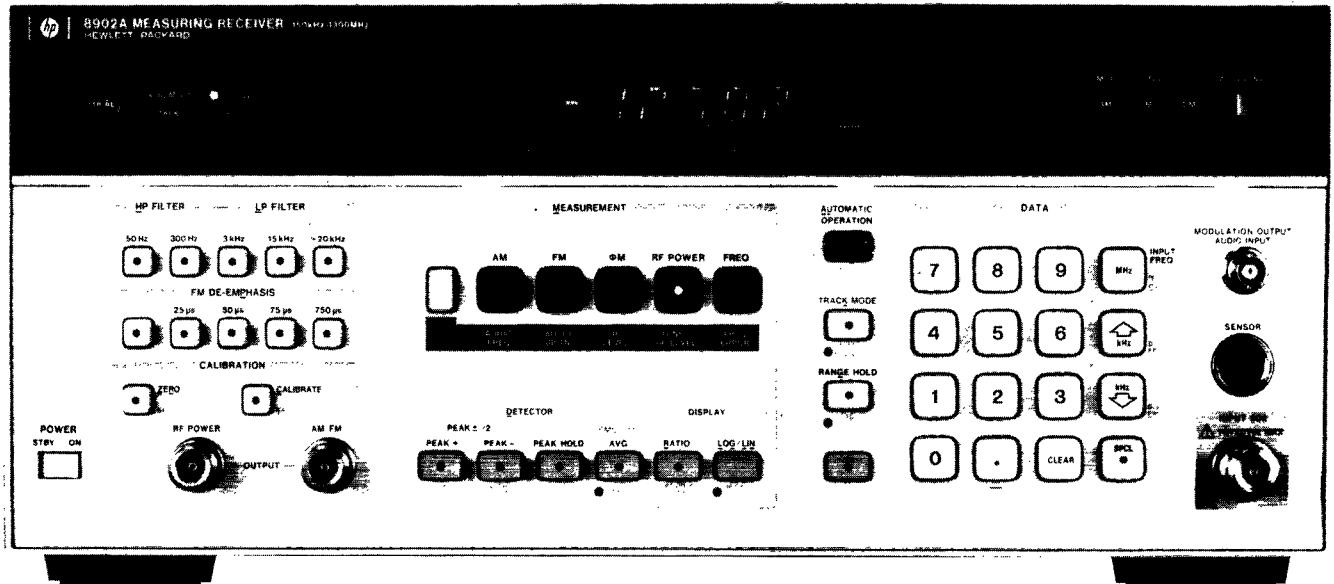


SIGNAL ANALYZERS

Measuring Receiver, 150 kHz to 1300 MHz

Model 8902A

- RF power: digital power meter accuracy
- Tuned RF level: 0 dBm to -127 dBm dynamic range
- Carrier Noise: AM and phase noise measurements to -140 dBc/Hz
- AM and FM, 1% accuracy; \emptyset M, 3% accuracy
- RF frequency: 1 Hz resolution
- Audio: frequency, level and distortion



HP 8902A

HP 8902A Measuring Receiver

The HP 8902A Measuring Receiver combines six precise measurement functions into one fully automatic, HP-IB programmable instrument. It accurately measures RF power, tuned RF level, carrier noise/adjacent channel power, modulation and RF frequency, and characterizes audio signals. For precise signal analysis, the HP 8902A Measuring Receiver provides the performance you need.

RF Power delivers the accuracy and resolution of a high performance power meter. The HP 8902A with the HP 11722A Sensor Module measures power from +30 dBm to -20 dBm at frequencies from 100 kHz to 2.6 GHz. The HP 8902A also accepts all HP 8480 series power sensors for extended measurement capability.

Tuned RF level's minimum sensitivity of -127 dBm with exceptional accuracy is a major contribution of the HP 8902A. You can make relative level measurements with accuracy you would only expect from a transfer standard: ± 0.02 dB ± 1 digit (worst case) for up to 10 dB step, increasing to ± 0.30 dB ± 1 digit at 110 dB step.

Carrier noise, phase noise and adjacent channel power measurements are simple, fast and accurate with the HP 8902A's high selectivity options (030-037). You select the noise filter bandwidth, measure the source under test's carrier power, tune the analyzer to the frequency offset desired (5 kHz to 1300 MHz) and measure the noise in seconds. The analyzer's measurement accuracy is better than ± 0.5 dB to -129 dBc/Hz, typically better than ± 1 dB to -140 dBc/Hz.

AM and FM measurements offer 1% accuracy (3% accuracy for \emptyset M) and fast one-key operation. The HP 8902A has extremely low internal noise, and very low AM/ \emptyset M and \emptyset M/AM conversion, for accurately measuring residual and incidental AM, FM and \emptyset M on a wide range of simple and complex modulated signals.

RF frequency of complex modulated signals can be difficult to measure, but not with the HP 8902A. It tunes to the largest input signal or to any user specified frequency. The HP 8902A counts signals with 1 Hz resolution.

Audio distortion, frequency and level measurements provide comprehensive characterization of the modulation signal.

Metrology and Calibration

The HP 8902A Measuring Receiver makes signal generator and attenuator calibration easier than ever before.

The HP 8902A quickly and accurately measures your signal generator's RF frequency, RF level flatness, output level accuracy to -127 dBm, incidental and residual AM, FM and phase modulation, phase noise to < -140 dBc/Hz and characterizes the demodulated audio signals.

For attenuator calibration and other relative measurements, the HP 8902A gives you the accuracy and dynamic range you need. Tuned RF level makes relative measurements with 127 dB dynamic range and 0.001 dB resolution. The combined dynamic range of tuned RF level and RF power is 157 dB.

RF Signal Characterization

The HP 8902A Measuring Receiver is an excellent lab and production tool for accurately characterizing RF signals from 150 kHz to 1300 MHz.

Level measurements down to -127 dBm with superb accuracy make the HP 8902A ideal for testing devices such as antennas, multiplexers, log/linear amplifiers, filters and mixers. Unlike diode detectors, the HP 8902A's power meter accurately measures signals with harmonics and spurious.

The HP 8902A makes accurate AM to \emptyset M and AM to AM conversion measurements of phase and amplitude sensitive devices such as bandpass filters and multiple channel receivers. Excellent isolation between AM and FM makes it simple to separate the AM and \emptyset M of AM stereo, incidental AM of FM transmitters and the AM, FM and \emptyset M components of complex signals.

Automatic Test Systems

The HP 8902A is an important component of automatic RF test systems. All functions — power, level, frequency count, carrier noise, modulation, audio analysis — are fully automatic and easily programmed. With these measurements combined into one instrument, interfacing requirements, hardware costs, and software development time are reduced.

The HP 8902A's excellent measurement accuracy and dynamic range also make it a valuable tool for calibrating automatic test systems.