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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight MSOX6002A

Agilent Keysight MSOX6002A Mixed Signal Oscilloscope 1 GHz 2+16 ch The Keysight InfiniiVision MSOX6002A is a 6000 X-Series oscilloscope with 1 GHz base analog bandwidth and 2 analog channels plus 16 digital channels. OEM 6000 X-Series data sheet 5991-4087 lists 20 GSa/s half channel / 10 GSa/s all channel sample rate, 4 Mpts half / 2 Mpts all memory at 2 GSa/s or less, calculated rise time 350 ps or less at 1 GHz, and 115 uVrms typical noise floor at 1 mV/div 50 ohm. High speed mixed signal debug, jitter and real time eye option path, and bandwidth upgradeable validation from 1 GHz toward 6 GHz. The Keysight InfiniiVision MSOX6002A is a 6000 X-Series oscilloscope with 1 GHz base analog bandwidth and 2 analog channels plus 16 digital channels. OEM 6000 X-Series data sheet 5991-4087 lists 20 GSa/s half channel / 10 GSa/s all channel sample rate, 4 Mpts half / 2 Mpts all memory at 2 GSa/s or less, calculated rise time 350 ps or less at 1 GHz, and 115 uVrms typical noise floor at 1 mV/div 50 ohm. High speed mixed signal debug, jitter and real time eye option path, and bandwidth upgradeable validation from 1 GHz toward 6 GHz.



MODEL

**Agilent / Keysight
MSOX6002A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

MSOX6002A

LISTING

<https://aumictechlabs.com/products/msox6002a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Keysight MSOX6002A is a 2-channel mixed-signal oscilloscope with 16 integrated digital channels, delivering 1 GHz base bandwidth upgradeable to 2.5 GHz, 4 GHz, or 6 GHz. It combines

analog and logic measurement in a portable platform featuring a 12.1-inch capacitive multi-touch display with gesture and voice control. Maximum sampling reaches 20 GSa/s on half channels with 4 Mpts memory depth, enabling real-time capture of complex signals at 350 ps rise time. The instrument integrates seven measurement tools: oscilloscope, logic analyzer, serial protocol analyzer with hardware decoding (I2C, SPI, UART, CAN, USB 2.0, and others), dual-channel function generator to 20 MHz, digital voltmeter, 10-digit frequency counter, and frequency response analyzer for Bode plots. Analysis capabilities include color-graded histograms, enhanced FFT, gated multi-domain analysis, and optional jitter, eye diagram, mask testing, power analysis, and HDTV features. Vertical sensitivity spans 1 mV/div with 8-bit resolution and noise floors of 115 μ Vrms (1 GHz) to 210 μ Vrms (6 GHz). Time base ranges 100 ps/div to 50 s/div. Analog input impedance is 1 M Ω with 8 pF capacitance; digital inputs present 100 k Ω . The waveform update rate exceeds 450,000 waveforms/second, enabling live, responsive measurements even during intensive analysis.

Technical Specifications
Bandwidth: 1 GHz base; upgradeable to 2.5 GHz, 4 GHz, 6 GHz
Channels: 2 analog + 16 digital (MSO)
Sampling Rate: 20 GSa/s (half channels); 10 GSa/s (all channels)
Memory Depth: 4 Mpts (half channels); 2 Mpts (all channels); segmented standard
Rise Time: 350 ps
Vertical Sensitivity: 1 mV/div minimum
Vertical Resolution: 8 bit
Noise Floor: 115 μ Vrms @ 1 mV/div (1 GHz); 210 μ Vrms @ 1 mV/div (6 GHz)
Input Impedance: 1 M Ω analog; 100 k Ω digital
Input Capacitance: 8 pF
Time Base: 100 ps/div to 50 s/div
Waveform Update Rate: >450,000 wfms/sec

Key Features
12.1-inch SVGA capacitive touch display with multi-touch gesture support
Voice control (multi-language standard)
InfiniiScan Zone touch trigger
Hardware-based serial protocol decoding
Standard DVM (AC/DC, 3-digit), 10-digit frequency counter, Bode plot analysis
Optional jitter, eye diagram, mask/limit test, power analysis, USB 2.0 quality test

Typical Applications
Embedded systems debugging, mixed-signal protocol validation, power electronics characterization, digital signal integrity analysis, frequency response measurement.

Compatibility & Integration
Serial protocols include I2C, SPI, UART, RS232, CAN, CAN-FD, LIN, SENT, FlexRay, I2S, MIL-STD1553, CXPI, ARINC429, USB 2.0, Manchester, and NRZ decoding.

MSOX6002A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Mixed Signal Oscilloscope
Series Family	InfiniiVision 6000 X-Series
Model	MSOX6002A
Half Channel Bandwidth Base	1 GHz (minus 3 dB); upgradeable to 2.5, 4, or 6 GHz
Full Channel Bandwidth Base	1 GHz (minus 3 dB)
Calculated Rise Time 10 to 90 At 1 GHz	350 ps or less
Analog Channels	2
Digital Channels	16
Maximum Sample Rate Half Channel	20 GSa/s
Maximum Sample Rate All Channels	10 GSa/s
Memory Depth At Or Below 2 GSas	4 Mpts half channels; 2 Mpts all channels
Memory Depth Above 2 GSas	1 Mpts half channels; 500 kpts all channels
Waveform Update Rate	greater than 450,000 waveforms per second
Display	12.1 inch capacitive multi touch gesture enabled
Typical Noise Floor 1 GHz	115 uVrms at 1 mV/div, 50 ohm
Vertical Resolution	8 bits (12 bits with averaging)
Input Impedance	1 MOhm plus or minus 1 percent (14 pF); 50 ohm plus or minus 3 percent
Input Sensitivity 1 MOhm	1 mV/div to 5 V/div (200 MHz bandwidth limit at 2 mV/div or less)
Input Sensitivity 50 Ohm	1 mV/div to 1 V/div
Hardware Bandwidth Limits 1 MOhm	20 MHz, 200 MHz selectable per channel
Hardware Bandwidth Limits 50 Ohm	20 MHz, 200 MHz, 1.5 GHz, 3 GHz selectable per channel
DC Vertical Gain Accuracy Warranted	plus or minus 2.5 percent full scale at plus or minus 4 div
DC Vertical Gain Accuracy Typical	plus or minus 1.5 percent full scale at plus or minus 3 div
Time Base Range At 1 GHz	500 ps/div to 50 s/div
Time Base Accuracy	plus or minus 1.6 ppm plus aging (1 year plus or minus 0.5 ppm)

PARAMETER	VALUE
Time Base Resolution	2.5 ps
Segmented Memory Maximum Segments	1000
Segmented Memory Rearm Time	as fast as 1 us
Digital Input Impedance	100 kOhm plus or minus 2 percent at probe tip
Digital Min Voltage Swing	500 mVpp
Voice Control	standard
WaveGen Option	optional dual channel 20 MHz function/AWG (DSOX6WAVEGEN2)
Connectivity Standard	USB 2.0, LAN 10/100/1000, video; GPIB option
Dimensions WxHxD	425 mm x 288 mm x 148 mm
Weight Net	6.8 kg (15 lb)
Weight Shipping	11.3 kg (25 lb)
Form Factor	benchtop oscilloscope
Bandwidth	Base: 1 GHz (minus 3 dB); upgradeable to 2.5, 4, or 6 GHz
Rise Time	10 to 90 At 1 GHz: 350 ps or less

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Model	MSOX6002A
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Full Channel Bandwidth Base	1 GHz (minus 3 dB)
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Analog Channels	2
Digital Channels	16
Maximum Sample Rate Half Channel	20 GSa/s
Maximum Sample Rate All Channels	10 GSa/s
Memory Depth At Or Below 2 GSas	4 Mpts half channels; 2 Mpts all channels
Memory Depth Above 2 GSas	1 Mpts half channels; 500 kpts all channels
Waveform Update Rate	greater than 450,000 waveforms per second
Display	12.1 inch capacitive multi touch gesture enabled
Typical Noise Floor 1 GHz	115 uVrms at 1 mV/div, 50 ohm
Vertical Resolution	8 bits (12 bits with averaging)
Input Impedance	1 MOhm plus or minus 1 percent (14 pF); 50 ohm plus or minus 3 percent
Input Sensitivity 1 MOhm	1 mV/div to 5 V/div (200 MHz bandwidth limit at 2 mV/div or less)
Input Sensitivity 50 Ohm	1 mV/div to 1 V/div
Hardware Bandwidth Limits 1 MOhm	20 MHz, 200 MHz selectable per channel
Hardware Bandwidth Limits 50 Ohm	20 MHz, 200 MHz, 1.5 GHz, 3 GHz selectable per channel
DC Vertical Gain Accuracy Warranted	plus or minus 2.5 percent full scale at plus or minus 4 div
DC Vertical Gain Accuracy Typical	plus or minus 1.5 percent full scale at plus or minus 3 div

PARAMETER	VALUE
Time Base Range At 1 GHz	500 ps/div to 50 s/div
Time Base Accuracy	plus or minus 1.6 ppm plus aging (1 year plus or minus 0.5 ppm)
Time Base Resolution	2.5 ps
Segmented Memory Maximum Segments	1000
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Digital Input Impedance	100 kOhm plus or minus 2 percent at probe tip
Digital Min Voltage Swing	500 mVpp
Voice Control	standard
WaveGen Option	optional dual channel 20 MHz function/AWG (DSOX6WAVEGEN2)
Connectivity Standard	USB 2.0, LAN 10/100/1000, video; GPIB option
Dimensions WxHxD	425 mm x 288 mm x 148 mm
Weight Net	6.8 kg (15 lb)
Weight Shipping	11.3 kg (25 lb)
Form Factor	benchtop oscilloscope

Notes

Numeric rows from Keysight InfiniiVision 6000 X-Series oscilloscope data sheet 5991-4087 for MSOX6002A at the 1 GHz base bandwidth license. Quote installed bandwidth option for 2.5/4/6 GHz rise time and noise floor rows.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.