KEYSIGHT TECHNOLOGIES (AGILENT HP)

DSOX3034A

The Agilent InfiniiVision DSOX3034A is a 4-channel, 350 MHz digital storage oscilloscope designed to offer high performance, flexibility, and extensive upgradability. Featuring an 8.5-inch WVGA display and a fast waveform update rate of up to 1,000,000 waveforms per second, this model is built for efficient serial measurement and signal analysis.

SPECIFICATIONS

General

Interfaces	Two USB 2.0 high-speed host ports (one front, one rear), one USB 2.0 high-speed device port (rear); optional 10/100Base-T LAN and Video out (via DSOXLAN module); optional GPIB (via DSOXGPIB module)
Display	8.5-inch WVGA with 64 levels of intensity grading
Acoustic Noise	30 dBA sound pressure level (at operator position)
Recommended Calibration Cycle	2 years

Physical

Power Supply	100-120 V (50/60/400 Hz), 100-240 V (50/60 Hz), 100 W max
Operating Temperature	0 to +55 °C °C
Dimensions (W×H×D)	380.6 mm × 204.4 mm × 141.5 mm mm
Weight	3.85 kg kg

Vertical System (Analog Channels)

Analog Bandwidth (-3 dB)	350 MHz
Number of Input Channels	4
Calculated Rise Time (10% to 90%)	≤ 1 ns
Input Coupling	AC, DC
Input Impedance	Selectable 1 MΩ ± 1% or 50 Ω ± 1.5%
Vertical Sensitivity Range	1 mV/div to 5 V/div (1 MΩ), 1 mV/div to 1 V/div (50 Ω)
Vertical Resolution (A/D Converter)	8 bits
Channel-to-Channel Isolation	> 100:1 from DC to 350 MHz (measured with same V/div and coupling on channels)
Offset Range	±2 V (1 mV/div to 200 mV/div), ±50 V (> 200 mV/div to 5 V/div)
Hardware Bandwidth Limiters	20 MHz selectable

Horizontal System & Acquisition

Maximum Real-time Sample Rate (Single-Channel)	4 GSa/s (half-channel interleaved)
Maximum Real-time Sample Rate (Multi-Channel)	2 GSa/s per channel
Maximum Record Length (Memory Depth)	Standard: 1 Mpts per channel (2 Mpts half-channel interleaved); Optional: 2 Mpts per channel (4 Mpts half-channel interleaved)
Time Base Range	1 ns/div to 50 s/div
Channel-to-Channel Deskew Range	± 100 ns

Trigger System

Trigger Modes	Normal (triggered), Auto, Single, Force
Internal Trigger Level Range	± 6 div from center screen
External Trigger Level Range	N/A (external trigger input is only available on 2-channel models)
Trigger Coupling	AC, DC, LF reject, HF reject, noise reject
Trigger Holdoff Range	40 ns to 10 s

Acquisition Modes & Signal Processing

Acquisition Modes	Normal, Peak detect, Averaging, High resolution, Segmented (optional)
Peak Detect Glitch Capture	Narrow as 250 ps at all timebase settings
High Resolution Mode	12 bits of resolution when ≥ 10 µs/div at 4 GSa/s or ≥ 20 µs/div at 2 GSa/s
Segmented Memory Re-arm Time	1 µs (minimum time between trigger events)
Waveform Update Rate	1,000,000 waveforms/s
Waveform Math Operators	7 functions, including FFT

Measurements & Analysis

Total Automatic Measurements	33 automated measurements
Voltage Measurements	Peak-to-peak, maximum, minimum, amplitude, top, base, overshoot, pre-shoot, average- N cycles, average- full screen, DC RMS- N cycles, DC RMS- full screen, AC RMS- N cycles, AC RMS- full screen (standard deviation), ratio (RMS1/RMS2)
Time Measurements	Period, frequency, counter, + width, - width, burst width, duty cycle, rise time, fall time, delay, phase, X at min Y, X at Max Y
Count Measurements	Positive pulse count, negative pulse count, rising edge count, falling edge count
Mixed Measurements	Area- N cycles, area- full screen
Measurement Statistics	Continuously updated with statistics; cursors track last selected measurement (up to four active measurements)
Hardware-based Mask Testing	Up to 280,000 tests per second
Reference Waveforms	Store up to 2 waveforms in non-volatile reference memory

Display & User Interface

Display Type and Size	8.5-inch WVGA
Display Intensity Levels	64 levels of intensity grading
Autoscale	Autoscale button for automatic setting of vertical, horizontal, and trigger controls (can be disabled or enabled)
Localized Interface	Localized GUI and built-in help

Input/Output Interfaces

USB Host Ports	Two USB 2.0 hi-speed host ports (one front, one rear); supports memory devices and printers
USB Device Port	One USB 2.0 hi-speed device port on rear panel
LAN Port	10/100Base-T (requires optional DSOXLAN module)
Video Out Port	Allows external monitor or projector connection (requires optional DSOXLAN module)
GPIB Port	Migration capability for legacy test systems (requires optional DSOXGPIB module)
Probe Compensator Output	Square wave: 2.5 Vpp, 1 kHz
WaveGen Output	Front-panel BNC Connector (requires WaveGen option)
Security Lock Slot	Rear-panel security slot compatible with Kensington-style locks

Accessories & Ordering Options

Logic Timing Analyzer Upgrade	Upgradable to MSO functionality with 16 digital channels via DSOX3MSO option
Function Generator Option	Built-in 20-MHz function generator WaveGen
Optional Serial Protocol Analysis	I²C, SPI, RS232, UART, CAN, LIN, and I²S
Post-Purchase Upgradability	Upgradable bandwidth, digital channels, or WaveGen function generator after purchase

Vertical System

DC Vertical Gain Accuracy	±2.0% full scale
DC Vertical Offset Accuracy	±0.1 div ± 2 mV ± 1% of offset setting
Maximum Input Voltage (1 MΩ)	300 Vrms, 400 Vpk (CAT I and CAT II)
Maximum Input Voltage (50 Ω)	5 Vrms (CAT I)
Dynamic Range	±8 divisions from screen center

Horizontal System

Time Base Accuracy	±25 ppm + 2 ppm per year aging

Environmental

Non-operating Temperature	-40 to +70 °C
Operating Humidity	Up to 90% RH at 40 °C (non-condensing)
Non-operating Humidity	Up to 90% RH at 65 °C (non-condensing)
Operating Altitude	Up to 3,000 m (10,000 ft)
Non-operating Altitude	Up to 15,240 m (50,000 ft)

Waveform Math & Analysis

FFT Window Functions	Hanning, Flat Top, Rectangular, Blackman-Harris

Built-in Instruments

Integrated Digital Voltmeter	3-digit (characterizes AC RMS, DC, and DC RMS)
Integrated Frequency Counter	5-digit (standard)

Standards & Safety

Overvoltage Category	CAT I 300 Vrms, CAT II 300 Vrms (1 M̤)
Electromagnetic Compatibility (EMC)	Meets IEC 61326-1:2005 / EN 61326-1:2006 Group 1 Class A

TECHNOLOGY

Digital Storage Oscilloscope (DSO)

APPLICATIONS

Electronic hardware troubleshooting, serial protocol analysis, logic timing measurement, education, and R&D testing