

# MEASUREMENT SYSTEMS ARCHITECTURE

## HP 75000 VXIbus Family

Sources, Digital I/O, Oscilloscope

SUPPORTED BY  
**HP ITG**  
SOFTWARE

HP E1440A



### 21-MHz Synthesized Function/Sweep Generator (E1440A)

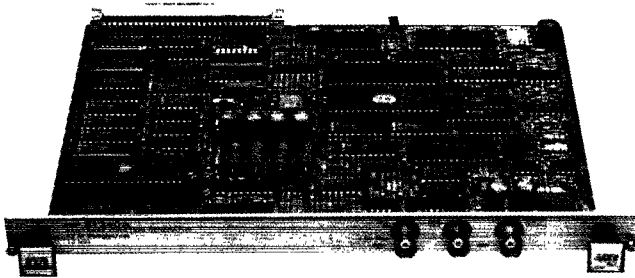
The HP E1440A 21-MHz Synthesized Function/Sweep Generator is a 2-slot C-size VXI module that offers five different waveforms with synthesizer accuracy. Frequency resolution down to 1  $\mu$ Hz, 5 ppm frequency accuracy/stability, and outstanding signal purity make this generator the ideal reference source for test equipment. Includes multi-interval sweep and multimarker mode sweep capabilities.

#### Specifications

**Waveforms:** Sine, square, triangle, negative and positive ramps, dc, TTL clock

**Frequency ranges:** Sine: 1  $\mu$ Hz to 21 MHz  
square: 1  $\mu$ Hz to 11 MHz  
triangle/ramps: 1  $\mu$ Hz to 11 kHz  
TTL clock: 1  $\mu$ Hz to 60 MHz

**Frequency resolution:** 11 digits



### Arbitrary Function Generator (E1340A)

The E1340A provides standard functions and arbitrary waveforms. It includes sweep, FSK, and wave hop. Its 12-bit resolution produces low distortion ac and good dc accuracy. The register-based B-size format provides an inexpensive architecture for producing analog waveforms.

- Digital synthesis for precise frequency control
- B-size, register-based, SCPI-compatible when using E1300/1301A or E1405A
- HP 9000 Series 300 software E1340A Option 005 Arbitrary Waveform Generation

#### Specifications

**Amplitude resolution:** 12 bits

**Internal time base:** 42.9 MHz

**Waveform memory:** 16K samples

**Built-in waveforms:** Sine, square, ramp, triangle, sin(x)/x, noise, and haversine

**Frequency sweep:** 0.01 Hz to 15 MHz

**dc accuracy:** - + (2% + 100 mV)

**Sine THD (<100 kHz @ 10 dBm):** -60 dB

For full specifications, see the HP 75000 Product Catalog (HP pub. no. 5091-1587).



### Arbitrary Function Generator (E1445A)

The E1445A produces arbitrary waveforms and standard analog waveforms with low distortion and high accuracy. The 256-K memory is controlled by a high-speed sequencer that stores waveforms in a very efficient manner. The triggering and clock circuits take advantage of the VXI architecture by connecting to the various VXI backplane lines.

- High resolution D/A converter
- Large memory with sequencer
- Digital synthesis for precise frequency control
- HP 9000 Series 300 software E1445A Option 005 Arbitrary Waveform Generation

#### Specifications

**Amplitude resolution:** 13 bits

**Internal time base:** Synthesizer 0.01 Hz to 10 MHz; 40 and 42.9 MHz crystal with dividers

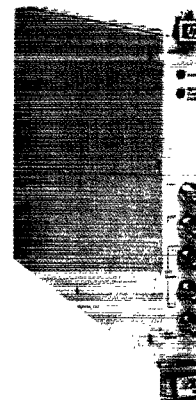
**Segment memory:** 256K samples

**Sequence memory:** 32K

**Built-in waveforms:** Sine, square, ramp, and triangle

**Frequency sweep:** 0.01 Hz to 10 MHz

**dc accuracy:** 0.1% of full scale



### Summing Amplifier/DAC (E1446A)

The E1446A sums two inputs, provides DC offset, and raises signal power. Each input channel has a 31 dB-attenuator, and the output has a 20 dB-step attenuator. Two outputs drive single-ended and differential loads. The on-board D/A converter provides dc offset independent from the incoming signal. When no signals are attached to the input channels, the E1446A can be used as a power D/A converter.

#### Specifications

**Input impedance:** 50, 75, and 1 M  $\Omega$

**Output impedance:** 50  $\Omega$  single-ended and differential

**Full power bandwidth:** 10 MHz

**Small signal bandwidth:** 50 MHz

**Output level:** 40 V p-p into Hi-Z, 20 V p-p into 50  $\Omega$

**DAC resolution:** 16 bits