- 10 kHz to 2600 MHz
- Synthesizer stability and accuracy
- 1 Hz resolution (2 Hz above 1300 MHz)
- Ten-digit display
- Calibrated output over >140 dB range
- AM, FM, ΦM, or pulse modulation

DESIGNED FOR HP-IB SYSTEMS

HP 8660D (with HP 86633B and HP 86603A plug-ins)

HP 8660D Synthesized Signal Generator

System Concept

The HP 8660 is a modular, solid-state, plug-in system. Each system includes: 1) A programmable, synthesized signal generator mainframe; 2) an RF section plug-in; and 3) a modulation section. Synthesized accuracy and stability, along with complete programmability, make the HP 8660 ideal for automated receiver, subsystem, and component testing.

Mainframes

The HP 8660D offers front-panel and HP-IB or BCD control of center frequency and frequency sweep. An external reference may be used to replace the internal high-stability reference oscillator.

Plug-In RF Sections

The HP 86601A (0.01 to 110 MHz), HP 86602B (1 to 1300 MHz), and HP 86603A (1 to 2600 MHz) are the three RF-section choices. The HP 11661B frequency extension module (mainframe Option 100) must be used with the HP 86602B and HP 86603A and is installed internally to an HP 8660 mainframe. (If you are using the HP 8660A mainframe, the HP 86603A plug-in must be ordered with Option 003.)

Plug-In Modulation

There are 5 modulation sections from which to choose. The HP 86631B auxiliary section provides external AM and pulse modulation. The HP 86632B offers AM and FM and utilizes a free-running VCO to provide high FM deviations and rates, while the HP 86633B provides AM and phase-locked FM. The HP 86634A offers high-performance phase modulation with rates to 10 MHz, while the HP 86635A provides both FM and phase modulation. (The HP 86634A and HP 86635A must be used with the Option 002 RF section.)

HP 8660D Mainframe Specifications

Frequency accuracy and stability: CW frequency accuracy and long-term stability are determined by an internal reference oscillator, or by an external reference.

Reference Oscillator

Internal: 10 MHz quartz oscillator. Aging rate less than ±3 parts in 10⁹ per 24 hours.

External: Rear panel switch allows operation from 5 MHz or 10 MHz frequency standard at a level between 0.5 and 2.5 V rms into 170 Ω.

Reference output: Rear-panel BNC connector provides output of the selected reference signal at a level of at least 0.75 V rms into 170 Ω.

Digital sweep: Auto, single, or manual. Selectable speeds of 0.1, 1, or 50 s

Remote Programming

Functions

HP 8660D: CW frequency, frequency stepping (STEP ↑, STEP ↓), output level, and most modulation functions are programmable.

Programming Input

Connector type: 36-pin Cinch type 57 (mating connector supplied). 24-pin Cinch type 57 for HP-IB control. BCD and HP-IB control internal-jumper-selectable.

Logic: TTL-compatible (negative true).

Switching time: Less than 10 ms to be within 100 Hz of any new frequency selected. (Less than 175 ms to be within 10 Hz.)

General

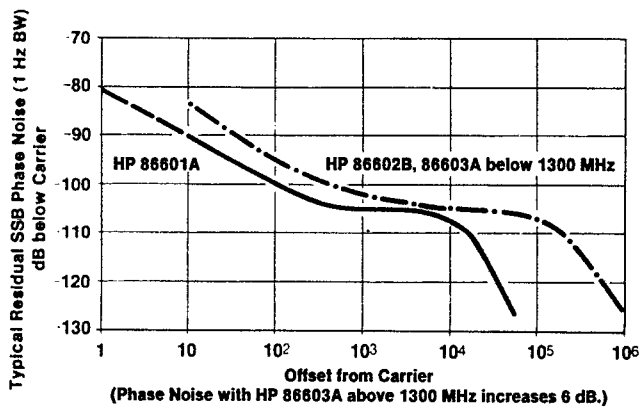
Operating temperature range: 0° to +55° C

Power: 100, 120 V (+5%, −10%), 48 to 400 Hz; 220, 240 V (+5%, −10%), 48 to 66 Hz; approximately 350 W

Weight (mainframe only): Net, 23.8 kg (53 lb); shipping, 29.6 kg (65 lb)

Supplemental Characteristics

Typical Single-Sideband Phase Noise



(Phase Noise with HP 86603A above 1300 MHz increases 6 dB.)