

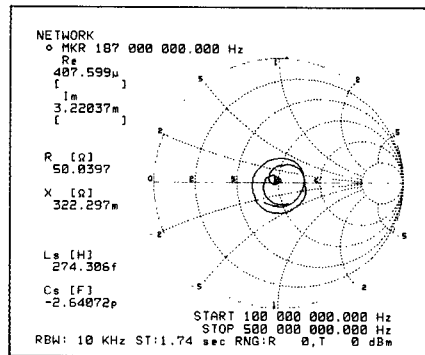
# NETWORK ANALYZERS

## Combined Network/Spectrum Analysis, 10Hz to 500MHz (cont'd)

### Model 4195A

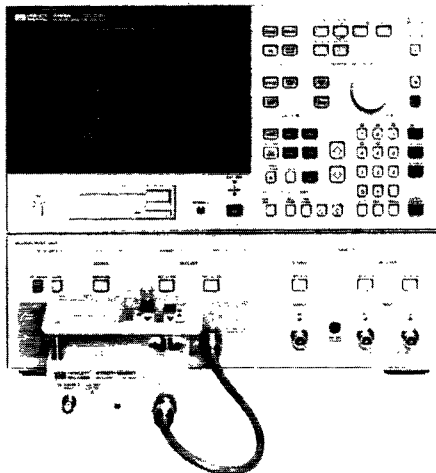
#### Advanced Marker Action on Color Graphics

The application oriented marker functions are very useful for both network and spectrum measurements. You can quickly obtain the desired results from the easy to see color graphics CRT. The Next Peak is convenient for searching harmonic or spurious signals. The marker target is used for extraction of SAW filter's 3dB bandwidth or an amplifier's -1 dB gain compression point. The delta marker is used for C/N measurement, and the noise marker is used for noise measurements. A maximum of four traces can be simultaneously displayed on the CRT, so it is easy to compare the data. The smith/polar chart is convenient for impedance matching in circuit design. In addition, the results can be directly copied to a compatible plotter or printer without an external computer.



#### 41951A Impedance Test Kit

The HP 4195A and HP 41951A Impedance Test Kit, which is designed to use with the 4195A, can be used to perform impedance analysis from 100kHz to 500MHz. The direct reading of impedance parameters, error compensation, variable test signal/dc bias level, and dedicated analysis functions are all convenient for evaluation of components, such as crystal/SAW resonators, coils, and varicap diodes. The equivalent circuit function is very useful for modeling and evaluating components under actual operating conditions to improve the quality and reliability of circuit design.



HP 4195A with HP 41951A

#### Specifications

##### Network Measurement

###### Source

**Frequency:** 10Hz to 500MHz, 1mHz resolution  
**Power:** -50 dBm to +15 dBm, 0.1dB resolution  
**Sweep Parameters:** Frequency, power and dc bias level  
**Sweep Types:** Linear, log, cw, program and partial  
**Output:** 2 outputs  
**DC bias level:** ±40V, 10mV resolution

###### Receiver

**Frequency:** 10Hz to 500MHz  
**Input:** 4 inputs, 50 Ω nominal  
**Resolution Bandwidth:** 3Hz to 300kHz, 1 or 3 step  
**Input Crosstalk:** ≤ -100dB

###### Magnitude Ratio

**Dynamic Range:** >100dB  
**Resolution:** 0.001dB  
**Dynamic Accuracy (23 ± 5°C), -30dBm R input:** ±0.05dB @ -70dBm to -30dBm T input.

###### Phase

**Range:** ±180°  
**Resolution:** 0.01°  
**Dynamic Accuracy (23 ± 5°C, -30dBm input):** ±0.3° @ -70 to -30dBm T input.

###### Delay

**Range:** 10ps to 500s  
**Resolution:** 10ps @ 3.6 MHz aperture  
**Accuracy:** depends on phase accuracy

###### Error Compensation

**Mode:** Normalization, 1 port partial cal, 1 port full cal and port extension.

##### Spectrum Measurement

###### Frequency

**Measurement Range:** 10Hz to 500MHz

###### Resolution:

**RBW:** 3Hz to 300kHz, 1 or 3 step  
**Selectivity (60/3dB):** 4 for 3Hz to 30Hz  
 8.5 for 100Hz

###### Amplitude

**Measurement Range:** -135 dBm to +20 dBm  
**Accuracy:** ±1.0dB @ 50MHz

