800 kSa/s, 2-Channel Digitizer HP E1563A

Technical Specifications

- **800 kSa/s sample rate with 14 bit resolution**
- **Input ranges up to 256 V, channel isolation 256 V**
- **Common mode rejection 113 dB**
- **Time or event triggering with selectable reading counts**
- **Switchable 25 kHz input filter per channel**



HP E1563A

Description

The HP E1563A digitizer is a **C-size, 1-slot, register-based VXI module.** It is ideal for measurements in electronic production test, particularly in environments with high levels of electrical noise. Engineers and technicians in manufacturing test groups can fully characterize electronic transient waveforms with this highly accurate digitizer.

Each channel of the HP E1563A digitizer has its own analog electronics, including switchable 25 kHz input filters, 800 kSa/s 14 bit A/D converters, and independent channel isolation.

The HP E1563A is configured for PC SIMM memory, scaleable from 4 Mbyte to 64 Mbytes. The large memory can easily capture transients and act as a FIFO to allow continuous digitizing while unloading data with block mode transfers.

Refer to the HP Website for instrument driver availability and downloading instructions, as well as for recent product updates, if applicable. Manual is also available online in PDF format.

Time Base and Triggering

Both channels sample simultaneously with a single internal or external time base. Triggering can be set up for either time or event modes with programmable pre- and post-trigger reading counts.

Programming

The HP E1563A has a simple programming model which includes a data FIFO or flat file memory model for the A/D converter, 16 bit integer data corrected for offset and gain errors, and a current value table to retrieve the current sample of data.

Product Specifications

Number of channels:	2
Bandwidth:	1 MHz
Resolution:	14 bits (including sign)
Sample rates:	1 Sa/s to 800 kSa/s
Built-in DSP:	No
Alias protection:	Oversample
Basic accuracy:	0.1%
Time Base resolution:	0.1 µs
Low-frequency CMRR:	113 dB
Variable bandwidth:	25 kHz switchable filter
2 dB Input range headroom:	n/a
Trigger:	Time & Event
Pre-arm capture:	Yes
Memory:	4 Mbyte to 64 Mbyte PC SIMM
Dual-ported memory:	No
Dual-rate sampling:	No
Segmented memory:	No

Environmental Specifications

For indoor use:	Pollution degree 2
Operating altitude:	3000 meters or mainframe altitude specification, whichever is lower
Operating temperature:	0 °C to 55 °C
Relative humidity:	Up to 80% at 31 °C, decreasing to 50% at 40 °C

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.01.00
I-SCPI Win 3.1:	No
I-SCPI Series 700:	No
C-SCPI LynxOS:	No
C-SCPI Series 700:	No
HP Panel Drivers:	No
VXI*plug&play* Win Framework:	No
VXI*plug&play* Win 95/NT Framework:	Yes
VXI*plug&play* HP-UX Framework:	10.2 planned 1998

Note: The HP VEE application can use VXI*plug&play* drivers or HP panel drivers.

Accuracy

Range	Zero Offset[1] (with filter OFF)		Zero Offset[1] (with filter ON)		Gain (% of reading)		Noise (3 sigma)
	Specification[2]	Temperature Coefficient[3]	Specification[2]	Temperature Coefficient[3]	Specification[2]	Temperature Coefficient[3]	Specification[2]
0.0625 V	20 µV	1.9 µV/°C	28 µV	4.3 µV/°C	0.034%	0.0061%/°C	57 µV
0.25 V	78 µV	6 µV/°C	110 µV	16 µV/°C	0.034%	0.0061%/°C	180 µV
1 V	300 µV	15 µV/°C	430 µV	63 µV/°C	0.034%	0.0061%/°C	720 µV
4 V	1.2 mV	60 µV/°C	1.7 mV	251 µV/°C	0.034%	0.0061%/°C	2.88 mV
16 V	21 mV	1.3 mV/°C	21 mV	1.63 mV/°C	0.034%	0.0061%/°C	14.7 mV
64 V	28 mV	1.65 mV/°C	34 mV	4.24 mV/°C	0.034%	0.0061%/°C	48 mV
256 V	79 mV	4.28 mV/°C	110 mV	16.2 mV/°C	0.034%	0.0061%/°C	189 mV

[1] Valid within the range of 0 °C to 55 °C. A zero offset calibration for all channels must be performed if the instrument experiences a temperature <0 °C or >55 °C for these specifications to remain valid.
[2] Specification is valid when tested at a temperature within ± 5 °C of the calibration temperature.
[3] Amount of error that must be added for each °C outside of ± 5 °C of the calibration temperature.

VXI Characteristics

VXI device type:	Register based
Data transfer bus:	A16, slave only
Size:	C
Slots:	1
Connectors:	P1/2
Shared memory:	None
VXI busses:	TTL

Integral Non-Linearity Specification

All ranges:	2.5 LSB

Module Current

	I_{PM} (A)	I_{DM} (A)
+5 V:	1.1	0.5
+12 V:	0.6	0.1
–12 V:	0.6	0.1
+24 V:	0	0.01
–24 V:	0	0.01
–5.2 V:	0.1	0.01
–2 V:	0.1	0.01

Cooling/Slot

Watts/slot:	20.6
ΔP mm H_2O:	0.18
Air flow liter/s:	2.8

Ordering Information

Description	Product No.
800 kHz, 2-Channel VXI Digitizer	HP E1563A
Convert Standard Warranty to On-site	HP E1563A W01

Related Literature

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

1998 Test System and VXI Products Catalog,
HP Pub. No. 5966-2815

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.

HP Website Directory

Main HP Website
http://www.hp.com

HP Test and Measurement
http://www.hp.com/go/tmdir

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

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For more information about Hewlett-Packard test & measurement products, applications, services, and for a current sales office listing, visit our website, *http://www.hp.com/go/tmdir*. **You can also contact one of the following centers and ask for a test and measurement sales representative.**

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

Canada:
Hewlett-Packard Canada Ltd.
5150 Spectrum Way
Mississauga, Ontario L4W 5G1
(905) 206 4725

Europe:
Hewlett-Packard
European Marketing Centre
P.O. Box 999
1180 AZ Amstelveen
The Netherlands
(31 20) 547 9900

Japan:
Hewlett-Packard Japan Ltd.
Measurement Assistance Center
9-1, Takakura-Cho, Hachioji-Shi,
Tokyo 192, Japan
Tel: (81) 426 56 7832
Fax: (81) 426 56 7840

Latin America:
Hewlett-Packard
Latin American Region Headquarters
5200 Blue Lagoon Drive, 9th Floor
Miami, Florida 33126
U.S.A.
Tel: (305) 267-4245
(305) 267-4220
Fax: (305) 267-4288

Australia/New Zealand:
Hewlett-Packard Australia Ltd.
31-41 Joseph Street
Blackburn, Victoria 3130
Australia
1 800 629 485

Asia Pacific:
Hewlett-Packard Asia Pacific Ltd.
17-21/F Shell Tower, Times Square,
1 Matheson Street, Causeway Bay,
Hong Kong
Tel: (852) 2599 7777
Fax: (852) 2506 9285

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