

TEKTRONIX

MSO2024B

The Tektronix MSO2024B is a 200 MHz, 4-channel mixed signal oscilloscope from the MSO/DPO2000B Series. Featuring 16 integrated digital channels, a sample rate of 1 GS/s on all channels, and a 1 Mpoint record length, it provides robust debug capabilities for analog and digital systems. Its advanced Wave Inspector® navigation, FilterVu™ variable low-pass filter, and serial bus triggering capabilities make it a versatile tool for complex embedded designs.

SPECIFICATIONS

General

Interfaces	USB 2.0 host (front), USB 2.0 device (rear), LAN (optional via DPO2CONN), Video Out (optional via DPO2CONN)
Display	7-inch (180 mm) widescreen TFT-LCD, 480 × 234 pixels (WQVGA)
Warranty	5 years

Physical

Power Supply	100 to 240 V ±10% (50/60 Hz), 115 V ±10% (400 Hz), 80 W max
Operating Temperature	0 °C to +50 °C °C
Dimensions (W×H×D)	377 mm × 180 mm × 134 mm mm
Weight	3.6 kg kg

Analog Vertical System

Analog Input Channels	4
Analog Bandwidth (-3 dB)	200 MHz
Calculated Rise Time (10% to 90%)	2.1 ns
Hardware Bandwidth Limits	20 MHz
Input Coupling	AC, DC, GND
Input Impedance	1 MΩ ±2% parallel with 11.5 pF ±2 pF
Vertical Resolution	8 bits
Maximum Input Voltage (1 MΩ)	300 V rms with peaks ≤ ±450 V

Digital Vertical System

Digital Channels	16
Threshold Selections	TTL, CMOS, ECL, PECL, User Defined
User-Defined Threshold Range	-15 V to +15 V
Maximum Input Voltage (Digital)	±40 V
Maximum Input Dynamic Range	±10 V about threshold
Minimum Voltage Swing	500 mVpk-pk
Input Impedance (Digital Probe)	101 kΩ
Probe Loading	8 pF
Vertical Resolution (Digital)	1 bit

Horizontal System

Maximum Real-time Sample Rate (Analog)	1 GS/s (all channels)
Maximum Record Length (Analog)	1 Mpoint (all channels)
Maximum Sample Rate (Digital - Channels D7-D0)	1 GS/s (1 ns resolution) (8 channels)
Maximum Sample Rate (Digital - Channels D15-D8)	500 MS/s (2 ns resolution) (16 channels)
Maximum Record Length (Digital)	1 Mpoint (all channels)
Minimum Detectable Pulse Width	5 ns
Channel-to-Channel Skew (Digital)	2 ns (typical)
Time Base Range	2 ns/div to 100 s/div
Channel-to-Channel Deskew Range	±100 ns
Maximum Duration Captured at Highest Sample Rate	1 ms
Time Base Accuracy	±25 ppm
Timebase Delay Time Range	-10 divisions to 5000 s

Trigger System

Main Trigger Modes	Auto, Normal, Single
Trigger Holdoff Range	20 ns to 8 s
Trigger Types	Edge, Pulse width, Runt, Logic, Setup and hold, Rise/Fall time, Video, Parallel
Optional Serial Bus Triggering & Analysis	I2C, SPI, CAN, LIN, RS-232/422/485/UART
Trigger Sensitivity (≤10 MHz)	0.4 division from DC to 50 MHz
Trigger Sensitivity (10 MHz to 100 MHz)	0.6 division from 50 MHz to 100 MHz
Trigger Sensitivity (100 MHz to 200 MHz)	0.8 division from 100 MHz to 200 MHz
Trigger Level Range	±8 divisions from center of screen

Acquisition Modes

Supported Acquisition Modes	Sample, Peak detect, Averaging, Roll
-----------------------------	--------------------------------------

Waveform Analysis & Measurements

Automatic Measurements	29 automated measurements
Measurement Cursors	Waveform and screen
Waveform Math	Add, subtract, and multiply waveforms
FFT Analysis	Spectral magnitude
FFT Vertical Scale	Linear RMS, dBV RMS
FFT Window Types	Rectangular, Hamming, Hanning, Blackman-Harris

Connectivity and Interfaces

USB Host Ports	1x USB 2.0 (front panel)
USB Device Ports	1x USB 2.0 high-speed (rear panel)
LAN Port (Ethernet)	Optional 10/100 Ethernet (via DPO2CONN)
External Video Output	Optional (via DPO2CONN)
Auxiliary Input	No
Probe Compensator Output	Yes
Probe Interface	TekVPI Probe Interface

Vertical System - Analog Channels

Vertical Sensitivity Range	2 mV/div to 5 V/div
DC Gain Accuracy	±3% for 10 mV/div to 5 V/div, ±4% for 2 mV/div to 5 mV/div

Acquisition System

Maximum Waveform Capture Rate	5,000 wfm/s
-------------------------------	-------------

Environmental

Operating Altitude	Up to 3,000 m (9,843 ft.)
Non-operating Altitude	Up to 12,000 m (39,370 ft.)
Non-operating Temperature	-40 °C to +71 °C
Operating Humidity	High: 60% to 90% RH at up to +40 °C; Low: 10% to 60% RH up to +50 °C
Non-operating Humidity	High: 30% to 90% RH at up to +40 °C; Low: 10% to 60% RH up to +55 °C

Display

Display Resolution	480 × 234 pixels (WQVGA)
Display Type	7-inch (180 mm) widescreen TFT-LCD

Digital Channels

Digital Threshold Accuracy	±(100 mV + 3% of threshold setting)
Standard Digital Probe Model	P6316

Interfaces

LXI Compliance	LXI Class C, Version 1.4 (requires optional DPO2CONN module)
----------------	--

Compliance

Safety Standards	UL61010-1:2004, CAN/CSA-C22.2 No. 61010-1:2004, EN61010-1:2001, IEC61010-1:2001
Electromagnetic Compatibility (EMC)	2004/108/EC, EN61326-1:2006 Class A, CNS13438

TECHNOLOGY

Mixed Signal Oscilloscope

APPLICATIONS

Embedded Design, Mixed Signal Debug, Serial Bus Analysis, Education

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.