



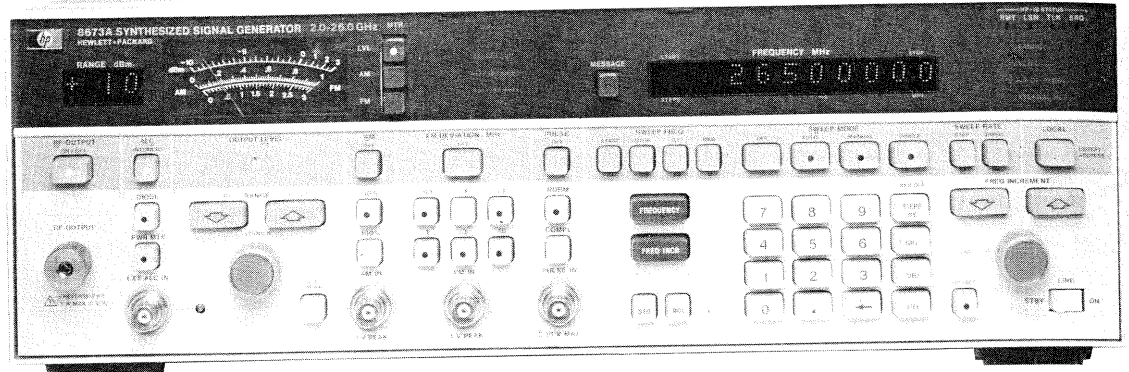
SIGNAL GENERATORS

Synthesized Signal Generators

Models 8673A, 8672A

- 2 to 26.5 GHz frequency range
- 1 to 4 kHz frequency resolution
- Low spurious and phase noise

- +8 to -100 dBm calibrated output
- Internally leveled pulse modulation
- Metered AM/FM



8673A



8673A, 8672A Synthesized Signal Generators

The new 8673A and established 8672A Synthesized Signal Generators deliver precise microwave signals over the 2.0 to 26.0 GHz and 2.0 to 18.0 GHz frequency ranges respectively. The generators feature a compact solid-state package (133mm, 5.25 in. high), calibrated and leveled output power, AM/FM modulation capability, and full programmability. The 8673A further features internally leveled pulse modulation and microprocessor-enhanced control facilitating digital sweep.

Excellent Spectral Purity

For LO applications and many tests on radar and microwave communication systems, the 8672A and 8673A provide extremely stable frequencies. Output signals are derived by multiplying a fundamental 2.0 to 6.6 GHz - 1 kHz resolution YIG-tuned oscillator $\times 1$, $\times 2$, $\times 3$, or $\times 4$ to yield resolutions of 1 to 4 kHz depending upon band of operation. Indirect synthesis phase-locks the YIG-tuned oscillator to a 10 MHz quartz crystal reference providing both excellent long and short term stability (frequency drift $< 5 \times 10^{-10}$ per day). Phase-locked loop responses are optimized to allow the 8672A/73A generators to exhibit the lowest possible single-sideband phase noise.

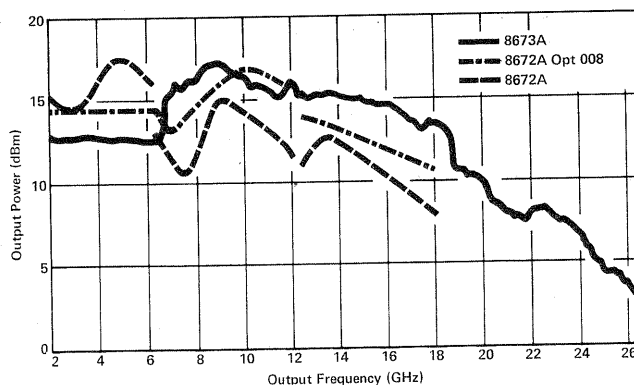


Figure 1. Maximum power typically available from 8673A, standard 8672A, and 8672A Option 008 instruments at 25°C.

Wide Dynamic Output Range

For broadband component and receiver testing applications, the 8673A and 8672A exhibit exceptionally flat power outputs across their full frequency ranges. For receiver sensitivity measurements, power is internally (or externally) leveled and calibrated to -120 dBm on the 8672A and to -100 dBm on the 8673A. Maximum available power varies with frequency as shown in Figure 1. The 8672A Option 008 raises the guaranteed 8672A maximum output to +8 dBm from a standard +3 dBm. 8673A output power is guaranteed to be at least +8 dBm up to 18 GHz and 0 dBm up to 26 GHz.

Internally Leveled Pulse Modulation

The 8673A features an internal pulse modulator that provides high-quality pulse modulation over the entire 2.0 to 26.0 GHz range. The modulation is done before the frequency multiplication allowing the peak pulsed power to be leveled and calibrated to within ± 1 dB of the set level referenced to CW. ON/OFF ratios > 80 dB and rise/fall times < 35 ns make the 8673A ideal for use in pulsed radar test systems. Externally supplied TTL level drive signals determine pulse rates up to 1 MHz and leveled pulse widths as narrow as 100 ns.

Calibrated AM/FM Modulation

To expand the versatility of the 8672A and 8673A in receiver testing applications, AM/FM capability is included. AM depth at rates up to 100 kHz can be accurately set using the front panel meter. Six ranges of metered FM are available at rates and peak deviations up to 10 MHz. Both AM depth and FM deviation are linearly controlled by varying the externally supplied modulating input voltage up to 1 V peak.

Full Programmability and Digital Sweep

The 8673A and 8672A both provide full programmability of all front-panel functions for automatic test system applications. Over HP-IB, output level can be controlled in steps as fine as 1 dB (8672A) and 0.1 dB (8673A). In addition, the 8673A uses an internal microprocessor that facilitates convenient keyboard control, easy HP-IB interfacing following front-panel keystroke sequences, and digital sweep. Sweep spans can be set over the entire frequency range with variable rates, step sizes, and selectable markers available. Sweep outputs needed for compatibility with scalar and network analyzers are provided on the 8673A rear panel.