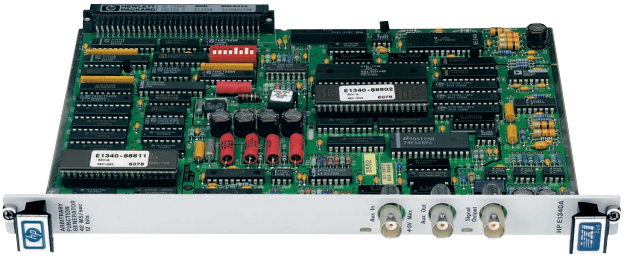
Arbitrary Function Generator, B-Size
HP E1340A
Technical Specifications

- **1-Slot, B-size, register based**
- **12-bit, 42 MSa/s**
- **16 kSa RAM**
- **Full featured signal source**
- **Arb. & std. waveforms, sweep, FSK, waveform hopping**



HP E1340A

Description

The HP E1340A Arbitrary Function Generator is a **B-size, 1-slot, register-based VXI module.** It has the performance and flexibility expected in higher-priced function generators. Arbitrary waveforms, standard waveforms, sweep, FSK, and waveform hopping are all included. The simple B-size architecture provides these features at a low price.

The 12-bit DAC and the analog circuitry were designed to produce reliable signals. The sinewave flatness and total harmonic distortion are better than most function generators on the market. Many applications demand more than a simple function generator and more than a simple arbitrary waveform generator. The HP E1340A combines many of these features into a single product.

Refer to the HP Website for instrument driver availability and downloading instructions, as well as for recent product updates, if applicable.

C-size Adapter

This product may be adapted for use in a C-size mainframe. See the HP E1403C Adapter.

Product Specifications

Waveforms

Arbitrary waveform function:	Yes
Standard waveforms:	Sine, square, ramp, triangle, sin(x)/x, noise, and haversine
Amplitude resolution:	12 bits
Sample rate:	42 MSa/s
Timebase:	42.9 MHz (50 ppm) or external
Waveform memory:	16 kSa segmentable in 4, 8, or 16 kSa
Number of waveforms in active memory:	4
Waveform looping (burst output mode):	1 to 65,534 cycles or continuous
Modulation:	FSK

Frequency/Rates

Maximum waveform frequency:	15 MHz sine, 1 MHz square, 1 MHz ramp/ triangle
Square wave or pulse risetime:	25 ns typical
Jitter:	24 ns
Frequency sweep range:	0.01 Hz to 15 MHz (linear)
Sweep rate of change:	0.4 Hz/s to 2.6 MHz/s
Frequency shift (FSK) rate:	up to 3 kHz

Output

Resolution:	12 bits
Output impedance:	50 Ω ± 1%
Amplitude:	10.2 Vp-p max. into 50 Ω (20 Vp-p into 50 Ω using HP E1446A Amplifier/DAC)
Amplitude accuracy (DC):	± (2.7% of full scale)
Offset range:	± 5.11 V into 50 Ω
Attenuator:	
Fine resolution:	11 bits
Coarse resolution:	0 or 20 dB
Amplitude accuracy (AC):	± 0.43 dB

Sine total harmonic distortion:

Frequency	+ 23 to –20 dBm*	10 dBm
1 - 100 kHz	–60 dB	–63 dB
0.1 - 1 MHz	–49 dB	–54 dB
1 - 10 MHz	–33 dB	–47 dB
10 - 15 MHz	–30 dB	–41 dB

****Max output 11 to 15 MHz: 20 dBm***

Sine nonharmonic distortion:

Frequency	Distortion
0 - 1 MHz	–65 dBc†
1 - 10 MHz	–43 dBc†
1 - 15 MHz	–34 dBc†

†or –45 dBm, whichever is greater

Sine flatness:	0.2 dB to 10 MHz, 0.5 dB to 15 MHz, (over + 23 dBm to –20 dBm, to 11 MHz, + 20 dBm to –20 dBm >11 MHz)
Monotonicity:	>9 bits
Differential nonlinearity:	5 LSB

Auxiliary Input/Output

Input:	External clock, burst, gate, waveform hop, FSK
Output:	Internal clock, sweep marker, cycle marker, zero crossing

General Specifications

VXI Characteristics

VXI device type:	Register based
Data transfer bus:	A16, D16 DTB Slave
Size:	B
Slots:	1
Connectors:	P1
Shared memory:	n/a
VXI busses:	n/a
C-size compatibility:	Yes

Instrument Drivers

See the HP Website (http://www.hp.com/go/inst_drivers) for driver availability and downloading.

Command module firmware:	Downloadable
Command module firmware rev:	A.06
I-SCPI Win 3.1:	Yes
I-SCPI Series 700:	Yes
C-SCPI LynxOS:	Yes
C-SCPI Series 700:	Yes
HP Panel Drivers:	Yes
VXI*plug&play* Win Framework:	No
VXI*plug&play* Win 95/NT Framework:	No
VXI*plug&play* HP-UX Framework:	No

Module Current

	I_{PM}	I_{DM}
+5 V:	1.2	0.01
+12 V:	0.6	0.15
–12 V:	0	0
+24 V:	0	0
–24 V:	0	0
–5.2 V:	0	0
–2 V:	0	0

Cooling/Slot

Watts/slot:	13.20
ΔP mm H_2O:	0.11
Air Flow liter/s:	1.06

Ordering Information

Description	Product No.
Arbitrary Function Generator, B-size	HP E1340A
Service Manual	HP E1340A 0B3
3 yr Retn. to HP to 1 yr. OnSite Warr.	HP E1340A W01

Related Literature

1998 Test System and VXI Products Data Book,
HP Pub. No. 5966-2812E

1999 Test System and VXI Products Catalog,
HP Pub. No. 5968-3698

Warranty

Standard Hewlett-Packard VXIbus hardware products are warranted against defects in materials and workmanship for a period of three years unless otherwise noted. HP software and firmware products that are designated by HP for use with a hardware product, when properly installed on that hardware product, are warranted not to fail to execute their programming instructions due to defects in materials and workmanship.

For a complete and detailed warranty statement please see the HP *Test System and VXI Products Data Book* or visit the HP Website at http://www.hp.com/go/vxi.

Website Directory

HP VXI Product Information
http://www.hp.com/go/vxi

HP VXI Channel Partners
http://www.hp.com/go/vxichanpart

HP VEE Application Website
http://www.hp.com/go/hpvee

Data Acquisition and Control Website
http://www.hp.com/go/data_acq

HP Instrument Driver Downloads
http://www.hp.com/go/inst_drivers

Electronics Manufacturing Test Solutions
http://www.hp.com/go/manufacturing

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United States:
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Test and Measurement Call Center
P.O. Box 4026
Englewood, CO 80155-4026
1 800 452 4844

Canada:
Hewlett-Packard Canada Ltd.
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