CW Microwave

Frequency	Model	Characteristics	Page
1 to 20 GHz 0.01 to 20 GHz	HP 83711B HP 83712B	**Precision CW signals, pure and simple.** +10 to −90 dBm, < −50 dBc harmonics, <1.5 × 10^{-9}/day stability, optional 1 Hz frequency resolution. Noise figure meter and millimeter source module compatible. HP-IB and SCPI programming. <35 lbs.	207

High-Performance Microwave

Frequency	Model	Characteristics	Page
1 to 20 GHz 0.01 to 20 GHz	HP 83731B HP 83732B	**Optimum choice for high-performance microwave receiver and subsystem test.** +10 to −90 dBm, harmonics, < −55 dBc, spurious < −60 dBc. <1.5 × 10^{-9}/day stability, optional 1 Hz frequency resolution. Built-in multimode pulse generator, <10 ns pulse rise/fall time, <25 ns pulse width. Logarithmic AM with >60 dB depth. FM with >300 modulation index 10 MHz peak deviation. HP-IB and SCPI programming. <35 lbs.	208
0.01 to 50 GHz	HP 8360 Series	**Versatile synthesized sweeper covers many application needs.** General-purpose sweeper with full network analyzer capability.	211

Swept Frequency Sources

Frequency	Model	Characteristics	Page
0.01 to 20 GHz	HP 83751A/B HP 83752A/B	**Synthesized microwave sweeper.** Fully synthesized sweep. Continuous analog or digital step sweep, 2 MHz swept frequency accuracy, +17 dBm output power available. SCPI and HP-IB programmable, HP 8350 HP-IB mnemonics for drop-in replacement. Optimized for HP 8757 scalar network analyzers.	210
0.01 to 50 GHz	HP 8350 Series	**Versatile programmable sweeper for microwave component test.** Economical plug-ins cover a variety of frequency bands. Full vector and scalar network analyzer compatibility.	212

High-Performance Modular

Frequency	Model	Characteristics	Page
1 to 20 GHz	HP 70340A	**Modular signal generator for MMS.** Full performance signal source in half-rack width (4/8 MMS). Logarithmic AM, FM, and pulse modulation. Optional 1 Hz frequency resolution and internal multimode pulse generator. <10 ns pulse rise/fall times, <25 ns pulse width. HP-IB, SCPI and CIIL programming. Ideal with HP 71500A microwave transition analyzer and HP 71600 Series error performance analyzers and pattern generators.	215
0.01 to 1 GHz	HP 70341A	**Companion low-frequency module to HP 70340A.** 1/8 MMS module adds 0.01 to 1 GHz frequency coverage when used with the HP 70340A. Extend high performance AM, FM, and pulse modulation to RF frequencies.	215

Frequency-Agile/Complex Signal Simulation

Frequency	Model	Characteristics	Page
10 to 2500 MHz	HP E2507B and E2508A	**Multi-Format Communications Signal Simulator.** Generates the multichannel cellular signals you need to accurately test your cellular amplifiers and related products. They also provide background environments that simulate field conditions for BER and other tests in the laboratory.	216
DC to 50 MHz	HP 8770A/S	**High-performance arbitrary waveform source for baseband simulation and advanced modulation.** Simulates highly complex baseband and modulated carriers for radar/EW, video, communications, disk drive, and other applications. 12-bit resolution, excellent spectral purity. 125 MHz clock rate. Free WGL Toolbox Software runs on HP Technical Desktop Computer.	216
0.252 to 1030 MHz 0.252 to 2060 MHz	HP 8645A	**Performance signal generator for testing frequency-agile radios and surveillance receivers.** 15 µs switching speed. Spectral purity. AM, FM, pulse modulation. FM deviation to 20 MHz. Flexible control of frequency.	218
DC to 50 MHz	HP 8791 Model 7	**Baseband FASS.** Architecturally equivalent to the Model 11, the Model 7 provides exceptional baseband performance to 50 MHz. Full arbitrary control of AM, FM, ΦM, and pulse make this high performance direct-digital synthesizer an excellent fit for entry-level FASS users in applications such as communications, digital, video, radar target simulation, and exciter design. Fully upgradable to Model 11 or 21.	220
0.01 to 3 GHz	HP 8791 Model 11	**Reconfigurable agile-signal simulator for radar, EW, and spread-spectrum simulation.** Advanced frequency-agile signal simulation for EW, radar, and communication receiver test. 100 ns frequency-hopping over 3 GHz. Arbitrary control over AM, FM, ΦM, pulse modulation and agile carrier. 40 MHz modulation bandwidth. Easy-to-use application-specific instrument-on-a-disk software. Optional upconversion available to 18 GHz, upgradable to Model 21.	220
0.05 to 18 GHz	HP 8791 Model 21	**Microwave-agile simulator.** Same as Model 11 (above), but uses state-of-the-art microwave-agile upconverter with 100 ns (typical) switching time for the entire range from 50 MHz to 18 GHz. Intended for "exotic" modulation requirements in radar/EW and secure communication applications.	220

Millimeter Sources

Frequency	Model	Characteristics	Page
26.5 to 40 GHz 33 to 50 GHz 40 to 60 GHz 50 to 75 GHz 75 to 110 GHz	HP 83554A HP 83555A HP 83556A HP 83557A HP 83558A	**Efficient frequency multipliers.** Effectively extends the performance of an 11 to 20 GHz microwave source HP 8673B/C/D, 8340, 8341, 8350B, 83751/52 or 8360 to the millimeter-wave frequency ranges.	222

Synthesized Microwave Sweepers

HP 83751A/B, 83752A/B

- Fully synthesized (phase-locked) CW, step, and ramp modes
- 2 MHz swept frequency accuracy
- Power flatness correction
- Broad 20 GHz frequency coverage
- +17 dBm output power at 20 GHz
- Internal pulse generator

HP 83752B

HP Instrument Drivers

HP 83750 Series Sweepers

The HP 83750 sweepers bring outstanding synthesized performance to the component-test marketplace. They deliver the best performance for the price in general-purpose benchtop, swept test, or scalar applications.

The latest technological advances in fundamental oscillator design provide up to 20 GHz of frequency coverage with superior harmonic suppression and no subharmonics. When this excellent spurious performance is combined with high output power capabilities, high measurement dynamic range is achieved.

The HP 83750 synthesized sweepers provide superior accuracy and stability while maintaining the speed of analog sources. Fully synthesized CW, stepped, and ramp sweep modes are available in broadband and narrowband operation. The synthesis capabilities are particularly useful for the characterization of narrowband devices, in which the frequency instabilities of open-loop sources become most apparent.

Excellent output power flatness and accuracy can be translated to the input port of the device under test with the power flatness correction feature of these sources. This feature uses a power meter to create an array of power corrections that compensate for power variations in the measurement path between the source and the test device.

Swept testing of frequency translation devices can be achieved simply and economically with the HP 83570 series synthesized sweepers. A traditionally difficult measurement, sweeping the RF and local oscillator (LO) input ports at a fixed offset over a wide frequency span, is easy to implement with superior frequency accuracy by positioning two synchronously tracking HP 83750s in a two-tone configuration. With broadband frequency coverage and excellent performance, the HP 83750 synthesized sweepers are ideal stimuli for frequency translation measurements.

The HP 83750 series make optimal companion sources for scalar measurement applications. Full compatibility is available via the HP 8757 system interface bus. The HP 8757D scalar analyzer and HP 83750 series have complementary design that achieves superior frequency accuracy, power accuracy, and flatness and significantly reduces measurement uncertainty. In addition, the HP 83750's high power and low harmonic capabilities increase the spurious-free measurement dynamic range of scalar systems. Ten independent, continuously variable markers and a marker sweep function allow fast, efficient analysis of the test device at or between critical measurement frequencies. CW, stepped, ramp, or power sweep modes are available for device characterization. A 25 dB power sweep range is particularly useful for compression measurements of active devices such as amplifiers and mixers.

The high-power models HP 83751B and 83752B provide +17 dBm output power with −20 dBc harmonics from 2 to 20 GHz. This high power capability eliminates the need to externally amplify the signal for test devices that require high input power levels. When Option 1EE (source module interface connector and extension cable) is added, these sources can directly drive the HP 83550 series mm-wave source modules to provide waveguide frequency coverage up to 110 GHz. All HP 83750 sweepers with Option 1EE automatically provide bias, power flatness correction, and internal leveling for the HP 83550 Series source modules.

HP 83750 sweepers offer two operating languages to ensure compatibility with instruments today and in the future. The default language is SCPI (standard command for programmable instruments), an industry standard. The second operating language employs HP 8350 mnemonics to provide programming compatibility with HP 8350-based measurement systems.