

Test Equipment Solutions Datasheet

Test Equipment Solutions Ltd specialise in the second user sale, rental and distribution of quality test & measurement (T&M) equipment. We stock all major equipment types such as spectrum analyzers, signal generators, oscilloscopes, power meters, logic analysers etc from all the major suppliers such as Agilent, Tektronix, Anritsu and Rohde & Schwarz.

We are focused at the professional end of the marketplace, primarily working with customers for whom high performance, quality and service are key, whilst realising the cost savings that second user equipment offers. As such, we fully test & refurbish equipment in our in-house, traceable Lab. Items are supplied with manuals, accessories and typically a full no-quibble 2 year warranty. Our staff have extensive backgrounds in T&M, totalling over 150 years of combined experience, which enables us to deliver industry-leading service and support. We endeavour to be customer focused in every way right down to the detail, such as offering free delivery on sales, covering the cost of warranty returns BOTH ways (plus supplying a loan unit, if available) and supplying a free business tool with every order.

As well as the headline benefit of cost saving, second user offers shorter lead times, higher reliability and multivendor solutions. Rental, of course, is ideal for shorter term needs and offers fast delivery, flexibility, try-before-you-buy, zero capital expenditure, lower risk and off balance sheet accounting. Both second user and rental improve the key business measure of Return On Capital Employed.

We are based near Heathrow Airport in the UK from where we supply test equipment worldwide. Our facility incorporates Sales, Support, Admin, Logistics and our own in-house Lab.

All products supplied by Test Equipment Solutions include:

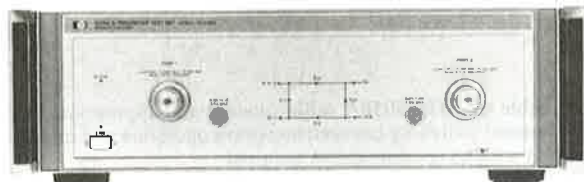
- No-quibble parts & labour warranty (we provide transport for UK mainland addresses).
- Free loan equipment during warranty repair, if available.
- Full electrical, mechanical and safety refurbishment in our in-house Lab.
- Certificate of Conformance (calibration available on request).
- Manuals and accessories required for normal operation.
- Free insured delivery to your UK mainland address (sales).
- Support from our team of seasoned Test & Measurement engineers.
- ISO9001 quality assurance.

Test equipment Solutions Ltd
Unit 8 Elder Way
Waterside Drive
Langley
Berkshire
SL3 6EP

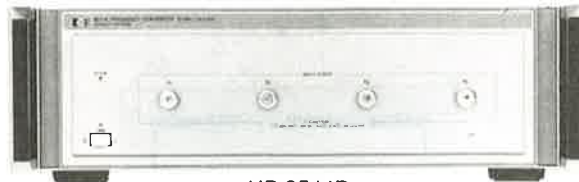
T: +44 (0)1753 596000
F: +44 (0)1753 596001

Email: info@TestEquipmentHQ.com
Web: www.TestEquipmentHQ.com





HP 8517A



HP 8511B

S-Parameter Test Sets

Several S-parameter test sets are available for the HP 8510C network analyzer for broadband coaxial measurements from 45 MHz to 50 GHz. The HP 8514B, 8515A, 8516A, and 8517A test sets have a dual port architecture which develops a separate reference channel for each incident port. RF switching is done with a single built-in electronic switch. For active device measurements, the test sets include the ability to apply DC bias (external) to the test port center conductors. Also available are two 90 dB step attenuators (60 dB in the HP 8516A/8517A) which allow control of the port 1 and port 2 signal levels.

Pulsed-RF Measurement Test Set

The HP 85110A test set is specially configured for operation in pulsed-RF measurement systems (HP 85108). Four 90 dB step attenuators protect each input of the fundamentally-mixed down converter to allow measurement of test devices with output power of 20 Watts CW.

High Dynamic Range Configurations

For the HP 8514B and 8516A test sets two alternate coupler configurations are available. The standard configuration is symmetrical and has identical dynamic range performance in both forward (S21) and reverse (S12) transmission measurements. The port 1 step attenuator allows reduction of the port 1 output power for forward measurements, and the port 2 attenuator allows reduction of the port 2 output power for reverse measurements.

With the Option 003 configuration, the port 2 coupler is reversed. For forward measurements, the port 2 signal is sampled directly through the main arm of the port 2 coupler. Since coupling loss is removed, dynamic range is increased in the forward direction. Since the port 2 step attenuator is in-line with the port 2 sampler, the power incident on port 2 may be reduced. With Option 003, up to 1 Watt may be input into port 2.

Test Set General Information

	HP 8514B	HP 8515A	HP 8516A	HP 8517A	HP 85110A
Frequency range (GHz)	0.045 to 20	0.045 to 26.5	0.045 to 40	0.045 to 50	0.045 to 20
Test ports (port 1 or 2): Nominal operating power level (dBm)	0 to -5	-5 to -25	-10 to -20		
Test Port Connector type	3.5 mm (M)		2.4 mm (M)	2.4mm (M)	3.5mm (M)
Impedance DC bias	50 ohm nominal 500 mA, 40 Vdc maximum				
Attenuation range (incident signal)	0 to 90 dB, in 10 dB steps (0 to 60 dB for HP 8516A)				
Prices	\$1270	\$1595	\$1395		\$1150

Frequency Converters

With the HP 8511A (26.5 GHz) and 8511B (50 GHz) Frequency Converters, the HP 8510 becomes a general purpose four-channel magnitude/phase receiver. Add your own power splitters for transmission measurements, and bridges or directional couplers for reflection measurements. Since one input is used for system phase-lock, the other three inputs are available for measurements of multi-port devices, subsystems, and antennas. All four inputs have precision 3.5 mm (HP 8511A) or 2.4 mm (8511B) connectors.

Multiple Test Set Operation

A single HP 8510C system may be configured with two test sets. In this configuration, the test sets have different addresses, and the user may select between them from the front panel of the HP 8510 without reconnections. This capability is useful, for example, when combining a microwave coaxial test set with a millimeter-wave test set in the same HP 8510 system.

IF switching (option 001). In the multiple test set configuration, the 20 MHz IF signal is daisy-chained from the test sets to the HP 8510. This capability requires test set option 001 in one of the two test sets.

The RF signal must be routed to the desired test set using an HP 33311C coaxial RF switch and an HP 11713A switch driver. The switch driver is controlled automatically by the HP 8510C over the 8510 system interface bus.

Ordering Information

HP 8511A Frequency Converter

Opt 001 Add IF switching	\$19,700
Opt W30 Extended repair service see page 723	+ \$2,600
Opt W31 On-site repair service see page 723	+ \$405

HP 8511B Frequency Converter

Opt 001 Add IF switching	TBA
Opt W30 Extended repair service	TBA
Opt W31 On-site repair service	TBA

HP 8514B S-Parameter Test Set

Opt 001 Add IF switching	\$28,000
Opt 002 Delete step attenuators and bias tees	+ \$2,600
Opt 003 High forward dynamic range	- \$6,500
Opt W30 Extended repair service see page 723	\$0
Opt W31 On-site repair service see page 723	+ \$455

HP 8515A S-Parameter Test Set

Opt 001 Add IF switching	\$39,000
Opt 002 Delete step attenuators and bias tees	+ \$2,600
Opt W30 Extended repair service see page 723	- \$7,000
Opt W31 On-site repair service see page 723	+ \$525

HP 8516A S-Parameter Test Set

Opt 001 Add IF switching	\$40,800
Opt 002 Delete step attenuators and bias tees	+ \$2,600
Opt 003 High forward dynamic range	- \$7,000
Opt W30 Extended repair service see page 723	\$0
Opt W31 On-site repair service see page 723	+ \$885

HP 8517A S-Parameter Test Set

Opt 001 Add IF switching	TBA
Opt 002 Delete step attenuators and bias tees	TBA
Opt W30 Extended repair service. See page 723	TBA
Opt W31 On-site repair service See page 723	TBA

HP 85110A Pulsed-RF S-Parameter Test Set

Opt 001 Add IF switching	\$55,000
Opt W31	+ \$2,500
	+ \$1,935