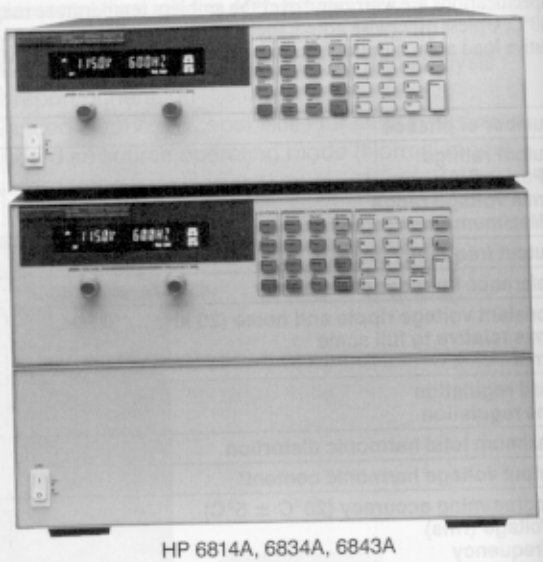
AC SOURCE/ANALYZERS

HP 6800 Series AC Power Source/Analyzers

HP 6812A – 6814A, 6834A, 6841A–6843A (Normal mode)

- ac and dc output capability
- Compact size
- Power line disturbance simulation
- Arbitrary waveform generation
- High accuracy readback
- Built-in harmonic analysis capability
- Autoranging output (HP 6812A, 6813A, 6841A and 6842A)
- Standard Commands for Programmable Instruments (SCPI)
- Built-in HP-IB and RS-232 interface
- EC'92 compliant
- Compliance testing to IEC 555-2 Quasi-stationary current harmonics limits (6812A-6814A, 6834A)
- Full IEC 555 compliance testing with the 6840 series Harmonic/Flicker Test Systems (see pages 176 and 177)

HP 6812A, 6813A, 6841A, 6842A



HP 6814A, 6834A, 6843A

HP 6800 Series AC Power Source/Analyzers

HP 6812A 0 to 300 V_{rms}, 750 VA
Single phase model
Panel height: 5.25 inch

HP 6813A 0 to 300 V_{rms}, 1750 VA
Single phase model
Panel height: 5.25 inch

HP 6814A 0 to 300 V_{rms}, 3000 VA
Single phase model
Panel height: 10.5 inch

HP 6834A 0 to 300 V_{rms}, 4500 VA_{total}
Three phase model
Panel height: 10.5 inch

Hewlett-Packard ac power source/analyzers are designed for applications which require precise control, accurate measurement, and analysis of single and three phase ac power. The feature set and performance levels of this product family provide the flexibility necessary to power and test a wide variety of devices. These products are ideal for applications such as power supply testing, UPS testing, avionics ATE, the testing of power factor corrected equipment and devices, and compliance testing to regulatory standards.

The HP 6800 series utilizes a low noise switching topology, which delivers high performance and reduced size. These products can output dc (HP 6812A and HP 6813A models), ac, complex, and user-defined waveforms for exceptional application flexibility over the bus or via an easy-to-use front panel.

Key Features

- Sine, square, and up to 12 user-defined waveforms
- Programmable voltage, current limit, frequency, phase, and distortion (clipped sinewave)
- Programmable dc output (HP 6812A and 6813A only)
- Programmable output impedance (HP 6812A and 6813A only)
- Voltage and frequency slew control
- Power line disturbance simulation (sag, surge, dropout, clipping, and event programming)
- Independent phase control (HP 6834A)
- Measurement of rms voltage, rms current, peak current, neutral current (HP 6834A), frequency, phase, real power, reactive power, apparent power, total 3Φ power (HP 6834A), and power factor
- Harmonic analysis of voltage and current with magnitude and phase results up to the 50th harmonic
- THD measurement of voltage and current
- Over-current, over-voltage, over-power, over-temperature, and RI/DFI protection
- Built-in output isolation relays
- Sixteen non-volatile store and recall states
- User-definable power-on state
- Self-test at power-up
- HP ITG and VEE support
- Electronic calibration via the bus or front panel

Performance and Features to Meet Critical Testing Needs

Powerful Direct Digital Synthesis (DDS) Waveform Generation

The HP 6800 series offers the ultimate in waveform generation versatility. These products can provide low distortion sine and square waveforms up to a maximum frequency of 1 kHz. For testing products under ac line distortion conditions, clipped sinewaves can be generated with 0% to 43% distortion. Up to twelve user-defined arbitrary waveforms can be defined and stored in non-volatile memory. These waveforms can be used to generate steadystate outputs or can be combined for more complex transient generation schemes. Testing for compliance to ac line harmonic immunity standards can easily be achieved. Sinewaves with harmonic content specified by this standard can be downloaded into non-volatile memory and generated as needed.

For testing that requires dc output capability or waveforms with a dc offset, the output of the HP 6812A and 6813A can be configured in ac or dc mode. Output changes can be programmed to start at any phase angle for all models.

Flexible Transient Generation

When testing requires precise synchronization between waveform generation and measurement of the device under test, the HP 6800 series transient generation capability provides a powerful tool. The Step and Pulse modes offer an easy and convenient method of executing single step and continuous output changes. The output voltage amplitude, frequency, phase, waveform shape, voltage slew rate, and frequency slew rate can be controlled in response to an input trigger generated from an internal or external event. The List transient mode further extends this capability for more complex waveform generation needs. Up to 100 sequences of output settings can be precisely executed in response to a trigger or paced by programmed dwell times without computer intervention.

Extensive Measurement and Analysis

The HP 6800 series has measurement functionality equivalent to commercially available high-accuracy wattmeters. This eliminates the need for a separate system wattmeter for most applications, and lowers systems cost, increases available rack space, and simplifies cabling. All measurements are made with 16-bit resolution, suitable for even the most demanding applications.

For testing devices for compliance to regulatory standards, the HP 6800 series has built-in voltage and current waveform digitization combined with harmonic analysis capability. Amplitude, phase, and total harmonic distortion results up to the 50th harmonic are provided for output frequencies equal to or less than 250 Hz. This measurement feature, accessible via the front panel or over the bus, provides a sophisticated solution for verification of compliance in regulatory testing agen-