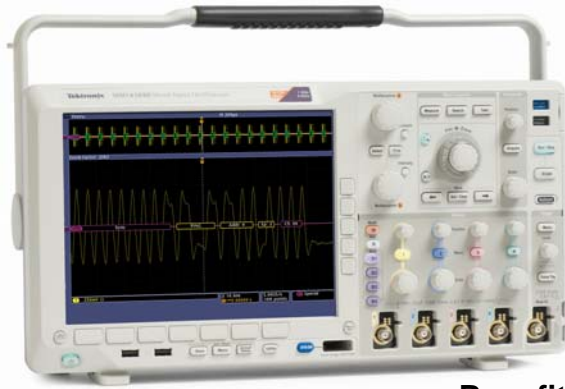


MSO/DPO4000B Series Oscilloscopes

Feature-rich tools for debugging mixed signal designs

Product Fact Sheet

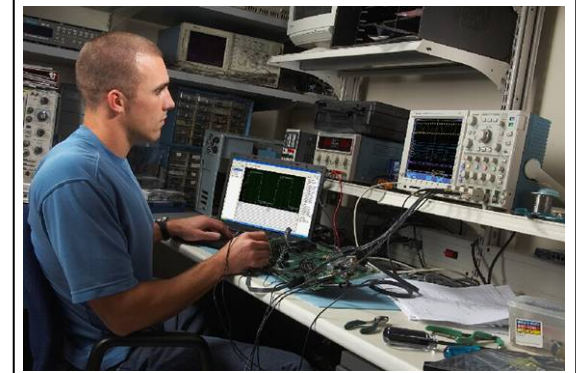


Features

Benefits

4 analog and 16 digital channels	Analyze analog and digital signals on a single instrument for system-level troubleshooting of complex designs.
Digital phosphor display	Quickly discover glitches and infrequent events with a greater than 50,000 wfm/s waveform capture rate and intensity-graded display.
Complete set of triggers	Rapidly capture signal anomalies with over 125 available trigger combinations, including setup/hold, serial packet and parallel data.
Wave Inspector® controls	Easily search, mark and navigate long record lengths to find all occurrences of your event.
Automated Measurements	Simplify analysis of your device with 41 automated measurements, FFT analysis, measurement statistics, waveform histograms, and advanced waveform math.
Parallel bus triggering and analysis (MSO Series)	Quickly debug your parallel bus with automated trigger, decode and search. Capture fast transitions with timing resolution up to 60.6 ps.
Serial triggering and analysis options	Quickly debug common serial buses with automated trigger, decode and search – I ² C, SPI, USB, Ethernet, CAN, LIN, FlexRay, RS-232/422/485/UART, I2S/LJ/RJ/TDM, and MIL-STD-1553.
Power analysis option	Achieve fast, accurate results with integrated automated power measurements.
Low-capacitance passive voltage probing	Four probes with industry-best 4pF capacitive loading and up to 1 GHz bandwidth are included standard to ensure accurate measurements

Designed to make your work easier



Wave Inspector® controls speed navigation of long waveform records

Featuring:

- 350 MHz, 500 MHz, 1 GHz models
- 4 analog channels
- 16 digital channels (MSO Series)
- 20 Mpoint standard record length on all channels
- Up to 5 GS/s sample rate on all analog channels
- Up to 60.6 ps timing resolution on all digital channels with MagniVu™ high speed acquisition
- 41 automated measurements and FFT analysis
- Front panel USB host ports for data storage
- Serial bus triggering and analysis options for I²C, SPI, USB, Ethernet, CAN, LIN, FlexRay, RS-232/422/485/UART, I2S/LJ/RJ/TDM, and MIL-STD-1553
- Parallel bus triggering and analysis, including multi-channel set-up and hold triggering (MSO Series)
- Power analysis option
- Limit/Mask test option
- HDTV and custom video analysis option

MSO/DPO4000B Series Oscilloscopes

Key specifications and ordering information

Product Fact Sheet

Models	Analog Channels	Digital Channels	Bandwidth	Analog Sample Rate	Digital Sample Rate Main / MagniVu™
DPO4034B	4	--	350 MHz	2.5 GS/s	--
MSO4034B	4	16	350 MHz	2.5 GS/s	500 MS/s / 16.5 GS/s
DPO4054B	4	--	500 MHz	2.5 GS/s	--
MSO4054B	4	16	500 MHz	2.5 GS/s	500 MS/s / 16.5 GS/s
DPO4104B	4	--	1 GHz	5 GS/s	--
MSO4104B	4	16	1 GHz	5 GS/s	500 MS/s / 16.5 GS/s

Standard Probes and Accessories

- One Passive Voltage Probe per Analog Channel (TPP0500 500 MHz for 500 MHz and 350 MHz models; TPP1000 1 GHz for 1 GHz models)
- One P6616 16 Channel Logic Probe (MSO only)
- OpenChoice® Desktop and NI LabVIEW SignalExpress™ TE (LE version) Software
- User Manual, Front Cover and Power Cord

Application Modules

- DPO4AERO** – Aerospace Serial Triggering and Analysis Module (MIL-STD-1553).
- DPO4AUDIO** – Audio Serial Triggering and Analysis (I²S, LJ, RJ and TDM).
- DPO4AUTOMAX** - Extended Automotive Serial Triggering & Analysis (CAN, LIN, FlexRay).
- DPO4COMP** - Computer Serial Triggering and Analysis (RS-232/422/485/UART).
- DPO4EMBD** - Embedded Serial Triggering and Analysis (I²C, SPI).
- DPO4LMT** – Limit and Mask Testing Application Module.
- DPO4ENET** - Ethernet Serial Triggering and Analysis Module (10BASE-T, 100BASE-TX)
- DPO4PWR** – Power Analysis Application.
- DPO4USB** – USB Serial Triggering and Analysis Module (LS, FS, HS).

Recommended Probes, Accessories and Services

TPP1000	1 GHz Passive Voltage Probe
TPP0500	500 MHz Passive Voltage Probe
TAP1500	1.5 GHz TekVPI Active Probe.
TCP0030	120 MHz TekVPI 30A AC/DC Current Probe.
TCP0150	20 MHz TekVPI 150A AC/DC Current Probe.
TDP0500	500 MHz TekVPI 42V Differential Probe.
TDP1000	1 GHz TekVPI 42V Differential Probe.
P5205*1	100 MHz, 1.3 kV High-Voltage Differential Probe
NEX-HD2HEADER	Mictor Connector to 0.1" Header Pins.
ACD4000B	Soft Carrying Case.
Opt. R5	5 Year Repair Service Plan.
Opt. C3/C5	3, 5 Year Calibration Service Plan.

*1 Requires TPA-BNC adapter.



Key Applications

Design and debug of embedded systems

Investigation of transient phenomena

Power supply design and analysis

Benefits

- Perform system-level troubleshooting with up to 20 channels
- Easily debug parallel and serial buses:
 - Trigger on serial packet content and parallel data
 - Decode common serial bus standards and defined parallel buses
 - Automatically search through acquired data

- Quickly capture elusive glitches and other infrequent events with >50,000 wfm/s waveform capture rate
- Capture a long time window at high resolution with 20 Mpoints record length

- Quickly and accurately analyze your design with automated power measurements