

KEYSIGHT TECHNOLOGIES (AGILENT HP)

DSO80604B

The Keysight (Agilent) DSO80604B is a high-performance digital storage oscilloscope from the Infiniium 80000B Series. Featuring a 6 GHz analog bandwidth and a real-time sample rate of up to 40 GSa/s, it delivers industry-leading signal integrity, the lowest noise floor, and exceptionally low trigger jitter. Engineered for modern high-speed designs, it pairs seamlessly with the InfiniiMax probing system to provide maximum accuracy and design margin.

SPECIFICATIONS

General

Interfaces	LAN (10/100Base-T), GPIB, USB 2.0 (Front and Rear ports), dual-monitor VGA
Display	8.4-inch color XGA TFT touch screen, 1024 x 768 resolution, 256-level intensity grading
LXI Compliance	Class C

Physical

Power Supply	100 - 240 VAC ($\pm 10\%$), 47 - 63 Hz, 800 W maximum power consumption
Operating Temperature	5 °C to +40 °C °C
Dimensions (W×H×D)	425 mm × 216 mm × 520 mm mm
Weight	20.4 kg kg

Vertical System (Analog Channels)

Analog Bandwidth (-3 dB)	6 GHz
Calculated Rise Time (10% to 90%)	70 ps
Calculated Rise Time (20% to 80%)	47 ps
Input Channels	4
Input Impedance	50 Ω
Input Coupling	DC
Input Sensitivity Range	1.5 mV/div to 1 V/div
Vertical Resolution	8 bits (up to 12 bits with averaging)
Maximum Input Voltage	5 V rms
DC Vertical Gain Accuracy	$\pm 2\%$ of full scale
Industry-Lowest Noise Floor	241 μ V rms @ 5 mV/div
System Bandwidth with Probe	6 GHz with InfiniiMax 1134A probing system

Horizontal System (Timebase)

Main Timebase Range	5 ps/div to 20 s/div
Timebase Accuracy	±0.1 ppm
Channel-to-Channel Deskew Range	±25 µs

Acquisition System

Maximum Real-Time Sample Rate (1 Channel)	40 GSa/s
Maximum Real-Time Sample Rate (2 Channels)	40 GSa/s
Maximum Real-Time Sample Rate (4 Channels)	20 GSa/s
Memory Depth at 40 GSa/s	Up to 64 Mpts MegaZoom (configuration dependent)
Memory Depth at 4 GSa/s	Up to 32 Mpts MegaZoom (configuration dependent)
Acquisition Modes	Real-time, Equivalent-time, Segmented Memory, Averaging

Trigger System

Trigger Sources	Channel 1, Channel 2, Channel 3, Channel 4, Aux (External)
Trigger Modes	Edge, Glitch, Pulse Width, Runt, Timeout, Transition, Setup/Hold, Window, Pattern, State
Trigger Holdoff Range	100 ns to 10 s

Computer System & Interface Architecture

Internal Operating System	Windows XP Pro
10 MHz Reference Input	BNC (standard)
10 MHz Reference Output	BNC (standard)

Environmental & Safety Compliance

Non-Operating Temperature Range	-40 °C to +70 °C
Operating Humidity Range	Up to 95% relative humidity (non-condensing) at +40 °C
Operating Altitude	Up to 4,600 m (15,000 ft)

Vertical System

RMS Noise Floor (10 mV/div)	0.38 mV
RMS Noise Floor (100 mV/div)	2.24 mV
Vertical Offset Range	±1.2 V (1 mV/div to 120 mV/div); ±4 V (121 mV/div to 1 V/div)
Vertical Offset Accuracy	±(1.5% of channel offset + 2% of full scale + 1 mV) for ≤ 120 mV/div; ±(1.5% of channel offset + 2% of full scale + 10 mV) for > 120 mV/div
Vertical Dynamic Range	±4 divisions from center screen
Channel-to-Channel Isolation	DC to 1 GHz: ≥ 40 dB; 1 to 4 GHz: ≥ 30 dB; 4 to 6 GHz: ≥ 20 dB

Trigger

Internal Trigger Sensitivity (DC to 2 GHz)	0.5 div
Internal Trigger Sensitivity (2 GHz to 6 GHz)	1.0 div
Internal Trigger Level Range	±4 div from center screen
Auxiliary Trigger Input Impedance	50 Ω
Auxiliary Trigger Level Range	±2.0 V
Auxiliary Trigger Bandwidth	2 GHz

Computer System

Processor	Intel Pentium 4 3.0 GHz (or higher)
System Memory	2 GB
Hard Drive	≥ 80 GB internal

Connectivity

Probe Interface	Agilent AutoProbe
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Power

Maximum Power Consumption	550 W
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Horizontal System

Acquisition Memory Depth Options	Standard: 512 kpts (4 ch) / 1024 kpts (2 ch); Option 080: 40 Mpts (4 ch) / 80 Mpts (2 ch); Option 160: 80 Mpts (4 ch) / 160 Mpts (2 ch); Option 320: 160 Mpts (4 ch) / 320 Mpts (2 ch); Option 640: 320 Mpts (4 ch) / 640 Mpts (2 ch)
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Compliance & Environmental

Safety Compliance	IEC 61010-1:2001 / EN 61010-1:2001, CAN/CSA-C22.2 No. 61010-1-04, UL 61010-1:2004
EMC Compliance	IEC 61326-1:2005 / EN 61326-1:2006, ICES-001:2004, AS/NZS CISPR 11:2004
Operating Vibration	0.21 g (rms), 5 to 500 Hz, 10 min per axis
Non-operating Vibration	2.0 g (rms), 5 to 500 Hz, 10 min per axis

TECHNOLOGY

Digital Storage Oscilloscope (DSO)

APPLICATIONS

High-speed digital design, signal integrity analysis, compliance testing, and RF/microwave analysis

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