

OSCILLOSCOPE

SELECTION GUIDE



OSCILLOSCOPE SELECTOR GUIDE

Tektronix offers oscilloscopes for many different applications and uses. To help you choose the right scope for your needs, the most common criteria for selecting a scope are listed below, along with helpful tips for determining your requirements.

1 Bandwidth

All oscilloscopes have a low-pass frequency response that rolls off at higher frequencies. Oscilloscope bandwidth is specified as being the frequency at which a sinusoidal input signal is attenuated to 70.7% of the signal's true amplitude – the -3 dB point. Your oscilloscope must have sufficient bandwidth to capture all relevant frequency components of your signal. If you regularly work with digital signals, it may be easier to consider bandwidth by comparing signal and oscilloscope rise time specifications. Use an oscilloscope with a rise time specification five times faster than your signal rise time to keep error below 2%.

Rule: Bandwidth > 5 x Highest Signal Frequency

2 Sample Rate

The faster an oscilloscope samples, the greater the resolution and detail of the displayed waveform, and the less likely that critical information or events will be lost. Tektronix recommends at least 5X oversampling to ensure signal details are captured and to avoid aliasing.

Rule: Sample Rate > 5 x (Highest Frequency Component)

3 Record Length

Record length is the number of samples the oscilloscope can digitize and store in a single acquisition. Since an oscilloscope can store only a limited number of samples, the waveform duration – or length of “time” captured – will be inversely proportional to the oscilloscope's sample rate. A longer record length enables a longer time window to be captured with high resolution.

Rule: Captured Time = (Record Length) / (Sample Rate)

4 Digital Channels and Spectrum Analyzer Input

Today's oscilloscopes offer more than just analog channels for system-level troubleshooting of complex designs.

- If you need to analyze a parallel bus or multiple serial buses, the Tektronix MSO Series of mixed signal oscilloscopes and MDO Series of mixed domain oscilloscopes offer 16 digital channels and up to 4 analog channels for analyzing multiple signals at once.
- If you are working with RF signals, the Tektronix MDO Series of mixed domain oscilloscopes offers a built-in spectrum analyzer for time-correlated analysis of analog, digital and RF signals.

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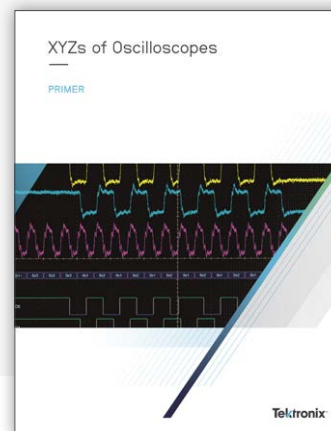
5 Features and Analysis Capability

Tektronix oscilloscopes offer a range of features and analysis capabilities. When choosing your scope, you should review available triggers, waveform search tools, automated measurements, and analysis packages such as serial bus analysis, jitter and power analysis to ensure they meet your needs.

CHOOSING YOUR OSCILLOSCOPE

Engineers, technicians and educators all have different workloads, different measurement needs, and different environments. To meet your needs Tektronix offers a wide range of oscilloscopes. This guide gives an overview of the various types of oscilloscopes currently available, along with high-level specifications that you can use for comparison.

If you need a refresher on oscilloscope specifications, download the [XYZs of Oscilloscopes Primer](#).

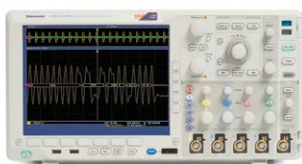


TYPES OF OSCILLOSCOPES



Mixed Domain Oscilloscope – 100 MHz to 1 GHz

The new standard for design and debug work. They offer the same capabilities as mixed signal oscilloscopes, but they also offer a built-in spectrum analyzer, adding RF debugging to the analog/digital capabilities.



Mixed Signal Oscilloscopes – 70 MHz to 1 GHz

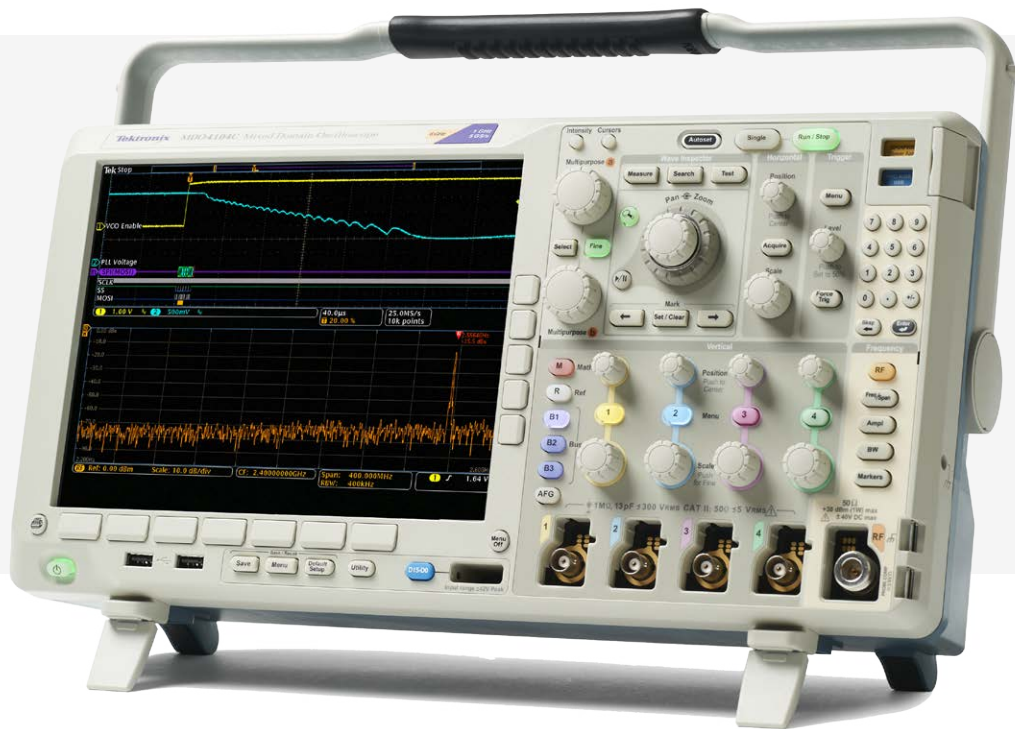
The engineer's choice for design and debug. They combine traditional oscilloscope input channels with 16 digital input channels, long record length with powerful search features, and protocol support for serial buses.



Advanced Signal Analysis Oscilloscopes – 350 MHz to 33 GHz

The emphasis is on analysis. They provide high acquisition performance and run Windows, thus supporting a wide range of analysis software. MSO versions include digital channels. They can be equipped for serial data analysis, jitter analysis, standards testing, and serial decoding capability.

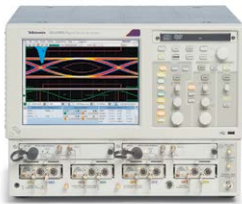
For an in-depth look at all of our products, including demos and 360-degree product explorers, please visit www.tektronix.com. All information on www.tektronix.com supersedes all other information.



MDO4000C

6-in-1 oscilloscope offers a spectrum analyzer, arbitrary/function generator, logic analyzer, protocol analyzer and digital voltmeter/frequency counter.

[LEARN MORE](#)



Sampling Oscilloscopes – DC to 80 GHz

For very high speed signal analysis, both electrical and optical, our sampling oscilloscopes support jitter and noise analysis with ultra-low jitter acquisitions. They also perform TDR and S-parameter measurements.



Basic Oscilloscopes – 30 MHz to 200 MHz

For basic signal visualization and more, these instruments are solid performers with ample supporting materials, and generous warranties. Special features for education.



Battery Powered Oscilloscopes with Isolated Channels – 100 MHz to 200 MHz

Safely and easily make 4-channel floating measurements, including 3-phase power measurements



TDS Series Oscilloscopes – 50 MHz to 500 MHz

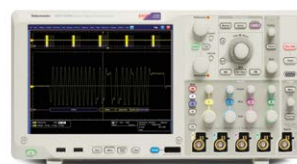
These capable industry-favorites have a large installed base, and thousands of companies rely on them as part of their test and measurement fleets. They continue to be fully supported.

MIXED SIGNAL AND MIXED DOMAIN OSCILLOSCOPES



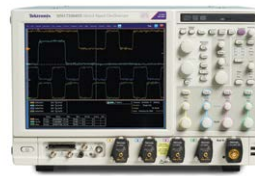
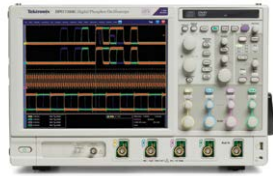
	MSO/DPO2000B	MDO3000
Additional Resources		
Channels	2, 4 analog channels; 16 digital channels (MSO2000B)	2, 4 analog channels; 16 digital channels (with MDO3MSO option)
Bandwidth	70 MHz to 200 MHz	100 MHz to 1 GHz
Spectrum Analyzer Frequency Range	—	Standard: 9 kHz to Analog Bandwidth Optional: 9 kHz to 3 GHz
Sample Rate	1 GS/s (analog); 1 GS/s (digital, only 1 pod); 500 MS/s (digital, both pods)	2.5 GS/s to 5 GS/s (analog); 121.2 ps (8.25 GS/s) MagniVu™ (digital)
Max Record Length	1 Mpoints	10 Mpoints
Trigger Types	Edge, Logic, Pulse Width, Runt, Setup and Hold, Rise/Fall Time, Video, I ² C*, SPI*, CAN*, LIN*, RS-232/422/485/UART*, Parallel (MSO2000B) *Optional	Edge, Sequence, Logic, Pulse Width, Runt, Timeout, Setup and Hold, Rise/Fall Time, Video, Extended Video, I ² C*, SPI*, CAN*, LIN*, FlexRay*, RS-232/422/485/UART*, I ² S/LJ/RJ/TDM*, MIL-STD-1553*, USB 2.0*, Parallel (with MDO3MSO option) *Optional
Optional Serial Bus Decode and Analysis	DPO2AUTO: CAN and LIN DPO2COMP: RS-232/422/485/UART DPO2EMBD: I ² C, SPI DPO2BND: Includes DPO2AUTO, DPO2COMP, DPO2EMBD	MDO3AERO: MIL-STD-1553 MDO3AUDIO: I ² S, LJ, RJ, TDM MDO3AUTO: CAN and LIN MDO3COMP: RS-232/422/485/UART MDO3EMBD: I ² C, SPI MDO3FLEX: FlexRay MDO3USB: USB2.0 MDO3BND: Enables MDO3AERO, MDO3AUDIO, MDO3AUTO, MDO3COMP, MDO3EMBD, MDO3FLEX, MDO3LMT, MDO3PWR, MDO3USB
Connectivity	USB Host, USB Device, GPIB*, Optional DPO2CONN Module: LAN (10/100 Base-T Ethernet) and Video Out *Optional	USB Host (x2), USB Device, LAN (10/100 Base-T Ethernet, LXI Core 2011 Compliant), Video Out, GPIB* *Optional
Waveform Math and Analysis	29 Automated Measurements, Waveform and Screen Cursors: Arithmetic Waveform Math, FFT	30 Automated Measurements, Waveform and Screen Cursors, Arithmetic and Advanced Waveform Math, FFT, Measurement Statistics Optional: MDO3PWR: Power Analysis MDO3LMT: Limit/mask test MDO3BND: Enables MDO3AERO, MDO3AUDIO, MDO3AUTO, MDO3COMP, MDO3EMBD, MDO3FLEX, MDO3LMT, MDO3PWR, MDO3USB
Software	PC communications software: OpenChoice® Desktop	PC Communications Software: OpenChoice® Desktop
Battery Operation	—	—
Upgrade	<ul style="list-style-type: none"> Add serial bus triggering and decode 	<ul style="list-style-type: none"> Increase bandwidth Add Arbitrary/Function generator Add 16 digital channels Increase spectrum analyzer maximum frequency to 3 GHz Add measurements and analysis (power, limit/mask) Add serial bus triggering and decode

MIXED SIGNAL AND MIXED DOMAIN OSCILLOSCOPES AND ADVANCED SIGNAL OSCILLOSCOPES



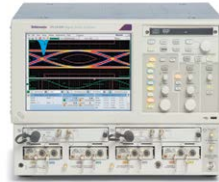
	MDO4000C	MSO/DP05000B
Additional Resources		
Channels	4 analog channels; 16 digital channels (with MDO4MSO option); 1 spectrum analyzer input (with SA3 or SA6 option); 1 Arbitrary/Function Generator (with MDO4AFG option)	4 analog channels; 16 digital channels (MSO5000B)
Bandwidth	200 MHz to 1 GHz	350 MHz to 2 GHz
Spectrum Analyzer Frequency Range	Optional: 9 kHz - 3 GHz or 9 kHz - 6 GHz	—
Sample Rate	2.5 GS/s to 5 GS/s (analog); 60.6 ps (16.5 GS/s) MagniVu™ (digital)	5 GS/s to 10 GS/s (analog); 60.6 ps (16.5 GS/s) MagniVu™ (digital)
Max Record Length	Up to 20 Mpoints	Up to 250 Mpoints
Trigger Types	RF Power Level**, Edge, Sequence, Logic, Pulse Width, Runt, Timeout, Setup and Hold, Rise/Fall Time, Video, Extended Video*, I ² C*, SPI*, USB*, Ethernet*, CAN*, LIN*, FlexRay*, RS-232/422/485/UART*, I ² S/LJ/RJ/TDM*, MIL-STD-1553*, Parallel* *Optional **With optional MDO4TRIG module, RF power level can be used as source for Pulse Width, Timeout, Runt, Logic, Sequence	Edge, Sequence, Logic, Pulse Width, Glitch, Runt, Timeout, Transition, Setup and Hold, Rise/Fall Time, Video, I ² C*, SPI*, USB (Low, Full, High)*, RS-232/422/485/UART*, I ² C*, SPI*, USB*, Ethernet*, CAN*, LIN*, FlexRay*, RS-232/422/485/UART*, MIL-STD-1553*, Parallel (MSO5000B), Visual Trigger *Optional
Optional Serial Bus Decode and Analysis	DPO4AERO: MIL-STD-1553 DPO4AUDIO: I ² S, LJ, RJ, TDM DPO4AUTO: CAN and LIN DPO4AUTOMAX: CAN, LIN and FlexRay DPO4COMP: RS-232/422/485/UART DPO4EMBD: I ² C, SPI DPO4ENET: Ethernet DPO4USB: USB DPO4BND: Enables DPO4AERO, DPO4AUDIO, DPO4AUTO, DPO4COMP, DPO4EMBD, DPO4ENET, DPO4LMT, DPO4PWR, DPO4USB, DPO4VID	SR-AERO: MIL-STD-1553 SR-AUTO: CAN/LIN/FlexRay SR-COMP: RS-232/422/485/UART SR-DPHY: MIPI D-PHY SR-EMBD: I ² C, SPI SR-ENET: 10/100Base-T Ethernet SR-USB: USB
Connectivity	USB Host (x4), USB Device, LAN (10/100/1000 Base-T Ethernet, LXI Core 2011 Compliant), Video Out, GPIB* *Optional	USB Host (x6), USB Device, LAN (10/100/1000 Base-T Ethernet, LXI Class C Compliant), Video Out, GPIB* *Optional
Waveform Math and Analysis	44 Automated Measurements, Waveform and Screen Cursors, Arithmetic Waveform Math, Spectrum Math, FFT, Advanced Math, Measurement Statistics, Waveform Histograms Optional: DPO4LMT: Limit and Mask Testing MDO4TRIG: Adv. RF Power Level Trigger DPO4PWR: Power Analysis DPO4VID: HDTV and Custom Triggering DPO4BND: Enables DPO4AERO, DPO4AUDIO, DPO4AUTO, DPO4COMP, DPO4EMBD, DPO4ENET, DPO4LMT, DPO4PWR, DPO4USB, DPO4VID	53 Automated Measurements, Waveform and Screen Cursors, Arithmetic and Advanced Waveform Math, FFT, Measurement Statistics, Waveform Histograms, Waveform Limit Testing Optional: BRR: BroadR-Reach Compliance Test; DDR: DDR Memory Bus Analysis; DJA: DPOJET Advanced Jitter and Eye Diagram Analysis; ET3: Ethernet Compliance Test Solution; MTM: Mask Testing; PWR: Power Analysis; SignalVu Vector Signal Analysis; USB2: USB Compliance Test Solution; MOST: MOST 50/150 Compliance Test Solution; HSIC: HSIC Electrical Validation; USBPWR: USB Power Adapter/ EPS Compliance Automated Test Solution
Software	PC Communications Software: OpenChoice® Desktop Vector Signal Analysis Software: SignalVu-PC	Optional: TekScope Anywhere™
Battery Operation	—	—
Upgrade	<ul style="list-style-type: none"> • Increase bandwidth • Add Arbitrary/Function Generator • Add 16 digital channels • Add or upgrade spectrum analyzer channel • Add measurements & analysis (power, limit/mask, video, RF trigger) • Add serial bus triggering and decode 	<ul style="list-style-type: none"> • Add 16 digital channels • Add extended record length, up to 250 Mpoints • Add serial bus compliance testing • Add measurements and analysis (power, jitter, mask, RF) • Add serial bus triggering and decode

ADVANCED SIGNAL ANALYSIS OSCILLOSCOPES



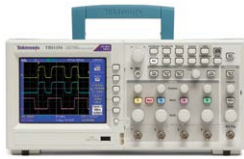
	DPO7000C	MSO/DPO70000
Additional Resources		
Channels	4 analog channels	4 analog channels; 16 digital channels (MSO70000)
Bandwidth	500 MHz to 3.5 GHz	4 GHz to 33 GHz Analog
Sample Rate	10 GS/s to 40 GS/s	25 GS/s to 100 GS/s (analog); 80 ps (12.5 GS/s) (digital)
Max Record Length	Up to 500 Mpoints	Up to 1Gpoints
Trigger Types	Pinpoint™ Triggering, Edge, Glitch, Pulse Width, Runt, Time-out, Transition, Setup/Hold, Pattern, State, Window, Trigger Delay (by Time and by Event), I ² C*, SPI*, USB (Low, Full)*, RS-232/422/485/UART*, I ² C*, SPI*, USB*, Ethernet*, CAN*, LIN*, FlexRay*, RS-232/422/485/UART*, MIL-STD-1553, Visual Trigger *Optional	Pinpoint™ Triggering, Edge, Glitch, Pulse Width, Runt, Time-out, Transition, Setup/Hold, Pattern, State, Window, Trigger Delay (by Time and by Event), I ² C*, SPI*, USB (Low, Full)*, RS-232/422/485/UART*, Serial Pattern*, Visual Trigger* *Optional
Optional Serial Bus Decode and Analysis	SR-AERO: MIL-STD-1553 SR-AUTO: CAN/LIN/FlexRay SR-COMP: RS-232/422/485/UART SR-DPHY: MIPI D-PHY SR-EMBD: I ² C, SPI SR-ENET: 10/100Base-T Ethernet SR-PCIE: PCI Express SR-USB: USB	SR-AERO: MIL-STD-1553; SR-AUTO: CAN/LIN/FlexRay; SR-COMP: RS-232/422/485/UART; SR-DPHY: MIPI D-PHY; SR-EMBD: I ² C, SPI; SR-ENET: 10/100Base-T Ethernet SR-PCIE: PCI Express; SR-USB: USB; SR-810B: 8b/10b; 10G-KR: 10GBASE-KR/KR4
Connectivity	USB Host (x5), LAN (10/100/1000 Base-T Ethernet, LXI Class C Compliant), GPIB, eSATA, DVI, VGA	USB Host (x5), LAN (10/100/1000 Base-T Ethernet, LXI Class C Compliant), GPIB, eSATA, DVI, VGA
Waveform Math and Analysis	53 Automated Measurements, Waveform and Screen Cursors, Arithmetic and Advanced Waveform Math, FFT, Measurement Statistics, Waveform Histograms, Waveform Limit Testing Optional: BRR: BroadR-Reach Compliance Test; DDRA: DDR Memory Bus Analysis; DJA: DPOJET Advanced Jitter and Eye Diagram Analysis; D-PHY: MIPI D-PHY Essentials; ET3: Ethernet Compliance Test Solution; MTM: Mask Testing; PWR: Power Analysis; SignalVu Vector Signal Analysis; USB2: USB Compliance Test Solution; MOST: MOST 50/150 Compliance Test Solution; HSIC: HSIC Electrical Validation; USBPWR: USB Power Adapter/ EPS Compliance Automated Test Solution	53 Automated Measurements, Waveform and Screen Cursors, Arithmetic and Advanced Waveform Math, FFT, Measurement Statistics, Waveform Histograms Optional: BRR: BroadR-Reach Compliance Test; DDR Memory Bus Analysis; DPOJET Advanced Jitter and Eye Diagram Analysis; Ethernet Compliance; Waveform Limit Testing; Mask Testing; Power Analysis; USB2 and USB3 Compliance and Analysis; USB Power Adapter/ EPS Compliance Automated Test Solution; MOST 50/150 Compliance Test; SignalVu Vector Signal Analysis; HDMI Compliance Test; HSIC Electrical Validation; MIPI D-PHY and M-PHY Characterization and Analysis; SAS Testing; SFP+ Compliance and Debug; Serial Data Link Analysis; 10G-KR Compliance and Debug; PCIe Compliance and Debug; Thunderbolt Characterization, Compliance and Debug; UHS Measurements; PAM4 Transmitter Analysis Software; SignalCorrect Cable, Channel and Probe Compensation Software
Software	Optional: TekScope Anywhere™	Optional: TekScope Anywhere™
Battery Operation	—	—
Upgrade	<ul style="list-style-type: none"> Trade in older DPO7000 Series models for credit toward the newest DPO7000C version (50% credit of the old scope price) Add extended record length, up to 500 Mpoints Add serial bus compliance testing Add measurements and analysis (power, jitter, mask, RF) Add serial bus triggering and decode 	<ul style="list-style-type: none"> Increase bandwidth Add 16 digital channels Upgrade older platforms to the latest platforms Add extended record length, up to 1 Gpoints Add serial bus compliance testing Add measurements and analysis (jitter, DDR, mask, RF) Add serial bus triggering and decode

ADVANCED SIGNAL ANALYSIS AND SAMPLING OSCILLOSCOPES



	DP070000SX	DSA8300
Additional Resources		
Channels	2 or 4 analog channels	Six modules support up to 8 single ended or 4 differential channels and/or 2 optical channels
Bandwidth	23 GHz to 70 GHz	Up to 70+ GHz Electrical bandwidth and 80+ Optical bandwidth modules available with intrinsic jitter as low as <100 fs RMS
Sample Rate	50 GS/s to 200 GS/s	300 ks/s Maximum sample rate
Max Record Length	Up to 1Gpoints	50 to 16,000 per channel native record length; with up to 1M points when using available IConnect Signal Integrity Software, 10M samples (100k unit intervals, 100 samples per unit interval) when equipped with available 80SJNB Jitter, Noise and BER Analysis software
Trigger Types	Pinpoint™ Triggering, Edge, Glitch, Pulse Width, Runt, Time-out, Transition, Setup/Hold, Pattern, State, Window, Trigger Delay (by Time and by Event), Visual Trigger* *Optional	Clock Input/Prescale Trigger, TDR clock (generated internally), Clock Recovery from Optical Sampling modules and Electrical Clock Recovery modules, and Phase Reference time base supports acquisitions Free Run mode and Trigger Direct Input for <100 fs RMS intrinsic jitter typical
Optional Serial Bus Decode and Analysis	—	80SJNB Jitter, Noise, BER, Serial Data Link and PAM4 Analysis Software; IConnect Signal Integrity Software; 100GBASE-SR4 Transmitter and Dispersion Eye Closure (TDEC) automation test solution
Connectivity	USB2.0 Host (4 on front)/3.0 Host (4 on rear), USB Device, LAN (10/100/1000 Base-T Ethernet, LXI Class C Compliant), DVI, VGA, DisplayPort (2)	3 USB 2.0 Port(s) connector on the front panel, 4 USB 2.0 Ports on the rear panel; LAN PORT, RJ-45 connector, supports 10BASE-T, 100BASE-T, 1000BASE-T on rear panel; 1 Serial Port, DB-9 COM1, COM2 ports; 1 DVI IEEE488.2 connector on rear panel; 1 DVI connector, female on rear panel, DVI to VGA 15-pin D-sub connector adapter provided; PS2 Serial Ports Mouse and keyboard inputs; Audio Ports 1/8 in. microphone input and line output
Waveform Math and Analysis	53 Automated Measurements, Waveform and Screen Cursors, Arithmetic and Advanced Waveform Math, FFT, Measurement Statistics, Waveform Histograms Optional: DPOJET Advanced Jitter and Eye Diagram Analysis; SignalVu Vector Signal Analysis; Serial Data Link Analysis; PAM4 Transmitter Analysis Software; SignalCorrect Cable, Channel and Probe Compensation Software	Over 120 automated measurements include RZ, NRZ, and pulse signal types, and the following measurement types, plus 8 math waveforms using the following math functions: Add, Subtract, Multiply, Divide, Average, Differentiate, Exponential, Integrate, Natural Log, Log, Magnitude, Min, Max, Square Root, and Filter. In addition, measurement values can be utilized as scalars in math waveform definitions; Mask support for many applications, standard masks are available as predefined, built-in masks; Automated Masked Margin based on Mask Hit Ratio as required by many standards.
Software	Optional: TekScope Anywhere™	Windows® 7 Ultimate (32-bit) Operating System; IConnect Signal Integrity Software for frequency domain analysis, S-parameter measurements, and impedance characterization 80SJNB Jitter, Noise, BER, and Serial Link analysis including Cross-Talk aware TJ (BUJ and PAM4 Analysis); 80SJARB Jitter Analysis of Arbitrary Data with J2-J9 measurements, and support for pattern lengths to PRBS31; 100GBASE-SR4 (IEEE 802.3bm) optical transmitter characterization measurements, including TDEC, signaling rate, Average Launch Power, OMA, ER, Transmitter Eye Mask
Battery Operation	—	—
Upgrade	<ul style="list-style-type: none"> • Increase bandwidth • Upgrade older platforms to the latest platforms • Add extended record length, up to 1 G points • Add measurements and analysis (jitter, mask, RF) 	<ul style="list-style-type: none"> • Modular architecture lets you add channels or bandwidth • Add TDR, optical and electrical standards support • Add advanced analysis, compliance test, frequency domain analysis software • Add clock recovery trigger pickoff (CRTP) to select optical modules • Enhance system jitter floor performance to <100 fs RMS

BASIC OSCILLOSCOPES



	TBS1000	TBS1000B/ TBS1000B-EDU	TBS2000
Additional Resources			
Channels	4	2	2, 4
Bandwidth	60 MHz to 150 MHz	30 MHz* to 200 MHz * 30 MHz TBS1032B available in North America and Europe	70 MHz , 100 MHz
Sample Rate	1 GS/s	500 MS/s to 2 GS/s	1 GS/s
Max Record Length	2.5 k points	2.5 k points	20 M points
Trigger Types	Edge, Pulse (width), Video	Edge, Pulse (width), Video	Edge, Pulse (width), runt
Optional Serial Bus Decode and Analysis	—	—	—
Connectivity	USB Host, USB Device, Optional: GPIB	USB Host, USB Device, Optional: GPIB	USB Host, USB Device, Optional: Wi-Fi, GPIB
Waveform Math and Analysis	16 Automated Measurements, Arithmetic Waveform Math, FFT, Waveform Limit Testing, Automated Datalogging	34 Automated Measurements, Arithmetic Waveform Math, FFT, Dual-Channel Frequency Counter, Waveform Limit Testing*, TrendPlot™ function*, Automated Datalogging* * Not available on EDU models	32 Automated Measurements, Arithmetic Waveform Math, FFT, Frequency Counter
Software	PC Communications Software: OpenChoice® Desktop, Educator Classroom and Lab Resource CD	PC Communications Software: OpenChoice® Desktop Software, PC Courseware Editor Tool, Product Documentation and Lab Resource CD	PC Communications Software: PC Courseware Editor Tool, Product Documentation CD
Battery Operation	—	—	—



More Teaching. More Sharing. More Control. The TBS2000 is loaded with built-in tools and courseware to help instructors and students alike.

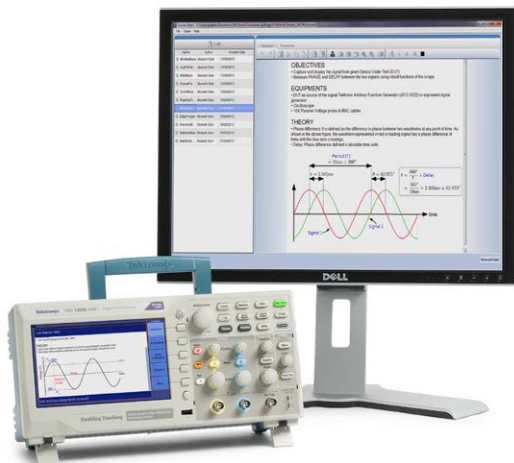
- HelpEverywhere provides context for challenging menus
- TekSmartLab™ network software helps instructors set up and monitor many instruments from one PC
- Courseware ecosystem lets instructors load information into the TBS2000, to help students during labs

[LEARN MORE](#)

BATTERY POWERED OSCILLOSCOPES WITH ISOLATED CHANNELS AND TDS SERIES OSCILLOSCOPES



	THS3000	TPS2000B	TDS2000C	TDS3000C
Additional Resources				
Channels	4 (isolated)	2, 4 (isolated)	2, 4	2, 4
Bandwidth	100 MHz to 200 MHz	100 MHz to 200 MHz	50 MHz to 200 MHz	100 MHz to 500 MHz
Sample Rate	2.5 GS/s to 5 GS/s	1 GS/s to 2 GS/s	500 MS/s to 2 GS/s	1.25 GS/s to 5 GS/s
Max Record Length	10 k points	2.5 k points	2.5 k points	10 k points
Trigger Types	Edge, Pulse (width), Event, Video, Non-interlaced	Edge, Pulse (width), Video	Edge, Pulse (width), Video	Edge, Logic (Pattern, State), Pulse (Glitch, Width, Runt, Slew Rate), Video, Optional: Extended Video, Comm
Optional Serial Bus Decode and Analysis	—	—	—	—
Connectivity	USB Host, USB Device	RS-232 (includes RS-232-to-USB Host Serial Cable), Centronics, CompactFlash	USB Host, USB Device, Optional: GPIB	USB Host, LAN (10Base-T Ethernet) Optional: TDS3GV Module: GPIB, RS-232, and Video Out
Waveform Math and Analysis	21 Automated Measurements, Arithmetic Waveform Math, FFT	11 Automated Measurements, Arithmetic Waveform Math, FFT Optional: TPS2PWR1: Power Measurement and Analysis	16 Automated Measurements, Arithmetic Waveform Math, FFT, Waveform Limit Testing, Automated Datalogging	25 Automated Measurements, Arithmetic Waveform Math, FFT Optional: TDS3LIM: Limit Testing, TDS3TMT: Telecom Mask Testing, TDS3VID: HDTV & Custom Video Triggering
Software	PC Communications Software: OpenChoice® Desktop	PC Communications Software: OpenChoice® Desktop	PC Communications Software: OpenChoice® Desktop	PC Communications Software: OpenChoice® Desktop
Battery Operation	One THSBAT Battery Pack Included Standard	One TPSBAT Battery Pack Included Standard	—	Requires Optional TDS3BATC Battery Pack



The World's First Dedicated Teaching Oscilloscope

The TBS1000B-EDU Digital Storage Oscilloscope Series is designed specifically to meet the needs of today's schools and universities. It's the first oscilloscope to use the innovative new courseware system that enables educators to seamlessly integrate teaching materials onto an oscilloscope. Along with a powerful PC Courseware Editor Tool and a courseware website, the TBS1000B-EDU supports a complete education ecosystem that uncovers new ways of enhancing the teaching and learning experience.

[LEARN MORE](#)

OSCILLOSCOPE PROBES AND ACCESSORIES

Tektronix probes and accessories are perfectly matched to our industry-leading oscilloscopes. With over 100 choices available, you will find the probe you need.



Low Voltage Differential Probes

- Bandwidth up to 33 GHz
- Easily measure differential signals
- Low input capacitance: down to < 0.3 pF
- High common mode rejection ratio (CMRR)
- Wide range of probe tips for easier circuit access

tek.com/differential-probe-low-voltage



High Voltage Differential Probes

- Dynamic range to ± 6000 V
- Bandwidth up to 200 MHz
- Most extensive set of probe accessories

tek.com/differential-probe-high-voltage



Current Probes

- Easy to use and accurate AC/DC current measurements
- DC up to 2 GHz
- Amplitude measurements from 1 mA to 2,000 A
- Split core and solid core construction

tek.com/current-probe



Passive Probes

- Best-in-class bandwidth up to 1 GHz
- Best-in-class input capacitance as low as 3.9 pF, which minimizes probe loading effects
- Dynamic range to 300 V CAT II
- Rugged and reliable

tek.com/passive-probe



Low Voltage Single-ended Probes

- Bandwidth up to 4 GHz
- True signal reproduction and fidelity
- Low input capacitance: down to < 0.8 pF
- Small, compact probe heads for probing small geometry circuit elements

tek.com/low-voltage-probe-single-ended



High Voltage Single-ended Probes

- Bandwidth up to 800 MHz
- Dynamic range to 2500 V
- Best-in-class probe loading with input capacitance as low as 1.8 pF

tek.com/high-voltage-probe-single-ended



Optical

- Broad Wavelength Response: 500 to 950 nm or 1100 to 1700 nm
- High-bandwidth DC up to 1.2 GHz
- High Gain 1 V/mW
- Low Noise <11 pW/√Hz

tek.com/optical-probe



Carrying Cases and Accessories

- TekVPI Interface Adapter for TekProbe probes
- Probe holders and positioners
- Probe power supply
- Soft- and hard-sided cases

tek.com/probe-accessories

INTERACTIVE PROBE SELECTOR TOOL

Need help finding the right probe for your application? The online Tektronix Probe Selector Tool will guide you through a few easy questions to match your need to the right probe. Visit us anytime, anywhere at: www.tektronix.com/probes

Select your requirements below. The list of matching products will update with each click.

Probe Recommendation Selector (Start by clicking the arrow to the left or clicking inside this box): Use this Selector to find out what are the most commonly used probes.

Select the Instrument Series:

<input type="checkbox"/> MDO3000	<input type="checkbox"/> MDO4000	<input type="checkbox"/> MSO/DPO2000B
<input type="checkbox"/> MSO/DPO3000	<input type="checkbox"/> MSO/DPO4000B	<input type="checkbox"/> MSO/DPO5000
<input type="checkbox"/> DPO7000C	<input type="checkbox"/> DPO/DSA/MSO70000	<input type="checkbox"/> TDS1000B
<input type="checkbox"/> TDS2000C	<input type="checkbox"/> TDS3000C	<input type="checkbox"/> THS3000
<input type="checkbox"/> TPS2000B	<input type="checkbox"/> TBS1000	<input type="checkbox"/> RSA5000/6000














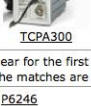
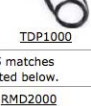
Choose the Desired Measurement:

If an option is grayed out a recommended solution is not available.

<input type="checkbox"/> High Voltage Differential	<input type="checkbox"/> Low Voltage Differential
<input type="checkbox"/> High Voltage Single-ended	<input type="checkbox"/> Low Voltage Single-ended
<input type="checkbox"/> Current	<input type="checkbox"/> Passive

Probe Compatibility Selector (Start by clicking the arrow to the left or clicking inside this box): Use this Selector to determine if a probe or accessory is compatible with an Instrument Series.

127 Matches Compare Start Over

 P7633	 THDP0200	 TCP0030A
 THDP0100	 TCP0020	 TCP0150
 TMDP0200	 TPP0850	 P5100A
 P6015A	 TAP1500	 TPP0502
 TCP2020	 TCPA300	 TDP1000

Images appear for the first 15 matches
The rest of the matches are listed below.

1103	P6246	RMD2000
80A03	P6247	RMD3000
A621	P6248	RMD5000
A622	P6251	RTPA2A
AC2100	P6316	TAP1500X2
AC3000	P6330	TAP2500
ACD2000	P6516	TAP3500
ACD4000	P6616	TCA-1MEG
ACD4000B	P6701B	TCA-292MM

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1. [XYZs of Oscilloscopes Primer](#)
2. [ABCs of Probes Primer](#)
3. [Fundamentals of the MD4000C Series Mixed Domain Oscilloscopes](#)
4. [Fundamentals of Signal Integrity Primer](#)
5. [Debugging Serial Buses in Embedded Systems Designs Application Note](#)
6. [Power Supply Measurement and Analysis Primer](#)

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