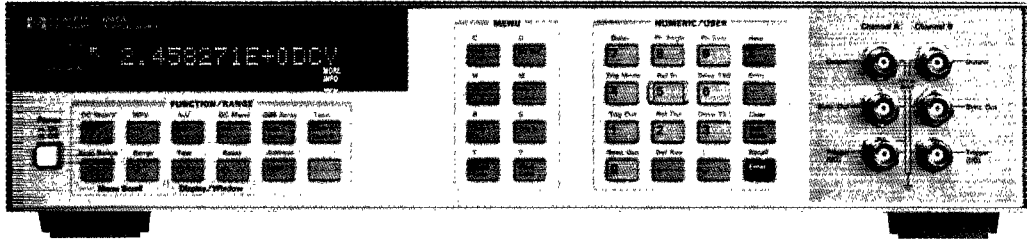


FUNCTION GENERATORS & WAVEFORM SYNTHESIZERS

Universal Source

HP 3245A

- Precision dc outputs with 6½ digits of resolution
- Synthesized ac with 0.4% amplitude accuracy
- Sine, Square, Triangle, and ARB to 1 MHz
- Floating outputs
- 100-volt option
- Nonvolatile storage of up to 14 setups
- Second-channel output available
- Phase-continuous frequency changes
- Optional software for waveform modification
- Downloadable subroutines



HP 3245A



HP 3245A Universal Source

The HP 3245A universal source combines precision dc capabilities with versatile ac performance, including arbitrary waveform generation. This creates versatility on the bench, where the HP 3245A may be all the source you ever need. The HP 3245A can also fit into your computer-aided test system, providing the capabilities of ac, dc, ARB, and second-channel options in a single 3½-inch tall instrument.

Precision DC

The HP 3245A provides precision dc outputs of both voltage and current. In the high-resolution mode, you get 24-bit resolution with 60-ppm, 90-day accuracy. The low-resolution mode provides 12-bit resolution with 100 μ s settling times. This type of precision means you can use the HP 3245A to test A/D converters, Voltage to Frequency converters, VCOs, transducers, and other equipment needing highly accurate dc voltage or current. There are two output ranges in the high-resolution mode: ± 1 volt and ± 10 volts. In the low resolution mode, there are seven ranges. In current, there are four ranges of output, from 0.1 mA to 100 mA. Output impedance is selectable as either zero Ω or 50 Ω .

Accurate AC

The HP 3245A can generate ac voltage outputs, including sine, triangle, and square waves, at frequencies of up to 1 MHz. Variable duty-cycle pulse and ramp outputs can be generated at up to 100 kHz. In the ac mode, the HP 3245A can make phase-continuous frequency changes "on-the-fly." All ac waveforms are synthesized and have 0.001-Hz resolution and 50-ppm frequency accuracy. Ninety-day amplitude accuracy for sine, ramp, and ARB is 0.35% of output + 0.41% of range.

Arbitrary Waveform

The HP 3245A offers arbitrary waveform operation at a full 1-MHz bandwidth. This is accomplished by a sampling technique in which the values loaded into RAM are sampled at approximately 4.3 MHz and then run through a 1.25-MHz 5-pole low-pass filter. This allows full 1-MHz repetition rate while maintaining 0.001-Hz resolution at any frequency. The HP 3245A can also store multiple arrays that can be accessed for arbitrary waveform generation. Array depth is 2048 bytes.

Second Channel Option

The addition of a second channel allows you to generate two waveforms, either independent or phase related to each other. The second channel output can be phase synchronized to the first channel or to an external input. Such capabilities are especially useful if you are doing modem testing, tone-sequence generation, DTMF generation, FSK generation, or other operations where two outputs are required.

Waveform-Generation Software

A powerful software package for creating specialized waveforms is available as an option to the HP 3245A. This menu-driven software facilitates the capture of a waveform using a separate hardware digitizer, such as the HP 3458A. The waveform can then be modified, if desired, and played back via the HP 3245A. The use of a graphics tablet makes it easy to modify waveforms. The software also contains a library of standard waveforms that can be used as is or mixed with other waveforms to generate complex outputs.

Option 002 High-Voltage Output

Option 002 is a precision voltage amplifier that increases the output voltage 10-fold. Maximum voltage is now ± 100 volts, or 200 volts peak-to-peak in ac mode. The second channel slot is used for the high-voltage option. It is not possible to have both second channel and high-voltage options in the same instrument.

System Operation

The HP 3245A includes features that make it especially powerful in system applications. Because it contains many BASIC-like constructs, such as IF..THEN and FOR..NEXT, the HP 3245A can do much of the work that normally falls to the host computer. Now, subroutines can be downloaded to the HP 3245A and run standalone, minimizing host interaction. Built-in math capabilities add to the power of the HP 3245A. Electronic calibration is both easy and accurate and does not require the instrument to be removed from a rack or opened to perform a calibration.

All these features combine to make the HP 3245A a universal source, combining precision dc outputs, accurate ac waveforms, and arbitrary waveform capabilities in a single instrument.