



**HEWLETT
PACKARD**

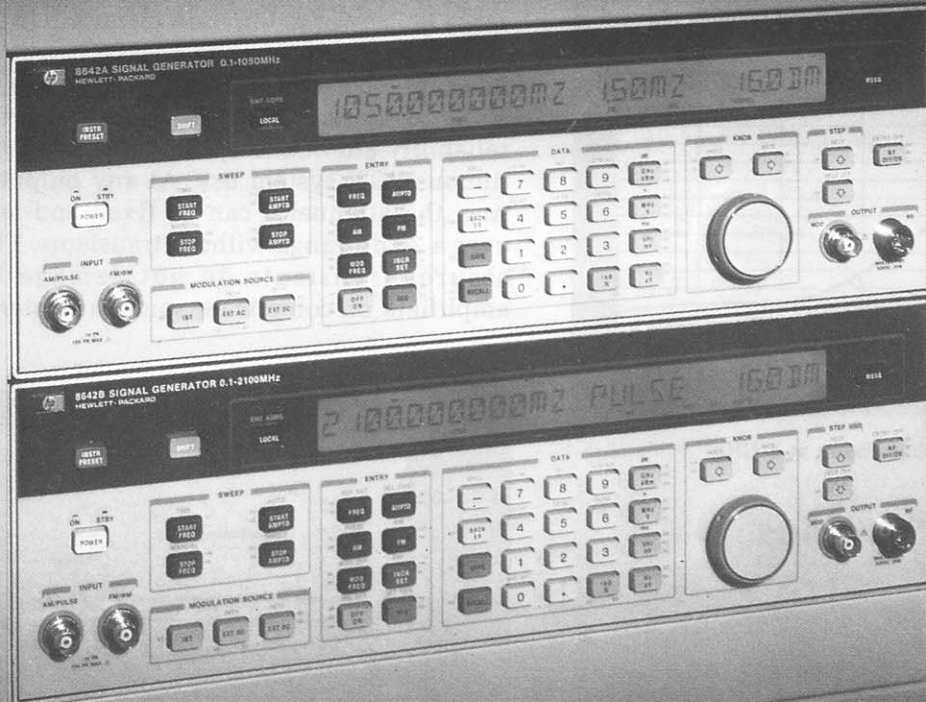
**SYNTHESIZED
SIGNAL GENERATORS**
100 kHz to 2115 MHz

models
8642A
8642B



TECHNICAL DATA • JUNE 1984

The ATE Performance Standard For RF Applications



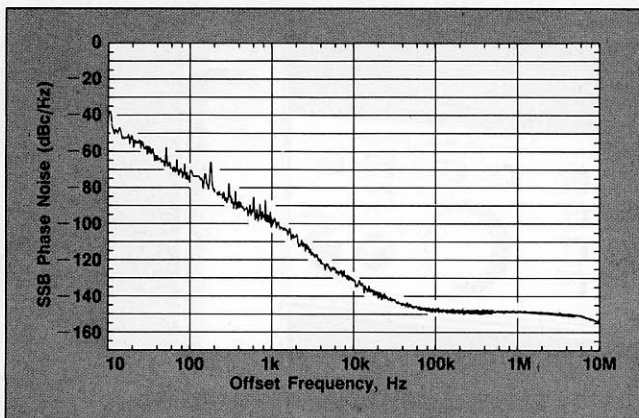
RF PERFORMANCE STANDARD MEANS

A Choice Between 1 GHz or 2 GHz

The 8642A covers the frequency range from 100 kHz to 1057.5 MHz making it ideally suited for automating measurements where the HP 8640B manually tuned signal generator has been the standard in the past. The 8642B covers the frequency range from 100 kHz to 2.115 GHz to span the complete RF spectrum plus emerging communication systems in the 1 to 2 GHz region.

Superior Spectral Purity Technology Innovation

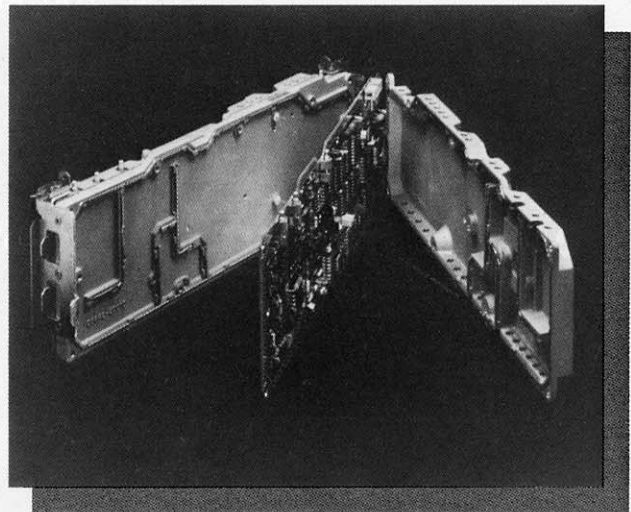
At the heart of the 8642A/B signal generators are four surface acoustic wave (SAW) resonator oscillators. These extremely high-Q devices operate near 800 MHz to give the 8642A/B low SSB phase noise at offsets beyond 10 kHz. The SAWs enable the 8642A/B to perform your critical out-of-channel measurements with significant margin over the cavity-tuned 8640B signal generator.



Measured SSB phase noise at 1 GHz.

Confidence in Spurious Measurements -100 dBc Spurious

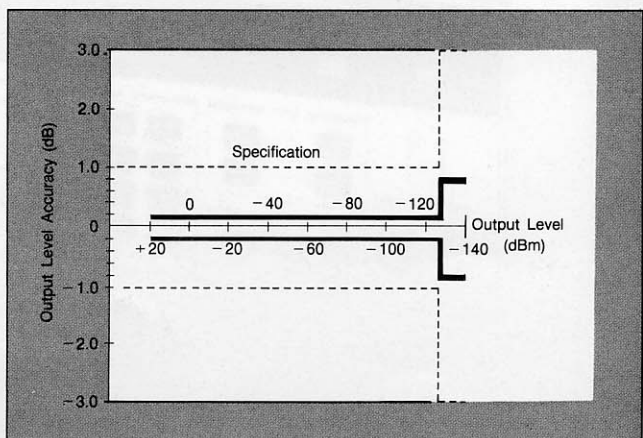
-100 dBc non-harmonic spurious lets you measure receiver spurious rejection with the utmost confidence. This level of performance is attained in a multi-loop synthesizer through an innovative block diagram. High performance mixers reduce spurs while rigid die castings with resilient RF gasketing provide 140 dB of circuit isolation.



Die-cast modules with resilient gasketing assure high isolation between circuits keeping spurious well below -100 dBc.

Pinpoint Receiver Sensitivity ± 1 dB Output Level Accuracy

Absolute output level accuracy of ± 1 dB down to -127 dBm ($0.1 \mu\text{V}$) allows the 8642A/B to be used as an RF power calibration standard. In R&D or on your production line the 8642A/B will accurately measure receiver sensitivities. Output level repeatability of typically 0.06 dB is obtained with a high reliability attenuator specifically designed for continuous ATE system use. At any output level setting, the attenuator can be fixed and level varied over a 20 dB range without transients. This feature assures transients do not damage high-gain amplifiers or complicate squelch hysteresis tests.



Typical output level accuracy vs. output level.