

KEYSIGHT TECHNOLOGIES (AGILENT HP)

DSO91304A

The Keysight Technologies (formerly Agilent) Infiniium DSO91304A is a 13 GHz, 4-channel high-performance digital oscilloscope engineered for demanding debug, analysis, and compliance workflows. Combining an industry-leading low noise floor with up to 1 Gpts of deep memory and 40 GSa/s real-time sample rates across all channels, the DSO91304A delivers exceptional signal integrity and deep application analysis capabilities. It features a 12.1-inch XGA touchscreen display and the advanced 3-level InfiniiScan Plus hardware-software triggering system to accurately capture and analyze complex waveforms.

SPECIFICATIONS

General

Interfaces	LAN (LXI Class C), GPIB, USB 2.0 Host (front/rear), USB 2.0 Device, Auxiliary Out, Trigger Out, Reference Clock In/Out
Display	12.1-inch XGA TFT-LCD touchscreen, 1024 x 768 resolution
Calibration Cycle	1 year
LXI Compliance	LXI Class C compliant

Physical

Power Supply	100 - 240 V AC ($\pm 10\%$) at 50/60 Hz, Max power consumption 800 W
Operating Temperature	5 °C to +40 °C °C
Dimensions (W×H×D)	434 mm × 330 mm × 507 mm mm
Weight	20.4 kg

Vertical System

Analog Bandwidth (-3 dB)	13 GHz
Input Channels	4
Calculated Rise Time (10% to 90%)	35 ps
Calculated Rise Time (20% to 80%)	25 ps
Input Impedance	50 Ω
Input Coupling	DC
Vertical Resolution	8-bit (up to 12-bit with averaging or high-resolution mode)
Input Sensitivity Range	1 mV/div to 1 V/div
DC Gain Accuracy	$\pm 2\%$ of full scale
Channel-to-Channel Isolation	≥ 40 dB (DC to 13 GHz)
Noise Floor (at 100mV/div)	3.01 mVrms

Acquisition System

Maximum Real-Time Sample Rate	40 GSa/s on 2 channels, 20 GSa/s on 4 channels
Standard Memory Depth	20 Mpts per channel
Maximum Record Length	Up to 1 Gpts per channel (option dependent)
Acquisition Modes	Normal, Average, Envelope, Segmented

Horizontal System

Timebase Range	5 ps/div to 20 s/div
Timebase Accuracy	±0.1 ppm
Channel-to-Channel Deskew Range	±75 ns

Trigger System

Trigger Sources	Channel 1, Channel 2, Channel 3, Channel 4, Aux
Trigger Modes	Auto, Triggered, Single
Trigger Coupling	DC, AC, Low Frequency Reject, High Frequency Reject
Trigger Holdoff Range	100 ns to 10 s
Trigger Sensitivity	Internal: 1 div (DC to 13 GHz)
Standard Trigger Types	Edge, Glitch, Width, Transition, Runt, Timeout, Pattern, State, Window, Setup/Hold

Waveform Measurements and Analysis

Automatic Measurements	Amplitude, Peak-to-Peak, Max, Min, Period, Frequency, Rise Time, Fall Time, Duty Cycle, Width, Jitter, Eye Measurements
Waveform Math Operators	Add, Subtract, Multiply, Divide, FFT, Differentiate, Integrate, Square Root, Absolute Value

Environmental and Compliance

Storage Temperature Range	-40 °C to +70 °C
Operating Humidity	Up to 95% relative humidity (non-condensing) at +40 °C
Operating Altitude	Up to 3,000 m (9,842 ft)

Computer System

Operating System	Windows 7 Enterprise (64-bit)
Processor	Intel Core 2 Duo 3.0 GHz
System Memory	8 GB DDR3 RAM
Storage	250 GB minimum, removable high-performance SSD/HDD

Jitter Performance

Intrinsic Jitter	< 100 fs rms
Jitter Noise Floor	< 150 fs rms
Trigger Jitter	< 500 fs rms

Timebase

Timebase Aging	±0.1 ppm per year
Timebase Temperature Stability	±0.05 ppm

I/O Ports

LAN Port	10/100/1000Base-T Gigabit Ethernet (RJ-45)
GPIO Port	IEEE-488 GPIO interface
External Display Output	15-pin VGA and DVI-D
PCI Express Slot	PCIe x4 slot for external data transfer

Probing

Probe Interface	Agilent AutoProbe interface (compatible with InfiniiMax I and II probing systems)
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Acquisition

Maximum Optional Memory Depth	500 Mpts (4 channels) / 1 Gpts (2 channels) via Option 500
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Connectivity

Front USB Ports	2 x USB 2.0
Rear USB Ports	4 x USB 2.0
USB Device Port	1 x USB 2.0 Type B (USBTMC)
Auxiliary Output	Front panel BNC, 50 Ω output impedance, configurable as calibration or trigger out

Power

Max Power Consumption	800 W
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Performance

Offset Range	±0.4 V (1 to 50 mV/div), ±4 V (50.5 to 400 mV/div), ±5 V (401 mV/div to 1 V/div)
Dynamic Range	±4 divisions from center screen
Vertical Sensitivity Resolution	Fully variable from 1 mV/div to 1 V/div

Environmental & Safety

Safety Compliance	IEC 61010-1, CAN/CSA-C22.2 No. 61010-1, UL 61010-1
EMC Compliance	IEC 61326-1, EN 61326-1, ICES/NMB-001, AS/NZS CISPR 11
Pollution Degree	Pollution Degree 2

TECHNOLOGY

Digital Phosphor Oscilloscope (DPO) / Real-Time Oscilloscope

APPLICATIONS

High-speed digital design debug, serial bus compliance testing, jitter analysis, RF and spectral analysis

