

- Superb performance from 100 Hz to 40 GHz
- Automated, reconfigurable systems
- HP 8566B code compatibility



HP 71209A

HP 70000 Series Spectrum Analyzers



The HP 70000 series spectrum analyzers are part of the growing modular measurement system (MMS) family at HP. Four factory-configured spectrum analyzers combine high performance, ease of use and the benefits of modularity for RF and microwave applications:

- HP 71100C/P RF spectrum analyzer, 100 Hz to 2.9 GHz
- HP 71200C/P microwave spectrum analyzer, 50 kHz to 22 GHz
- HP 71209A/P microwave spectrum analyzer, 100 Hz to 26.5 GHz, with an outstanding set of performance features
- HP 71210C/P microwave spectrum analyzer, 100 Hz to 22 GHz, with ultimate sensitivity and a dynamic tracking preselector

New "P" Series Feature PC Display

The "P" series spectrum analyzer systems replace the mainframe display with a high performance HP Vectra PC and the display software. The key features of the "P" systems are capability for output to PC print-

ers and mass storage devices and lower system price. While performing measurements, you can copy the virtual screen and cut and paste data to spreadsheets or reports. Test data can be logged and stored in a data file limited in size only by the computer's disk capacity.

All A/C spectrum analyzers feature a color display with color editor, a custom hardkey panel with the most commonly-used spectrum-analyzer functions, downloadable programming capability and a memory card reader.

HP 71209A/P Microwave Spectrum Analyzer

The HP 71209A/P is the MMS standard for microwave spectrum analysis, offering exceptional performance for a lower price. Special features include a built-in mixer interface for completely preselected coverage from 100 Hz to 75 GHz (using HP 11974 series mixers), programming code compatibility with the HP 8566B spectrum analyzer, similar performance to that of the HP 71210C/P, an IF output with AGC, a 5 dB step attenuator and a built-in baseband limiter. Option 001 includes a preselector bypass and increases the front-end bandwidth to aid upgrading to the bandwidth receiver system.

HP 70875A Noise-Figure Measurement Personality

The HP 70875A noise-figure measurement personality customizes HP 70000 series spectrum analyzers for displayed swept noise-figure and gain measurements from 10 MHz to 26.5 GHz. Features include one-point measurement capability for quick results, noise-figure and spectrum analyzer mode switching for stray signal detection, selectable measurement bandwidths to directly measure narrowband devices and marker functions with limit lines.

Key Literature

A complete list of all MMS products with full descriptions, specifications and services is available. For a free copy of the *HP 70000 Modular Measurement System* catalog, contact the HP Call Center in your region. Ask for HP p/n 5965-2818E.

Ordering Information

- HP 71100C Spectrum Analyzer, 100 Hz to 2.9 GHz
- HP 71100P Spectrum Analyzer
- HP 71200C Spectrum Analyzer, 50 kHz to 22 GHz
- HP 71200P Spectrum Analyzer
- HP 71209A Spectrum Analyzer, 100 Hz to 26.5 GHz
- Opt 001 Wide Bandwidth RF Section
- Opt Z40 Spectrum Analyzer, 100 Hz to 40 GHz
- HP 71209P Spectrum Analyzer

HP 70000 Series Spectrum Analyzer Specification Summary

| | HP 71100C HP 71100P | HP 71200C HP 71200P | HP 71209A HP 71209P | HP 71210C HP 71210P |
|---|---|--|--|-------------------------------------|
| Frequency range (tunable in 1 Hz increments) | 100 Hz to 2.9 GHz (dc-coupled); 100 kHz to 2.9 GHz (ac-coupled) | 50 kHz to 22 GHz | 100 Hz to 26.5 GHz (100 Hz to 40 GHz Option Z40) | 100 Hz to 22 GHz |
| With external mixers | 75 GHz with HP 11974 preselected mixers; 110 GHz with HP 11970 harmonic mixers; 325 GHz with other mixers | | | |
| Resolution bandwidth range | 10 Hz to 300 kHz; 3 MHz option | | 10 Hz to 3 MHz | |
| Phase noise | -108 dBc/Hz at 10 kHz offset | -108 dBc/Hz at 10 kHz offset, to 6.2 GHz | | |
| Optimum dynamic range (2nd/3rd order) | 82 dB/92 dB | 70 dB/88 dB | 99 dB/96 dB | 96 dB/98 dB |
| Amplitude accuracy (relative frequency + lesser of scale fidelity or IF gain accuracy) | ± 2 dB (± 0.9 dB) ¹ | ± 2 dB (± 0.9 dB) ¹ | ± 2 dB (± 0.9 dB) ¹ | ± 2.5 dB (± 0.9 dB) ¹ |
| Displayed average noise level, 10 Hz RBW | | | | |
| at 2.9 GHz | -131 dBm | <-129 dBm | -136 dBm | -139 dBm |
| at 22 GHz | — | <-116 dBm | -128 dBm | -133 dBm |
| at 26.5 GHz | — | <-115 dBm | -126 dBm | — |
| Displayed average noise level with HP 70620 Series preamplifiers | | | | |
| at 2.9 GHz | -156 dBm | -140 dBm | -155 dBm | -155 dBm |
| at 22 GHz | — | -119 dBm | -148 dBm | -150 dBm |
| at 26.5 GHz | — | -155 dBm | -145 dBm | — |

¹ ± 0.9 dB transfer accuracy using the HP 70100A-H01 modular power meter.

- HP 71100C
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