

KEYSIGHT TECHNOLOGIES (AGILENT HP)

DSO6034A

The Agilent Keysight DSO6034A is a 300 MHz, 4-channel digital storage oscilloscope from the InfiniiVision 6000 Series. It features a high-definition XGA color display, MegaZoom III deep memory technology, a fast waveform update rate of up to 100,000 waveforms per second, and full-scale connectivity, making it a powerful tool for debug and analysis of embedded systems.

SPECIFICATIONS

General

Interfaces	USB 2.0 (2x host ports, 1x device port) standard; LAN (10/100Base-T), GPIB, and XGA video output optional
Display	6.3-inch color VGA TFT LCD, 640 x 480 pixels, with 256 intensity levels
Calibration Interval	1 year

Physical

Power Supply	100 - 240 VAC ($\pm 10\%$), 50/60 Hz; or 100 - 120 VAC, 400 Hz; 120 W maximum power consumption
Operating Temperature	0 °C to +55 °C °C
Dimensions (W×H×D)	354 mm × 188 mm × 282 mm mm
Weight	4.9 kg kg

Key Performance Specifications

Analog Bandwidth	300 MHz
Number of Analog Channels	4
Number of Digital Channels (MSO)	0 (upgradable to 16 digital channels via MSO upgrade kit)
Maximum Real-time Sample Rate	4 GSa/s (interleaved), 2 GSa/s (per channel)
Maximum Memory Depth	1 Mpts (standard, interleaved), 8 Mpts (optional with Option 8M, interleaved)
Waveform Update Rate	Up to 100,000 waveforms/sec
Vertical Resolution	8 bits (up to 12 bits in High Resolution mode)

Vertical System - Analog Channels

Input Coupling	AC, DC, GND
Input Impedance	Selectable: 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)
Maximum Input Voltage	CAT I 300 Vrms, CAT II 150 Vrms, $\pm$ 400 Vpk (1 M Ω); 5 Vrms (50 Ω)
Vertical Gain Accuracy	$\pm$ 2.0% of full scale
Hardware Bandwidth Limit Filter	20 MHz selectable
Probe Interface	AutoProbe interface

Horizontal System

Timebase Range	1 ns/div to 50 s/div
Timebase Accuracy	$\pm$ 15 ppm (0.0015%)
Channel Deskew Range	$\pm$ 100 ns
Horizontal Operating Modes	Main, Zoom, Roll, XY
Pre-trigger Delay Range	Greater of 1 screen width or 250 μ s

Acquisition System

Acquisition Modes	Normal, Peak Detect, Averaging, High Resolution
Peak Detect Threshold	1 ns
High Resolution Mode	Up to 12 bits of resolution (at $\geq$ 10 μ s/div) in real-time, reducing noise
Averaging Settings	Selectable from 2 to 65536

Trigger System

Trigger Sources	Ch 1, Ch 2, Ch 3, Ch 4, Line, External
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 10 MHz), 1.0 div or 10 mV (10 MHz to 300 MHz)
Edge Triggering	Rising, falling, alternating
Pulse Width Triggering	Positive or negative pulse width (15 ns to 10 s)
Video/TV Triggering	NTSC, PAL, SECAM, HDTV (480i, 480p, 720p, 1080i, 1080p)
Serial Protocol Triggering Options	I2C, SPI, CAN, LIN
Built-in Reference Clock Input/Output	10 MHz reference in/out
Trigger Jitter	< 15 ps RMS
Glitch Trigger Minimum Width	2 ns
Duration Trigger Range	2 ns to 10 s

Waveform Measurements and Analysis

Automatic Measurements	Voltage (peak-to-peak, max, min, amplitude, top, base, overshoot, preshoot, average, RMS), Time (frequency, period, +width, -width, duty cycle, rise time, fall time, delay, phase)
Waveform Math Operators	Addition, subtraction, multiplication, FFT
FFT Window Types	Hanning, Flat Top, Rectangular
Cursor Measurements	Manual, Track, and Auto-measure cursors; ΔV and Δt
Built-in Hardware Counter	5-digit frequency counter

Display and User Interface

Display Type	Color flat panel TFT-LCD
Display Size	6.3 inches (160 mm) diagonal
Display Resolution	320 x 240 pixels (QVGA)
Intensity Levels	256 levels
Built-in Help System	Yes (localized in multiple languages)

Connectivity and Interfaces

USB Host Ports	2x USB 2.0 high-speed ports (1x front, 1x rear) for storage and printing
USB Device Port	1x USB 2.0 high-speed port (rear) for PC remote control
LAN Port Interface	10/100Base-T, LXI class C compliant
Auxiliary Outputs	Trigger Out, Calibration Signal Output
External Video Output	VGA video out (rear panel)

Connectivity nudge

GPIB Interface	IEEE 488.2 compliance
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Power and Environmental

Line Voltage Range	100 V to 240 V ($\pm 10\%$)
Line Frequency Range	50/60 Hz (100 V to 240 V) or 400 Hz (100 V to 120 V)
Power Consumption	120 W maximum
Operating Temperature Range	0 °C to +55 °C
Non-operating Temperature Range	-40 °C to +70 °C
Operating Humidity Range	Up to 95% RH at 40 °C (non-condensing)
Operating Altitude	Up to 4,600 m (15,000 ft)

Physical Characteristics

Width	354 mm
Height	188 mm
Depth	282 mm
Kensington Lock Slot	Standard rear panel slot

Ordering Information and Options

MSO Upgrade Option	Upgradable to MSO (adds 16 digital channels) at any time
Optional Memory Upgrade	Option LMT (up to 8 Mpts interleaved, 4 Mpts per channel)
Serial Decode Software Options	I2C/SPI serial data decode, CAN/LIN automotive triggering and decode
Other Options	FPGA dynamic probe, SEC secure environment mode, Battery powered (Option BAT)

Vertical System

Channel-to-channel Isolation	>= 40 dB from DC to 300 MHz
Calculated Rise Time	1.17 ns

Storage and Connectivity

Supported USB File Systems	FAT, FAT32
Save Formats	CSV, ASCII XY, BIN, BMP, PNG, Setup (.set), Waveform (.wfm)
Printer Support	PictBridge, HP DeskJet, and HP LaserJet compatible printers via USB host port

General Specifications

Built-in Help System Languages	English, German, French, Italian, Spanish, Portuguese, Russian, Japanese, Korean, Simplified Chinese, Traditional Chinese
Standard Rackmount Height	5U
Real-time Clock	Built-in, battery-backed

Environmental and Safety

Operating Vibration	MIL-PRF-28800F Class 3 random vibration
Safety Standards	UL 61010-1:2004, CAN/CSA-C22.2 No. 61010-1:2004, EN 61010-1:2001, IEC 61010-1:2001
EMC Standards	IEC 61326-1:1997 +A1:1998 +A2:2000, EN 61326-1:1997 +A1:1998 +A2:2000

Interfaces & Connectivity

LXI Compliance	LXI Class C
Built-in Web Server	Yes, enables remote front panel control, waveform saving, and instrument configuration via a web browser

Standard Accessories

Standard Passive Probes	4 × 10073C 10:1 passive probes (500 MHz bandwidth)
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Environmental

Non-operating Altitude	15,000 m (50,000 ft)
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TECHNOLOGY

Digital Storage Oscilloscope (DSO)

APPLICATIONS

Embedded system design, digital debug, automotive electronics, and laboratory testing

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