

KEYSIGHT TECHNOLOGIES (AGILENT HP)

DSO5032A

The Keysight (Agilent) DSO5032A is a 5000 Series 300 MHz, 2-channel portable digital storage oscilloscope powered by proprietary MegaZoom III technology. It offers an impressive combination of deep acquisition memory (up to 1 Mpts), high waveform update rates (up to 100,000 waveforms/s), and a sharp 6.3-inch XGA display with 256 intensity grading levels. Fully-equipped with standard USB, LAN (LXI Class C), and GPIB connectivity, this instrument provides high-performance troubleshooting capabilities in a compact benchtop form factor.

SPECIFICATIONS

General

Interfaces	USB (2 host ports, 1 device port), 10/100Base-T LAN, GPIB, XGA video output
Display	6.3-inch diagonal color TFT LCD, 1024 x 768 pixels (XGA), 256 levels of intensity grading

Physical

Power Supply	100-240 V AC, 50/60 Hz; 100-120 V AC, 400 Hz; 120 W maximum power consumption
Operating Temperature	0 °C to +55 °C °C
Dimensions (W×H×D)	354 mm x 188 mm x 174 mm mm
Weight	4.1 kg kg

Key Performance Specifications

Bandwidth	300 MHz
Calculated Rise Time (10% to 90%)	1.17 ns
Number of Input Channels	2
Maximum Real-time Sample Rate	2 GSa/s (interleaved), 1 GSa/s (per channel)
Maximum Memory Depth	8 Mpts (interleaved), 4 Mpts (per channel) with Option 8M

Vertical System

Analog Bandwidth Limit (Hardware)	20 MHz
Input Coupling	AC, DC
Input Impedance	1 M Ω $\pm$ 1% 14 pF, or 50 Ω $\pm$ 1.5%
Input Sensitivity Range	2 mV/div to 5 V/div (1 M Ω), 2 mV/div to 1 V/div (50 Ω)
Vertical Resolution	8 bits
Maximum Input Voltage	CAT I 400 Vpk (1 M Ω), 5 Vrms (50 Ω)
DC Vertical Gain Accuracy	$\pm$ 2.0% full scale
Channel-to-Channel Isolation	$\geq$ 40 dB from DC to 300 MHz
Probe Attenuation Factor Settings	0.1:1 to 1000:1 in 1-2-5 sequence
Dynamic Range	$\pm$ 8 divisions from screen center
Vertical Offset Range (2 mV to 200 mV/div)	$\pm$ 2 V
Vertical Offset Range (202 mV to 5 V/div)	$\pm$ 50 V

Horizontal System

Time Base Range	1 ns/div to 50 s/div
Time Base Accuracy	$\pm$ 15 ppm (0.0015%)
Channel Deskew Range	$\pm$ 100 ns

Acquisition System

Acquisition Modes	Normal, Peak Detect, Averaging, High Resolution
Peak Detect Performance	Captures glitches as narrow as 500 ps
Averaging Factor Range	2 to 65536
High-Resolution Mode Resolution	Up to 12 bits of resolution when bandwidth-limited
Maximum Waveform Update Rate	Up to 100,000 waveforms/sec
Single-Channel Max Sample Rate	2 GSa/s
Dual-Channel Max Sample Rate	1 GSa/s
Single-Channel Max Memory Depth	8 Mpts
Dual-Channel Max Memory Depth	4 Mpts
Hardware Peak Detect Minimum Glitch Width	500 ps

Trigger System

Trigger Modes	Auto, Normal, Single
Trigger Coupling	AC, DC, LF Reject, HF Reject, Noise Reject
Trigger Holdoff Range	60 ns to 10 s
Trigger Sensitivity	0.5 div or 5 mV (DC to 100 MHz), 1.0 div or 10 mV (100 MHz to 300 MHz)
Edge Triggering	Rising, falling, alternating, or either edge on any channel
Pulse Width Triggering	Trigger on positive or negative pulses from 2 ns to 10 s
Pattern Triggering	Trigger on logical AND of multiple channel states
TV/Video Triggering	NTSC, PAL, SECAM, HDTV (480i, 480p, 720p, 1080i, 1080p)
External Trigger Input Impedance	1 M Ω $\pm$ 1% 14 pF, or 50 Ω $\pm$ 1.5%
External Trigger Maximum Input Voltage	CAT I 400 Vpk (1 M Ω), 5 Vrms (50 Ω)

Waveform Measurements and Analysis

Automatic Voltage Measurements	Peak-to-peak, Maximum, Minimum, Amplitude, Top, Base, Overshoot, Preshoot, Average, RMS
Automatic Time Measurements	Period, Frequency, Rise time, Fall time, + Width, - Width, Duty cycle
Measurement Statistics	Display of minimum, maximum, mean, standard deviation, and count
Cursor Measurements	Manual, Track, and Auto-measure cursors
Waveform Math Operations	Add, Subtract, Multiply, FFT
FFT Window Functions	Hanning, Flat Top, Rectangular, Blackman-Harris

Display and User Interface

Display Type	Color TFT LCD
Display Size	6.3-inch (160 mm) diagonal
Display Resolution	1024 x 768 pixels (XGA)
Display Intensity Gradation	256 levels
Waveform Display Formats	YT, XY

Connectivity and Interfaces

USB Host Ports	2 x USB 2.0 high-speed host ports (1 front, 1 rear)
USB Device Port	1 x USB 2.0 high-speed device port (rear)
LAN Port (LXI Class)	10/100Base-T (LXI Class C compliant)
GPIB Interface	IEEE-488 standard interface
VGA/Video Out Port	SVGA video output (DB-15 connector)
Auxiliary Output (Trigger Out)	BNC connector
Probe Compensator Output	Approx 1.2 kHz, 3 Vpp

Power and Environmental

Line Voltage Range	100 V to 240 V AC
Line Frequency Range	50 Hz to 60 Hz; 100 V to 120 V AC at 400 Hz
Power Consumption	120 W maximum
Operating Temperature Range	0 °C to +55 °C
Storage Temperature Range	-40 °C to +70 °C
Operating Humidity	Up to 95% RH at +40 °C
Operating Altitude	Up to 4,600 m (15,000 ft)
Acoustic Noise Emissions	30 dBA at operator position

Physical Characteristics and Standards

Dimensions (W x H x D)	354 mm x 188 mm x 174 mm
Kensington Lock Slot	Standard Kensington security slot
Safety Standards Certification	IEC 61010-1:2001 / EN 61010-1:2001, CAN/CSA-C22.2 No. 61010-1-04, UL 61010-1:2004
Electromagnetic Compatibility (EMC)	IEC 61326-1:1997, EN 61326-1:1997

Inputs & Outputs

Probe Interface Compatibility	Agilent AutoProbe
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Triggering

Trigger Sources	Channel 1, Channel 2, External, Line
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Interfaces & Software

LXI Web Control	Built-in virtual front panel via standard web browser
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General System

Real-Time Clock	Built-in, battery-backed
Quick Help System Languages	11 languages (English, French, German, Italian, Japanese, Korean, Portuguese, Russian, Simplified Chinese, Spanish, Traditional Chinese)

Inputs

Input Capacitance	13 pF
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Measurements

Built-in Frequency Counter Resolution	5 digits
Built-in Frequency Counter Range	0.5 Hz to 300 MHz
Built-in Frequency Counter Source	Any analog channel

Display

Display Graticule	8 x 10 divisions
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Storage

Internal Non-volatile Storage	10 setups and 10 waveforms
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Accessories

Standard Passive Probes	10073C (one per channel)
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Interfaces

LXI Compliance	LXI Class C
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TECHNOLOGY

Digital Storage Oscilloscope (DSO)

APPLICATIONS

Electronic Design, Debugging, Manufacturing Test, and Education

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