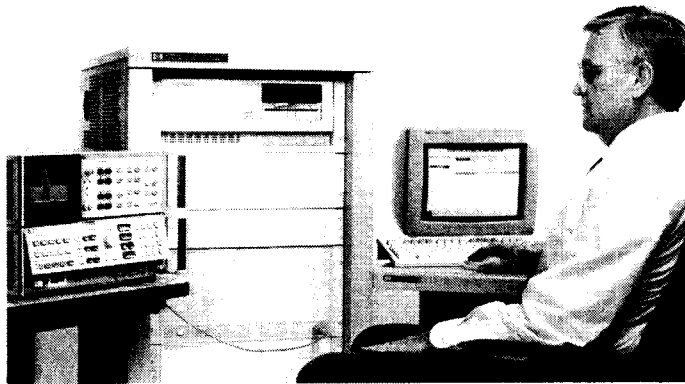


DATA SHEETS
(RETURN TO RED BINDERS)

HP 8791 Frequency Agile Signal Simulators (HP FASS)

Models 10/11 Frequency Agile Signal Simulators (Hardware)
Model 100 Precision Signal Generator (Instrument-on-a-Disk software)
Model 200 Radar Simulator (Instrument-on-a-Disk software)

Technical Data



HP FASS: The Right Choice

Introducing an improved family of HP Frequency Agile Signal Simulators that make signal simulation easier and faster than ever. For starters, we quadrupled the waveform memory and expanded the memory sequencer for longer scenarios and responsive real-time control. Then we added a powerful phase-coherent frequency switching mode — perfect for multiple target simulation. Even our handy Waveform Generation Language software is standard on the HP FASS operating system*, simplifying development of custom waveforms and programs. What's more, all existing HP FASS owners can upgrade to full Model 11 capabilities at a fraction of the cost of a new system. That means you'll always be assured of the latest hardware and software in the years ahead.

*Model 11 only

To build your future with these exciting new simulators from HP, ask your HP sales representative to arrange a demo. Our application experts are ready to help you solve your toughest simulation challenges.

Applications:

- Exotic, multimode threat simulators
- Multiemitter simulators
- ECM/ECCM
- RWR/ESM/ELINT receiver testing
- Radar target simulators
- Radar excitors
- Military communications
- Commercial communications
- ATE
- High-performance agile LO/STALOs

Building Blocks for High-Performance Simulation of EW, Radar and Communica- tions Signals

The Simulator as Standard Test Equipment

- Off-the-shelf
- Accurate
- Reliable
- Repeatable
- Documented
- Serviceable

High-Performance Signal Simulation

- Frequency agility
- Intrapulse modulation
- Synthesized precision
- High spectral purity
- Dynamic waveform control

Reconfigurable with High- Level Software

- Easy to use
- Extended instrument life
- Easy to integrate
- Reusable

Low Cost of Ownership

- High-level software reduces training and operation costs
- Mean time between failures of 5000 hours and powerful diagnostics reduce maintenance and calibration costs
- Software reconfigurability and modular hardware design reduce obsolescence costs

ajqw

Abbreviated Specifications

Model 10 Frequency Agile Signal Simulator (HP FASS)

The Model 10 FASS combines direct digital synthesis with agile upconversion for accurate, repeatable signal generation. This also gives you reconfigurability for ease-of-use and cost-saving reuse of hardware. Dynamic Data provides the real-time capability to modulate signals with an external data source.

Frequency Range: 0.01 to 3 GHz (to 40 GHz with upconversion)

Frequency Resolution: 0.125 Hz

Frequency Agile Switching Speed: <100 ns typical over full 3 GHz BW

Fast Level Control Switching Speed: <100 ns typical in 6.02 dB steps

Output Power: +10 to -107 dB

Instantaneous Modulation Bandwidth: 40 MHz

Modulation: Arbitrary FM, Φ M, AM, Pulse

Spurious Response: -60 dBc, typical

Phase Noise: <-130 dBc/Hz @ 10 kHz offset from 2 GHz, typical

Dynamic Data: AM, FM, Φ M, carrier frequency, pulse

Dynamic Data Rates: Up to 33 megawords/sec/channel

Model 11 Frequency Agile Signal Simulator (HP FASS)

The new Model 11 adds several exciting new capabilities especially suited for real-time and closed-loop simulation, such as multiemitter and radar target simulation. Ask about our cost-effective upgrade kits to convert existing Model 10 systems into Model 11 systems. Major new features include:

- Phase-coherent frequency switching
- Real-time selection of up to 1024 waveforms or modes
- 4x more waveform memory
- 32K waveform packets
- Nested sequencing
- Dynamic sequence downloading over HP-IB
- Integral Waveform Generation Language (WGL) standard

Model 100 Precision Signal Generator

The Model 100 Precision Signal Generator Instrument-on-a-Disk (PSID) software configures your HP FASS to be a precise signal generator with the modulation capabilities of an advanced waveform generator.

Carrier: Frequency, Amplitude, Phase

AM: Depth: 0% to DSB-SC
Rate 0.0625 Hz to 20 MHz

Two-Tone: Frequency spacing:
0.2 Hz to 40 MHz

FM: Deviation: 0.125 Hz to 20 MHz

Rate 0.0625 Hz to 20 MHz
(upper limit dictated by 40 MHz system bandwidth)

PM: Deviation: 0° to $\pm 180^\circ$
Rate 0.0625 Hz to 20 MHz
(upper limit dictated by 40 MHz system bandwidth)

Modulation Waveforms: Sine, user-defined (rectangle for AM)

Model 200 Radar Simulator

The Model 200 Radar Simulator Instrument-on-a-Disk (RSID) software configures your HP FASS to simulate advanced pulsed radar emitters.

Frequency Hopping:

Constant, linear, burst, pseudo-random

Intrapulse Modulation: Coherent, non-coherent, chirp, Barker, user-defined

Pulse Width: 29.8 ns to 100 ms

Rise and Fall: 20 ns to 230 μ s

Pulse Shapes: Gaussian, exponential, user-defined

Pulse Repetition Frequency: 1 Hz to 625 kHz

PRF Patterns: Constant, burst, stagger, jitter, wobulation, user-defined

Antenna Scan Rate: 4 to 100,000 rpm

Main Beam Width: 0.1° to 360°

Antenna Scan Patterns:

Circular, conical, raster, sector, user-defined

Antenna Radiation Patterns:

Rectangular, Hamming, Hanning, Blackman, 3-term, \cos^n , programmable

For more information, call your local HP sales office listed in the telephone directory white pages. Ask for the Test and Measurement Department.

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