

# SIGNAL GENERATORS

High-Performance RF

HP 8643A, 8644B, 8664A, 8665A, 8665B

437

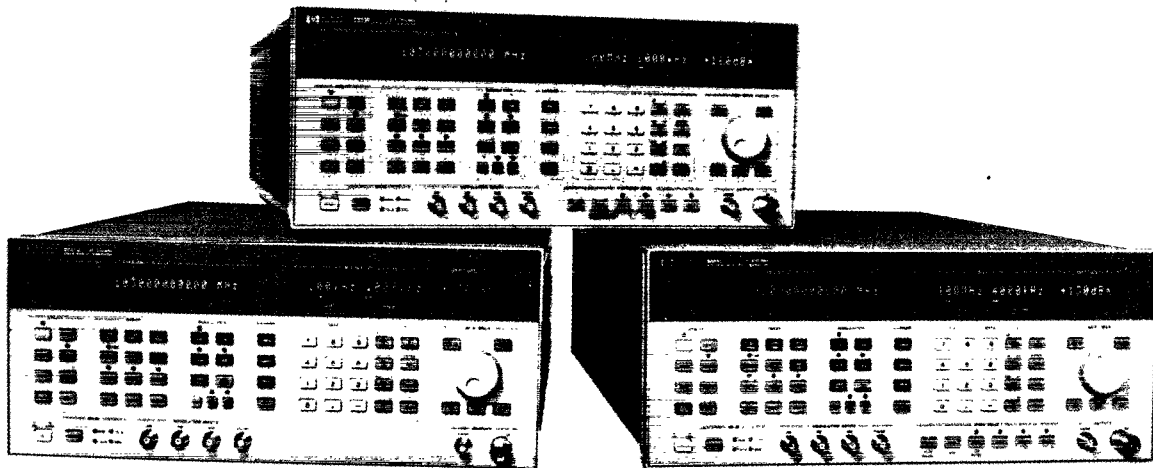
- Frequency ranges of 1 GHz, 2 GHz, 3 GHz, 4.2 GHz, or 6 GHz
- Lowest overall noise and spurious
- AM, FM, and pulse modulation

- Lowest specified leakage (optional)
- Internal modulation source for complex waveforms
- Onsite repair and calibration



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SYSTEMS



These signal generators offer the RF designer/manufacturer a selection of frequency range and high performance. The HP 8643A, HP 8644B and HP 8664A are for traditional out-of channel receiver test applications. The HP 8665A/B are for high performance applications up to 6 GHz, particularly radar, telemetry and spurious testing of UHF receivers. All signal generators within this performance family have options that allow them to be configured to meet specific application needs.

## HP 8643A 1 GHz/2 GHz Signal Generator

HP has optimized the HP 8643A's configuration with the performance necessary for out-of-channel receiver tests while maintaining a low price. Options have been limited on the HP 8643A, but many performance/feature capabilities have been included as standard. The HP 8643A combines the most common options that have been purchased with the cost savings of consolidation.

## Standard Electronic Attenuator and Advanced Modulation Source

Reliability is enhanced by the use of an electronic attenuator on the 1 GHz version. Instead of using mechanical relays for setting levels, the HP 8643A uses solid-state components accurate to within  $\pm 1.0$  dB. The HP 8643A comes standard with an advanced internal modulation synthesizer that provides coverage to 400 kHz and 2-tone capability with the selection of sine, square, sawtooth, and white Gaussian noise waveforms.

## HP 8644B 1 GHz/2 GHz High-Performance Signal Generator

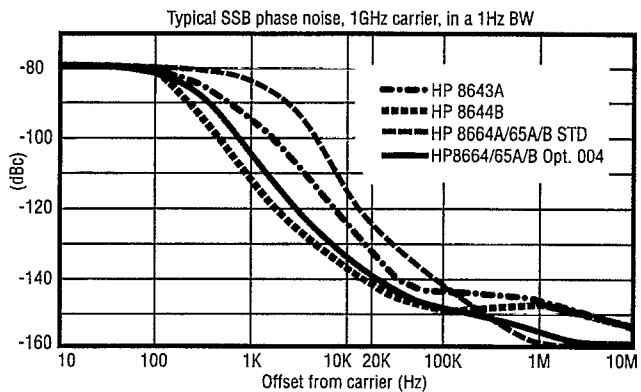
The HP 8644B represents the highest overall performance in HP's line of 1 GHz and 2 GHz signal generators. The HP 8644B builds on the HP 8643A's performance by lowering SSB phase noise ( $-136$  dBc/Hz vs.  $-130$  dBc/Hz) and lowering spurious ( $-105$  dBc vs.  $-100$  dBc). The HP 8644B should be used either for a specific test that requires the lowest SSB phase noise or an application with diversified requirements in which it is hard to identify what signal-generator performance is required.

## HP 8664A 3 GHz, HP 8665A 4.2 GHz and HP 8665B 6 GHz High-Performance Signal Generators

These three signal generators are virtually identical in performance, except for frequency coverage and price. Your application will dictate which instrument is required. The HP 8664A and HP 8665A/B are suited for out-of-channel receiver measurements through the use of Option 004 (low-noise enhancement) and for such applications as radar testing through the use of Option 008 (pulse modulation).

## Wideband FM and Optional Pulse Modulation

FM rates of up to 2 MHz and deviations to 20 MHz peak allow use in many applications such as the new higher-rate digital communications. An optional pulse modulator with on/off ratio of  $> 80$  dB and rise/fall times of  $< 5$  ns is available. Pulse width and delay can be internally adjusted between 50 ns and 999 ms, eliminating the need for an external pulse generator.



TYPICAL SSB PHASE NOISE  
AT 1 GHz CARRIER