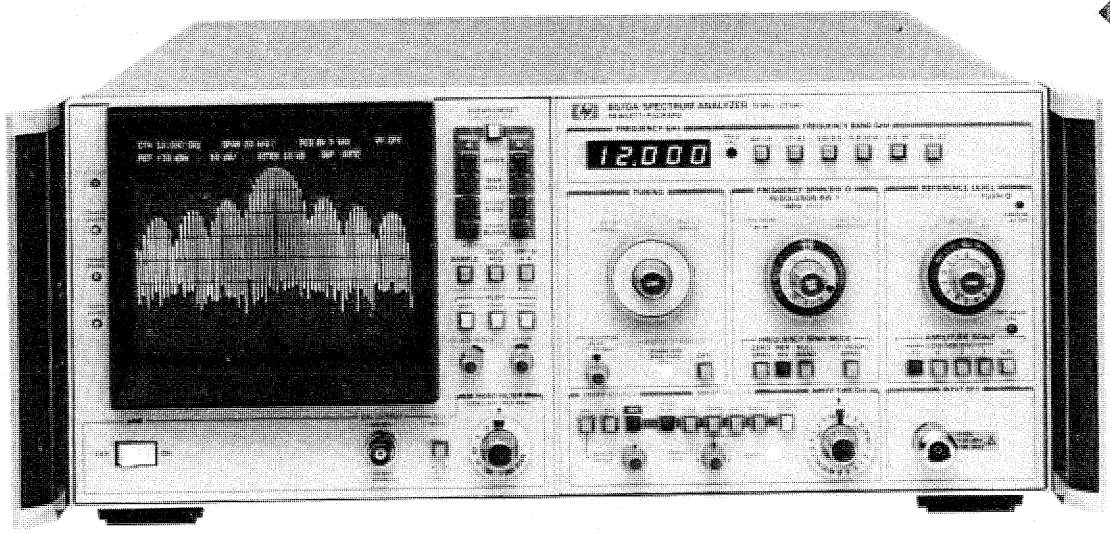
- Internal preselection, 1.7 to 22 GHz
- Wide dynamic range, 103 dB
- Broad resolution selection, 1 kHz to 3 MHz
- Simple three-knob operation
- Digital display, dual traces & CRT annotation
- Direct-to-plotter output

DESIGNED FOR HP-IB SYSTEMS



HP 8570A

HP 8570A Spectrum Analyzer

The performance and ease-of-use of the HP 8570A make it an ideal choice for lab, production, and field uses. The internal preselector provides wide dynamic range necessary for many applications while it simplifies signal identification. Precise measurements are made quickly and easily with features such as three-knob operation and digital display. Documented results are conveniently obtained with the direct-to-plotter HP-IB output.

Capable Performance

Measurements of signals from +30 to −110 dBm are possible with the HP 8570A. The internal preselector produces a wide 97 dB dynamic range for harmonic and widely-spaced intermodulation distortion measurements over its 1.7 to 22 GHz frequency range. Protection of the first mixer is provided by the built-in limiter to 1.8 GHz and by the preselector to 22 GHz.

Amplitude accuracies of ±1.5 dB are possible over a 90 dB range using the reference level control (IF substitution), or over a 70 dB range reading directly from the CRT display. Frequency accuracies of 70 ppm (0.007 %) are possible using the Option 001 Internal Comb Generator.

A broad selection of resolution bandwidths allows a diversity of signals to be measured. Broadband pulsed signals, such as pulsed RF radar or electromagnetic interference (EMI) noise signals, are easily measured with wide resolution bandwidths to 3 MHz. These synchronously-tuned filters, resulting in their Gaussian shape, ensure a repeatable pulse response for accurate amplitude measurements. Narrower bandwidths to 1 kHz provide resolution and sensitivity to satisfy most measurement needs, such as measuring closely-spaced or low-power signals, or both. Bandwidths available in a 1, 3, 10 sequence save measurement time by providing flexibility while maintaining fast sweeptimes.

Ease of Operation

Engineered with the user in mind, the HP 8570A Spectrum Analyzer is easy to operate. This reduces measurement time and errors. Color-coded and logically grouped controls simplify normal operation. Most measurements can be made in three steps: (1) Display all of the signals in the band using the FULL SPAN control and measure any signal frequency by moving the marker to the signal with the TUNE control. (2) Zoom in on the signal for close-in analysis using the FREQ SPAN control. The coupled functions—Resolution Bandwidth, Video Bandwidth, and Sweep Time—are all automatically adjusted to ensure calibrated results. (3) Measure the signal amplitude using the REF LEVEL control.

The digital display adds flexibility and convenience to every measurement. Dual traces facilitate signal comparisons. Traces can be updated and stored seperately for analysis later. Trace processing functions such as maximum hold, digital averaging, peak or sample detection, and trace subtraction provide capability for special applications. The digital display simplifies measurements requiring slow sweep times since adjustments of CRT intensity and persistance are not required.

Measurement results are conveniently converted into hard-copy form using a HP-IB graphics plotter. The direct-to-plotter feature of the HP 8570A outputs the CRT traces, graticule, and annotation information to a plotter using front-panel buttons, eliminating the necessity for a computer.

Automatic Measurements

Add a computer to your measurement system to increase speed and reduce errors. Operator efficiency can be enhanced using the semi-automatic capabilities of the HP 8570A. For example, a procedure with test limits can be written on the CRT to swiftly guide an operator through simple or complex measurements. Control settings can be monitored to ensure compliance with test requirements. Completely automatic measurements use the computer to initiate sweeps and input trace information for immediate analysis or for record keeping. Programs use two-letter mnemonics that are easy to remember and understand.

HP 8570A Specifications

Frequency Specifications

Frequency Range: 10 MHz to 22 GHz
Center Frequency
  Readout Resolution: ±1 MHz
  Accuracy: ±(9 MHz or 0.3 % of center frequency, whichever is greater, plus 20 % of frequency span per division)
Stability (for fundamental mixing, 0.01 to 4.1 GHz)
  Total Residual FM:
    Stabilized mode: < 200 Hz peak-to-peak in 0.1 second
    Unstabilized mode: < 20 kHz peak-to-peak in 0.1 second
  Noise Sidebands: (1 kHz bandwidth and 10 Hz video bandwidth) <−70 dBc at ≥ 30 kHz offset from a CW signal
Frequency Span
  Setting Range: 1 kHz to 500 MHz/div in a 1, 2, 5, 10 sequence
  Accuracy:
    Unstabilized Mode: ±5 % for spans ≥ 20 kHz/div
    Stabilized Mode: ±20 % for spans ≤ 100 kHz/div
Resolution Bandwidth (−3 dB)
  Setting Range: 1 kHz to 3 MHz in a 1, 3, 10 sequence