A</b> 50 $\Omega$ BNC Accessory Kit	\$510
<b>HP 11855A</b> 75 $\Omega$ Type-N Accessory Kit	\$510
<b>HP 11856A</b> 75 $\Omega$ BNC Accessory Kit	\$510
<b>HP 11857B</b> 75 $\Omega$ Type-N Test Port Extension Cables	\$1,485
<b>HP 11857D</b> 50 $\Omega$ APC-7 Test Port Extension Cables	\$1,275

☎ For off-the-shelf shipment, call 800-452-4844.