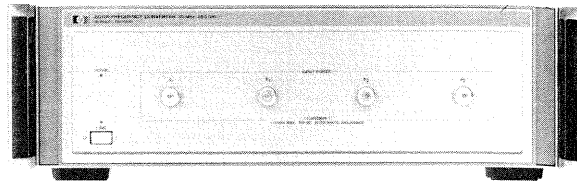


HP 8515A



HP 8511A

### S-Parameter Test Sets

Several S-parameter test sets are available for the HP 8510B network analyzer for broadband coaxial measurements from 45 MHz to 40 GHz. The HP 8514B, 8515A, and 8516A 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) which allow control of the port 1 and port 2 signal levels.

### High Dynamic Range Configurations

The HP 8514B and 8516A test sets are coupler-based. Two alternate coupler configurations are available. The standard configuration is symmetrical and has identical dynamic range performance in both forward (S<sub>21</sub>) and reverse (S<sub>12</sub>) 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
Frequency range (GHz)	0.045 to 20	0.045 to 26.5	0.045 to 40
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)
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)		

### HP 8511A Frequency Converter

With the HP 8511A Frequency Converter, 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 (f) connectors.

### Multiple Test Set Operation

A single HP 8510B 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.

RF switching. 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 8510B over the HP 8510 system interface.

### Ordering Information

#### HP 8511A Frequency Converter

Option 001: Add IF switching

Option W30: 2 years additional hardware service

#### HP 8514B S-Parameter Test Set

Option 001: Add IF switching

Option 002: Delete step attenuators and bias tees

Option 003: High forward dynamic range

Option W30: 2 years additional hardware service

#### HP 8515A S-Parameter Test Set

Option 001: Add IF switching

Option 002: Delete step attenuators and bias tees

Option W30: 2 years additional hardware service

#### HP 8516A S-Parameter Test Set

Option 001: Add IF switching

Option 002: Delete step attenuators and bias tees

Option 003: High forward dynamic range

Option W30: 2 years additional hardware service