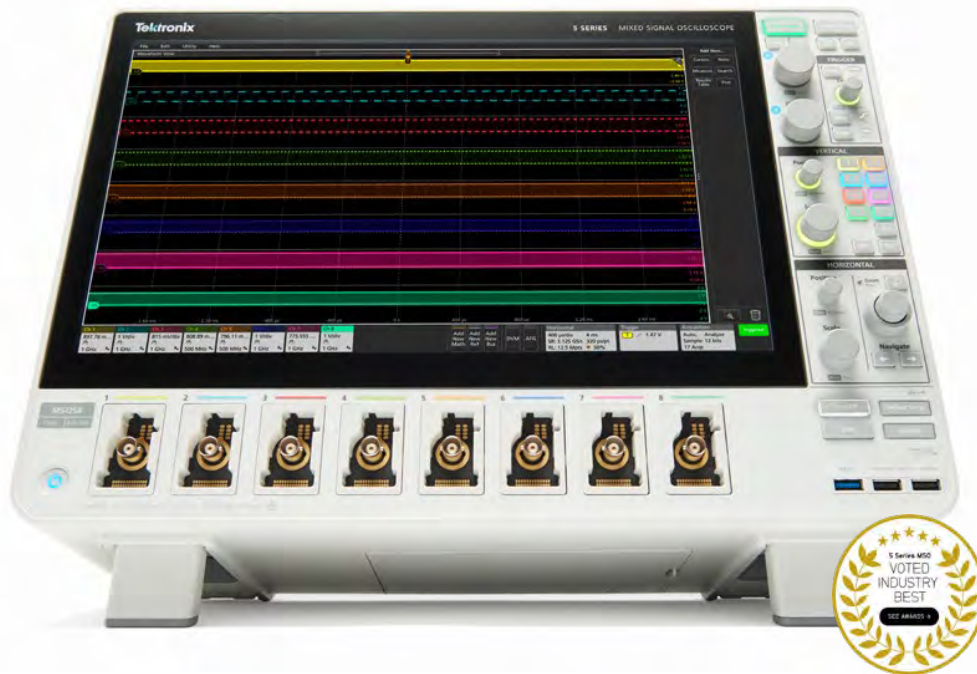OSCILLOSCOPES SELECTION

VOTED 2017 INDUSTRY BEST - LEARN MORE!

This Changes Everything

With a remarkably innovative pinch-swipe-zoom touchscreen user interface, the industry's largest high-definition display, and 4, 6, or 8 FlexChannel® inputs that let you measure one analog or eight digital signals, the 5 Series MSO is ready for today's toughest challenges, and tomorrow's too. It sets a new standard for performance, analysis, and overall user experience.

LEARN MORE

TYPES OF OSCILLOSCOPES

Mixed Domain Oscilloscopes – 100 MHz to 1 GHz

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

Mixed Signal Oscilloscopes – 70 MHz to 8 GHz

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

Advanced Signal Analysis Oscilloscopes – 350 MHz to 70 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.

Low Profile Oscilloscopes

When performance, channel density and cost-per-channel are critical, these low-profile instruments are a great fit. They offer the same performance as bench instruments in a rack-friendly form factor.

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 (MDO3MSO option) 1 spectrum analyzer input 1 Arbitrary/Function Generator (MDO3AFG 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, I²C*, 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, I²C*, SPI*, CAN FD*, CAN*, LIN*, FlexRay*, RS-232/422/485/UART*, I²S/LJ/RJ/TDM*, MIL-STD-1553*, ARINC 429, 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: I²C, SPI DPO2BND: Includes DPO2AUTO, DPO2COMP, DPO2EMBD	MDO3AERO: ARINC 429, MIL-STD-1553 MDO3AUDIO: I²S, LJ, RJ, TDM MDO3AUTO: CAN FD, CAN and LIN MDO3COMP: RS-232/422/485/UART MDO3EMBD: I²C, 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	44 Automated Measurements, Waveform and Screen Cursors, Advanced Math, FFT, Measurement Statistics, Waveform Histograms 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
Upgrade	Add serial bus triggering and decode	• 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 • Add security for password control of ports and firmware updates

OSCILLOSCOPES SELECTION

MIXED SIGNAL AND MIXED DOMAIN OSCILLOSCOPES

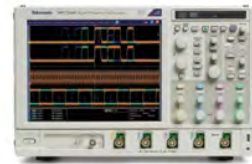|	MDO4000C
Additional Resources	
Channels	4 analog channels; 16 digital channels (with MDO4MSO option); 1 spectrum analyzer input (with SA3 or SA6 option); 1 Arbitrary/Function Generator (with MDO4AFG option)
Bandwidth	200 MHz to 1 GHz
Spectrum Analyzer Frequency Range	Optional: 9 kHz - 3 GHz or 9 kHz - 6 GHz
Sample Rate	2.5 GS/s to 5 GS/s (analog); 60.6 ps (16.5 GS/s) MagniVu™ (digital)
Max Record Length	20 Mpoints
Trigger Types	RF Power Level**, Edge, Sequence, Logic, Pulse Width, Runt, Timeout, Setup and Hold, Rise/Fall Time, Video, Extended Video*, I²C*, SPI*, USB*, Ethernet*, CAN FD*, CAN*, LIN*, FlexRay*, RS-232/422/485/ UART*, I²S/LJ/RJ/TDM*, MIL-STD-1553*, ARINC 429, Parallel* **With optional MDO4TRIG module, RF power level can be used as source for Pulse Width, Timeout, Runt, Logic, Sequence
Optional Serial Bus Decode and Analysis	DPO4AERO: ARINC 429, MIL-STD-1553 DPO4AUDIO: I²S, LJ, RJ, TDM DPO4AUTO: CAN FD, CAN and LIN DPO4AUTOMAX: CAN FD, CAN, LIN and FlexRay DPO4COMP: RS-232/422/485/UART DPO4EMBD: I²C, SPI DPO4ENET: 10Base-T, 100Base-TX Ethernet DPO4USB: USB DPO4BND: Enables DPO4AERO, DPO4AUDIO, DPO4AUTO, DPO4COMP, DPO4EMBD, DPO4ENET, DPO4LMT, DPO4PWR, DPO4USB, DPO4VID
Connectivity	USB Host (x4), USB Device, LAN (10/100/1000 Base-T Ethernet, LXI Core 2011 Compliant), Video Out, GPIB* *Optional
Waveform Math and Analysis	44 Automated Measurements, Waveform and Screen Cursors, 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
Software	PC Communications Software: OpenChoice® Desktop Vector Signal Analysis Software: SignalVu-PC
Upgrade	• 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 • Add security for password control of ports and firmware updates

ADVANCED SIGNAL ANALYSIS OSCILLOSCOPES

	5 SERIES MSO	6 SERIES MSO
Additional Resources		
Channels	4, 6, or 8 FlexChannel® inputs; 8 digital channels per FlexChannel input (optional); 1 Arbitrary/Function Generator (with 5-AFG option)	4 FlexChannel® inputs; 8 digital channels per FlexChannel input (optional); 1 Arbitrary/Function Generator (with 6-AFG option)
Bandwidth	350 MHz to 2 GHz	1 GHz to 8 GHz
Sample Rate	6.25 GS/s (analog); 6.25 GS/s (digital)	25 GS/s / channel (analog); 25 GS/s / channel (digital)
Max Record Length	Up to 125 Mpoints	Up to 250 Mpoints
Trigger Types	Edge, Sequence, Logic, Pulse Width, Runt, Visual Trigger, Timeout, Window, Setup and Hold, Rise/Fall Time, I^2C^*, SPI*, USB*, Ethernet*, CAN*, CAN FD*, LIN*, FlexRay*, RS-232/422/485/UART*, I^2S/LJ/RJ/ TDM*, MIL-STD-1553*, ARINC 429*, SENT*, SPMI*, Parallel *Optional	Edge, Sequence, Logic, Pulse Width, Runt, Visual Trigger, Timeout, Window, Setup and Hold, Rise/Fall Time, I^2C^*, SPI*, USB*, Ethernet*, CAN*, CAN FD*, LIN*, FlexRay*, RS-232/422/485/UART*, I^2S/LJ/RJ/ TDM*, MIL-STD-1553*, ARINC 429*, SENT*, SPMI*, Parallel *Optional
Optional Serial Bus Decode and Analysis	5-SRAERO: MIL-STD-1553, ARINC 429 5-SRAUDIO: I^2S, LJ, RJ, TDM 5-SRAUTO: CAN, CAN FD, LIN, FlexRay 5-SRAUTOSEN: SENT 5-SRCOMP: RS-232/422/485/UART 5-SREMBD: I^2C, SPI 5-SRENET: Ethernet 5-SRPM: SPMI 5-SRUSB2: USB 2.0	6-SRAERO: MIL-STD-1553, ARINC 429 6-SRAUDIO: I^2S, LJ, RJ, TDM 6-SRAUTO: CAN, CAN FD, LIN, FlexRay 6-SRAUTOSEN: SENT 6-SRCOMP: RS-232/422/485/UART 6-SREMBD: I^2C, SPI 6-SRENET: Ethernet 6-SRPM: SPMI 6-SRUSB2: USB 2.0
Connectivity	USB Host (x7), USB 3.0 Device, LAN (10/100/1000 Base-T Ethernet, 1.4 LXI Core 2011 Compliant), Display Port, DVI-D, Video Out	USB Host (x7), USB 3.0 Device, LAN (10/100/1000 Base-T Ethernet, 1.4 LXI Core 2011 Compliant), Display Port, DVI-D, Video Out
Waveform Math and Analysis	36 Automated Measurements, Waveform and Screen Cursors, Arithmetic Waveform Math, FFT, Advanced Math, Measurement Statistics Optional: 5-CMENET: Ethernet Compliance; 5-CMAUTOEN: Automotive Ethernet Compliance; 5-CMUSB2: USB 2.0 Compliance; 5-DJA: Advanced Jitter and Eye Diagram Analysis; 5-PWR: Advanced Power Measurements	36 Automated Measurements, Waveform and Screen Cursors, Arithmetic Waveform Math, FFT, Advanced Math, Measurement Statistics Optional: 6-CMENET: Ethernet Compliance; 6-CMDPHY: MIPI D-PHY 1.2 Compliance; 6-CMAUTOEN: Automotive Ethernet Compliance; 6-CMUSB2: USB 2.0 Compliance; 6-DJA: Advanced Jitter and Eye Diagram Analysis; 6-PWR: Advanced Power Measurements; 6-DBDDR3: DDR3/LPDDR3 Memory Measurements
Software	Optional: TekScope Anywhere™	Optional: TekScope Anywhere™
Upgrade	• Add serial bus triggering and decode • Add serial bus compliance testing • Add digital channels with each TLP058 logic probe • Add extended record length, up to 125 Mpoints • Add advanced measurements and analysis (power, jitter)	• Add serial bus triggering and decode • Add serial bus compliance testing • Add digital channels with each TLP058 logic probe • Add extended record length, up to 250 Mpoints • Add advanced measurements and analysis (power, jitter)

OSCILLOSCOPES SELECTION

ADVANCED SIGNAL ANALYSIS OSCILLOSCOPES

	MSO/DPO5000B	DPO7000C
Additional Resources		
Channels	4 analog channels; 16 digital channels (MSO5000B)	4 analog channels
Bandwidth	350 MHz to 2 GHz	500 MHz to 3.5 GHz
Sample Rate	5 GS/s to 10 GS/s (analog); 60.6 ps (16.5 GS/s) MagniVu™ (digital)	10 GS/s to 40 GS/s
Max Record Length	Up to 250 Mpoints	Up to 500 Mpoints
Trigger Types	Edge, Sequence, Logic, Pulse Width, Glitch, Runt, Timeout, Transition, Setup and Hold, Rise/Fall Time, Video, I²C*, SPI*, USB (Low, Full, High)*, RS-232/422/485/UART*, USB*, Ethernet*, CAN*, LIN*, FlexRay*, MIL-STD-1553*, Parallel (MSO5000B), 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), I²C*, SPI*, USB (Low, Full)*, RS-232/422/485/ UART*, I²C*, SPI*, USB*, Ethernet*, CAN*, LIN*, FlexRay*, RS-232/422/485/UART*, MIL-STD-1553*, 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: I²C, SPI SR-ENET: 10/100Base-T Ethernet 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: I²C, SPI SR-ENET: 10/100Base-T Ethernet SR-PCIE: PCI Express SR-USB: USB
Connectivity	USB Host (x6), USB Device, LAN (10/100/1000 Base-T Ethernet, LXI Class C Compliant), Video Out, GPIB* *Optional	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; 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, 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
Software	Optional: TekScope Anywhere™	Optional: TekScope Anywhere™
Upgrade	• 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	• 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

ADVANCED SIGNAL ANALYSIS OSCILLOSCOPES

	MSO/DPO70000	DPO70000SX
Additional Resources		
Channels	4 analog channels; 16 digital channels (MSO70000)	2 or 4 analog channels
Bandwidth	4 GHz to 33 GHz Analog	23 GHz to 70 GHz
Sample Rate	25 GS/s to 100 GS/s (analog); 80 ps (12.5 GS/s) (digital)	50 GS/s to 200 GS/s
Max Record Length	Up to 1 Gpoints	Up to 1 Gpoints
Trigger Types	Pinpoint™ Triggering, Edge, Glitch, Pulse Width, Runt, Time-out, Transition, Setup/Hold, Pattern, State, Window, Trigger Delay (by Time and by Event), I²C*, SPI*, USB (Low, Full)*, RS-232/422/485/UART*, Serial Pattern*, 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), 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: I²C, SPI; SR-ENET: 10/100Base-T Ethernet SR-PCIE: PCI Express; SR-USB: USB; SR-810B: 8b/10b; 10G-KR: 10GBASE-KR/KR4	SR-COMP: RS-232/422/485/UART; SR-EMBD: I²C, SPI; SR-ENET: 10/100Base-T Ethernet SR-PCIE: PCI Express; SR-USB: USB; SR-810B: 8b/10b
Connectivity	USB Host (x5), LAN (10/100/1000 Base-T Ethernet, LXI Class C Compliant), GPIB, eSATA, DVI, VGA	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)
Waveform Math and Analysis	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	53 Automated Measurements, Waveform and Screen Cursors, Arithmetic and Advanced Waveform Math, FFT, Measurement Statistics, Waveform Histograms Optional: DPOJET Noise, Jitter and Eye Analysis Tools; Frequency Counter-Timer; PAM4 Transmitter Analysis Software; Serial Data Link Analysis; 10G/40G/100G KR4/CR4 Transmitter Compliance; DDR Memory Bus Analysis; DisplayPort 1.2/1.4 Test Software; MIPI D-PHY Transmitter Debug and Compliance Test Solution; EDP Compliance Test Package; Ethernet Compliance Testing; Fiber Channel Essentials; HDMI 2.0 Analysis and Compliance; High Speed Serial Link Training Analysis; HDMI Compliance Testing; MIPI M-PHY Debug and Compliance Test; NBASE-T TekExpress Conformance and Debug Software; PCI Express Gen1/2/3/4 TekExpress Compliance/ Debug; Power Measurement and Analysis Software; SAS-3 Tx Compliance Test; SATA PHY Transmitter Test; SignalCorrect Cable, Channel, and Probe Compensation Software; SFP+ Compliance and Debug Solution; Embedded Serial Triggering and Analysis (I²C, SPI); USB 2.0/3.0/3.1 Automated Compliance Test; SignalVu Vector Signal Analysis
Software	Optional: TekScope Anywhere™	Optional: TekScope Anywhere™
Upgrade	• 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	• 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)

OSCILLOSCOPES SELECTION

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, Wi-Fi adapter support, 10/100 Base-T Ethernet port
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: OpenChoice® Desktop, PC Courseware Editor
Battery Operation	—	—	—

Teaching Oscilloscopes

TBS2000 and TBS1000B-EDU Oscilloscopes have unique features designed to meet the needs of schools and universities. They use an innovative courseware system that enables educators to build teaching materials into the oscilloscope. Along with a powerful PC Courseware Editor Tool and a courseware website, these oscilloscopes support a complete education ecosystem that makes it easier to teach engineering and easier to learn.

LEARN MORE

LOW PROFILE AND SAMPLING OSCILLOSCOPES

	5 SERIES MSO LOW PROFILE	DSA8300
Additional Resources		
Channels	8 FlexChannel® inputs; 8 digital channels per FlexChannel input (optional); 1 Arbitrary/Function Generator (5-AFG option); Aux trigger	Six modules support up to 8 single-ended or 4 differential channels and/or 2 optical channels
Bandwidth	1 GHz	Up to 70+ GHz Electrical bandwidth and 80+ Optical bandwidth modules available with intrinsic jitter as low as <100 fs RMS
Sample Rate	6.25 GS/s (analog); 6.25 GS/s (digital)	300 ks/s Maximum sample rate
Max Record Length	125 Mpoints	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	Edge, Sequence, Logic, Pulse Width, Runt, Visual Trigger, Timeout, Window, Setup and Hold, Rise/Fall Time, I²C*, SPI*, USB*, Ethernet*, CAN*, CAN FD*, LIN*, FlexRay*, RS-232/422/485/UART*, I²S/LJ/RJ/ TDM*, MIL-STD-1553*, ARINC 429*, SENT*, SPMI*, Parallel *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	5-SRAERO: MIL-STD-1553, ARINC 429 5-SRAUDIO: I²S, LJ, RJ, TDM 5-SRAUTO: CAN, CAN FD, LIN, FlexRay 5-SRAUTOSEN: SENT 5-SRCOMP: RS-232/422/485/UART 5-SREMBD: I²C, SPI 5-SRENET: Ethernet 5-SRPM: SPMI 5-SRUSB2: USB 2.0	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	USB Host (x6), USB 3.0 Device, LAN (10/100/1000 Base-T Ethernet, 1.4 LXI Core 2011 Compliant), DisplayPort, DVI-D, Video Out	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	36 Automated Measurements, Waveform and Screen Cursors, Arithmetic Waveform Math, FFT, Advanced Math, Measurement Statistics Optional: 5-DJA: Advanced Jitter and Eye Diagram Analysis; 5-PWR: Advanced Power Measurements	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
Upgrade	• Add serial bus triggering and decode • Add digital channels with each TLP058 logic probe • Add advanced measurements and analysis	• 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

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

MIXED SIGNAL AND MIXED DOMAIN OSCILLOSCOPES

MDO3000 Series

This scope features six integrated instruments to capture analog, digital and RF signals with one scope. And add instruments, analysis functions and bandwidth as your needs change.

MODEL	MDO3012	MDO3014	MDO3022	MDO3024	MDO3032
Analog Channels	2	4	2	4	2
Digital Channels (Optional)	16	16	16	16	16
Analog Bandwidth	100 MHz	100 MHz	200 MHz	200 MHz	350 MHz
Analog Sample Rate	2.5 GS/s	2.5 GS/s	2.5 GS/s	2.5 GS/s	2.5 GS/s
Digital Sample Rate Main/MagniVu™	500 MS/s / 8.25 GS/s	500 MS/s / 8.25 GS/s	500 MS/s / 8.25 GS/s	500 MS/s / 8.25 GS/s	500 MS/s / 8.25 GS/s
Spectrum Analyzer Input	1	1	1	1	1
Spectrum Analyzer Frequency Range Standard/Optional	9 kHz - 100 MHz / 9 kHz - 3 GHz	9 kHz - 100 MHz / 9 kHz - 3 GHz	9 kHz - 200 MHz / 9 kHz - 3 GHz	9 kHz - 200 MHz / 9 kHz - 3 GHz	9 kHz - 350 MHz / 9 kHz - 3 GHz

MODEL	MDO3034	MDO3052	MDO3054	MDO3102	MDO3104
Analog Channels	4	2	4	2	4
Digital Channels (Optional)	16	16	16	16	16
Analog Bandwidth	350 MHz	500 MHz	500 MHz	1 GHz	1 GHz
Analog Sample Rate	2.5 GS/s	2.5 GS/s	2.5 GS/s	5 GS/s	5 GS/s
Digital Sample Rate Main/MagniVu™	500 MS/s / 8.25 GS/s	500 MS/s / 8.25 GS/s	500 MS/s / 8.25 GS/s	500 MS/s / 8.25 GS/s	500 MS/s / 8.25 GS/s
Spectrum Analyzer Input	1	1	1	1	1
Spectrum Analyzer Frequency Range Standard/Optional	9 kHz - 350 MHz / 9 kHz - 3 GHz	9 kHz - 500 MHz / 9 kHz - 3 GHz	9 kHz - 500 MHz / 9 kHz - 3 GHz	9 kHz - 1 GHz / 9 kHz - 3 GHz	9 kHz - 1 GHz / 9 kHz - 3 GHz

- Integrated 6-in-1 oscilloscope that offers a spectrum analyzer, arbitrary function generator, logic analyzer, protocol analyzer and digital voltmeter
- Spectrum Analyzer standard on all models
- 10 Mpoint record length on all channels
- >280,000 wfm/s max. waveform capture rate with FastAcq
- Automated search and waveform navigation with Wave Inspector®
- Monitor slowly changing RF events at a glance with spectrogram display.

SHIPS WITH PRODUCT
One Low C Passive Probe Per Channel, TPP1000 on 1 GHz Models, TPP0500B on 350 and 500 MHz Models, TPP0250 on all 100 and 200 MHz Models; One P6316 16 Channel Logic Probe (with option MDO3MSO only); N-to-BNC Adapter; OpenChoice® Desktop; Calibration Certificate, Installation and Safety Manual, & Documentation on CD; Accessory Bag; Front Panel Language Overlay (if other than English); Power Cord; 3-year Warranty

INSTRUMENT OPTIONS
- Arbitrary/Function Generator
- MSO (16 digital channels)
- 3 GHz spectrum analyzer

ADVANCED ANALYSIS OPTIONS
- Decode/trigger/search for key serial buses
- Power analysis
- Limit and mask tests
- See datasheet for a complete list

RECOMMENDED PROBES AND ACCESSORIES
- TekVPI probe interface; compatible with a wide range of passive, active, differential, high voltage, isolated, and current probes
- Available hard case, soft case, and rackmount kit
- See datasheet for a complete list of compatible probes and accessories

MDO4000C Series

The MDO4000C offers up to six built-in instruments, each with exceptional performance to address tough challenges. It's completely customizable and fully upgradable. Every MDO4000C features powerful triggering, search and analysis, and these are the only scopes to offer synchronized analog, digital and RF signal analysis at the same time – perfect for troubleshooting problems with EMI or wireless communications.

MODEL	MDO4024C	MDO4034C	MDO4054C	MDO4104C
Analog Channels	4	4	4	4
Digital Channels*	16	16	16	16
Analog Bandwidth	200 MHz	350 MHz	500 MHz	1 GHz
Analog Sample Rate	2.5 GS/s	2.5 GS/s	2.5 GS/s	5 GS/s
Digital Sample Rate Main/MagniVu™	500 MS/s / 16.5 GS/s	500 MS/s / 16.5 GS/s	500 MS/s / 16.5 GS/s	500 MS/s / 16.5 GS/s
Spectrum Analyzer Input*	1	1	1	1
Spectrum Analyzer Frequency Range*	9 kHz – 3 GHz or 6 GHz	9 kHz – 3 GHz or 6 GHz	9 kHz – 3 GHz or 6 GHz	9 kHz – 3 GHz or 6 GHz

*Optional

- 6-in-1 oscilloscope offers a spectrum analyzer, arbitrary/function generator, logic analyzer, protocol analyzer and digital voltmeter
- Spectrum analyzer available in 3 GHz or 6 GHz frequency ranges with up to 3.75 GHz capture bandwidth
- 20 Mpoint record length on all channels
- >340,000 wfm/s max. waveform capture rate with FastAcq
- Use it as an oscilloscope OR a spectrum analyzer OR combined to capture synchronized analog, digital and RF signals.

SHIPS WITH PRODUCT
Four TPP0500B (≤500 MHz models) or TPP1000 (1 GHz models) Passive Voltage Probes
OpenChoice® Desktop Software, SignalVu-PC Software
Calibration Certificate, Quick Reference Manual & Documentation on CD
Front Panel Cover, Accessory Bag, Power Cord
3-year Warranty

INSTRUMENT OPTIONS
- Arbitrary/Function Generator
- MSO (16 digital channels)
- 3 or 6 GHz spectrum analyzer

ADVANCED ANALYSIS OPTIONS
- Decode/trigger/search for key serial buses
- Power analysis
- Limit and mask tests
- See datasheet for a complete list

RECOMMENDED PROBES AND ACCESSORIES
- TekVPI probe interface; compatible with a wide range of passive, active, differential, high voltage, isolated, and current probes
- Available hard case, soft case, and rackmount kit
- See datasheet for a complete list of compatible probes and accessories

MIXED SIGNAL, MIXED DOMAIN & ADVANCED SIGNAL ANALYSIS OSCILLOSCOPES

MSO/DPO2000B Series

Test more, spend less with an oscilloscope that's packed with features and is also light on price. Measure as many as 20 channels of analog and digital signals. Speed debug with automated serial and parallel bus analysis. Search your entire record instantly with Wave Inspector®. Entry level has never been so powerful.

MODEL	DPO2002B	MSO2002B	DPO2004B	MSO2004B	DPO2012B	MSO2012B
Analog Channels	2	2	4	4	2	2
Digital Channels	—	16	—	16	—	16
Analog Bandwidth	70 MHz	70 MHz	70 MHz	70 MHz	100 MHz	100 MHz
Analog Sample Rate	1 GS/s	1 GS/s	1 GS/s	1 GS/s	1 GS/s	1 GS/s

MODEL	DPO2014B	MSO2014B	DPO2022B	MSO2022B	DPO2024B	MSO2024B
Analog Channels	4	4	2	2	4	4
Digital Channels	—	16	—	16	—	16
Analog Bandwidth	100 MHz	100 MHz	200 MHz	200 MHz	200 MHz	200 MHz
Analog Sample Rate	1 GS/s	1 GS/s	1 GS/s	1 GS/s	1 GS/s	1 GS/s

- 1 Mpoint record length on all channels
- Over 125 available trigger combinations, including setup/hold, serial packet and parallel data
- Automated search and easy waveform navigation with Wave Inspector®
- 29 automated measurements and FFT analysis
- 5-year warranty
- Quickly pan/zoom and automatically search your waveforms with Wave Inspector®.
- Automatically trigger, decode and search your serial buses with optional analysis modules.

SHIPS WITH PRODUCT
One TPP0100 100MHz, 10X Passive Probe Per Analog Channel (70 MHz model)
One TPP0200 200 MHz, 10X Passive Probe Per Analog Channel
(100 MHz & 200 MHz models)
One P6316 16 Channel Logic Probe (MSO only)
OpenChoice® Desktop Software
Calibration Certificate, Quick Reference Manual & Documentation on CD, Power Cord
5-year Warranty

ADVANCED ANALYSIS OPTIONS
- Decode/trigger/search for key serial buses
- See datasheet for a complete list

RECOMMENDED PROBES AND ACCESSORIES
- TekVPI probe interface; compatible with a wide range of passive, active, differential, high voltage, isolated, and current probes
- Available hard case, soft case, and rackmount kit
- See datasheet for a complete list of compatible probes and accessories

MSO/DPO5000B Series

Today's faster data rates and tighter timing margins require an oscilloscope with outstanding signal acquisition performance and analysis capabilities. Tektronix MSO/DPO5000B Series oscilloscopes provide exceptional signal fidelity, with 2 GHz and 10 GS/s sample rate, along with advanced analysis and math capabilities. MSO models include 16 digital timing channels, and all models can be equipped to decode common serial protocols, to provide a comprehensive view of your systems.

MODEL	DPO5034B	MSO5034B	DPO5054B	MSO5054B
Analog Channels	4	4	4	4
Digital Channels	—	16	—	16
Analog Bandwidth	350 MHz	350 MHz	500 MHz	500 MHz
Analog Sample Rate (4 Channels/ 2 Channels)	5 GS/s	5 GS/s	5 GS/s	5 GS/s
Digital Sample Rate Main/MagniVu™	—	500 MS/s / 16.5 GS/s	—	500 MS/s / 16.5 GS/s

MODEL	DPO5104B	MSO5104B	DPO5204B	MSO5204B
Analog Channels	4	4	4	4
Digital Channels	—	16	—	16
Analog Bandwidth	1 GHz	1 GHz	2 GHz	2 GHz
Analog Sample Rate (4 Channels/ 2 Channels)	5 GS/s /10 GS/s	5 GS/s /10 GS/s	5 GS/s /10 GS/s	5 GS/s /10 GS/s
Digital Sample Rate Main/MagniVu™	—	500 MS/s / 16.5 GS/s	—	500 MS/s / 16.5 GS/s

- 350 MHz, 500 MHz, 1 GHz, and 2 GHz models
- >250,000 wfm/s max. waveform capture rate with FastAcq™ technology
- 10 GS/s max sampling and 250 Mpoints memory (optional)
- Windows 10 Enterprise 64-bit operating system with touch-screen display
- Extensive analysis including jitter/timing and user defined math (i.e., MATLAB)
- Visual triggering standard with search and mark
- Achieve greater than 11 bits vertical resolution with HiRes sampling and reduce unwanted noise while capturing signal details.
- Perform advanced protocol triggering and decode on mid-speed and low-speed serial and buses (optional).

SHIPS WITH PRODUCT
Four TPP0500B (350 MHz and 500 MHz models) or TPP1000 (1 GHz and 2 GHz models) Passive Voltage Probes; One P6616 16 Channel Logic Probe (MSO only); Calibration Certificate, Mouse, Stylus; Front Panel Cover, Accessory Bag, Power Cord; 1-year Warranty

INSTRUMENT OPTIONS
- 50M/ch or 125M/ch extended record length

ADVANCED ANALYSIS OPTIONS
- Decode/trigger/search for key serial buses
- Compliance testing for key serial standards
- Memory bus analysis
- Vector signal analysis
- Power analysis
- Jitter analysis
- Limit and mask testing
- See datasheet for a complete list

RECOMMENDED PROBES AND ACCESSORIES
- TekVPI probe interface; compatible with a wide range of passive, active, differential, high voltage, isolated, and current probes
- Available hard case, soft case, and rackmount kit
- See datasheet for a complete list of compatible probes and accessories

ADVANCED SIGNAL ANALYSIS OSCILLOSCOPES

5 Series MSO

With a remarkably innovative pinch-swipe-zoom touchscreen user interface, the industry's largest high-definition display, and 4, 6, or 8 FlexChannel® inputs that let you measure one analog or eight digital signals, the 5 Series MSO is ready for today's toughest challenges, and tomorrow's too. It sets a new standard for performance, analysis, and overall user experience.

MODEL	MSO54	MSO56	MSO58
Input Channels	4 FlexChannel inputs	6 FlexChannel inputs	8 FlexChannel inputs
Digital Channels	8 to 32, in increments of 8 (optional)	8 to 48, in increments of 8 (optional)	8 to 64, in increments of 8 (optional)
Bandwidth	350 MHz to 2 GHz (optional)	350 MHz to 2 GHz (optional)	350 MHz to 2 GHz (optional)
Sample Rate	6.25 GS/s (analog); 6.25 GS/s (digital)	6.25 GS/s (analog); 6.25 GS/s (digital)	6.25 GS/s (analog); 6.25 GS/s (digital)

- 15.6 inch, HD capacitive touch display delivers unmatched signal visibility
- 4, 6 or 8 FlexChannel® inputs can each handle 1 analog or 8 digital signals
- 12-bit Analog-to-digital converters with enhanced resolution up to 16 bits
- Optional Arbitrary/Function Generator
- Get the big picture with a 15.6 HD display. Use the capacitive pinch-zoom-swipe touchscreen, front panel controls, or mouse to analyze multiple signals with ease.
- Don't run out of channel with 4, 6, or 8 FlexChannel inputs. Each can be used to look at 1 analog or 8 digital waveforms, just by changing the probe.

SHIPS WITH PRODUCT
One passive probe per FlexChannel input, TPP0500B (for models with 350 MHz or 500 MHz bandwidth) or TPP1000 (for models with 1 GHz or 2 GHz bandwidth)
Calibration certificate, Installation and safety manual
Accessory pouch with integrated front cover, Mouse, Power cord
3-year warranty

INSTRUMENT OPTIONS
- Bandwidth 200 MHz, 500 MHz, 1 GHz, 2 GHz
- 125 M/ch Extended Record Length
- Arbitrary/Function Generator
- SSD with Windows OS

ADVANCED ANALYSIS OPTIONS
- Decode/trigger/search for key serial buses
- Compliance testing for key serial standards
- Power analysis
- Jitter analysis
- See datasheet for a complete list

RECOMMENDED PROBES AND ACCESSORIES
- TekVPI probe interface; compatible with a wide range of passive, active, differential, high voltage, isolated, and current probes
- TLP058 general purpose logic probe supports 8 digital channels
- Available hard case and rackmount kit
- See datasheet for a complete list of compatible probes and accessories

6 Series MSO

With the lowest input noise and up to 8 GHz analog bandwidth, the 6 Series MSO provides the best signal fidelity for analyzing and debugging systems with GHz clock and bus speeds. An intuitive pinch-swipe-zoom touchscreen user interface, coupled with a 15.6-inch high definition display, and FlexChannel® inputs make the 6 Series MSO ready for today's toughest challenges and tomorrow's too.

MODEL	MSO64
Input Channels	4 FlexChannel inputs
Digital Channels	8 to 32, in increments of 8 (optional)
Bandwidth	1 GHz to 8 GHz (optional)
Sample Rate	25 GS/s (analog); 25 GS/s (digital)

- 15.6 inch, HD capacitive touch display delivers unmatched signal visibility
- 4 FlexChannel® inputs can each handle 1 analog or 8 digital signals
- Lowest noise at high sensitivity
- 12-bit Analog-to-digital converters with enhanced resolution up to 16 bits
- >70% reduction in noise from previous generation oscilloscopes.
- Get the big picture with a 15.6" HD display. Use the capacitive pinch-zoom-swipe touchscreen, front panel controls, or mouse to analyze multiple signals with ease.

SHIPS WITH PRODUCT
One 1 GHz TPP1000 passive probe per FlexChannel input
Calibration certificate, Installation and safety manual
Accessory pouch with integrated front cover, Mouse, Power cord
3-year warranty

INSTRUMENT OPTIONS
- Bandwidth 1 GHz, 2.5 GHz, 4 GHz, 6 GHz, 8 GHz
- 125 M/ch or 250M/ch Extended Record Length
- Arbitrary/Function Generator
- SSD with Windows OS

ADVANCED ANALYSIS OPTIONS
- Decode/trigger/search for key serial buses
- Compliance testing for key serial standards
- Power analysis
- Jitter analysis
- Memory bus analysis
- See datasheet for a complete list

RECOMMENDED PROBES AND ACCESSORIES
- TekVPI probe interface; compatible with a wide range of passive, active, differential, TriMode, high voltage, isolated, and current probes
- TLP058 general purpose logic probe supports 8 digital channels
- Available hard case and rackmount kit
- See datasheet for a complete list of compatible probes and accessories

ADVANCED SIGNAL ANALYSIS OSCILLOSCOPES

5 Series MSO Low Profile

In applications that demand extreme channel density, the 5 Series MSO Low Profile sets a new standard for performance. This mixed signal oscilloscope offers 8 input channels (plus AUX Trig) and 12-bit analog-to-digital converters in a compact package, only 3.5 inches high (2U). Replace your oscilloscopes and fit six times more channels into your existing rack space.

MODEL	MSO58LP
Input Channels	8 FlexChannel inputs
Digital Channels	8 to 64, in increments of 8 (optional)
Bandwidth	1 GHz
Sample Rate	6.25 GS/s (analog); 6.25 GS/s (digital)

- 8 FlexChannel® inputs with 1 GHz bandwidth
- 12-bit Analog-to-digital with enhanced resolution up to 16 bits
- 125 Mpoints record length
- Only 2 rack units (3.5 inches) high
- Aux trigger input
- Designed for high channel count applications. Provides 6x improvement over the channel count density of a typical oscilloscope
- Easily transition from R&D to manufacturing

SHIPS WITH PRODUCT
Rackmount attachments, installed
Calibration certificate, Installation and safety manual
Power cord
3-year warranty

INSTRUMENT OPTIONS
- Arbitrary/Function Generator

ADVANCED ANALYSIS OPTIONS
- Decode/trigger/search for key serial buses
- Power analysis
- Jitter analysis
- See datasheet for a complete list

RECOMMENDED PROBES AND ACCESSORIES
- TekVPI probe interface; compatible with a wide range of passive, active, differential, high voltage, isolated, and current probes
- TLP058 general purpose logic probe supports 8 digital channels
- Available hard case and bench conversion kit
- See datasheet for a complete list of compatible probes and accessories

DPO7000C Series

Get into the details of critical high-speed signals and find the most elusive signal anomalies. These oscilloscopes offer measurement and decoding packages for many of today's communications and memory bus standards. Fast waveform capture rate, Pinpoint® triggering, and Visual Trigger & Search will help you solve the most frustrating troubleshooting mysteries, fast. And jitter analysis comes in every box.

MODEL	DPO7054C	DPO7104C	DPO7254C	DPO7354C
Analog Channels	4	4	4	4
Bandwidth	500 MHz	1 GHz	2.5 GHz	3.5 GHz
Record Length (1/2/4 Channels)	125/50/25 M	125/50/25 M	125/50/25 M	125/50/25 M
Analog Sample Rate	20/10/5 GS/s	20/10/5 GS/s	40/20/10 GS/s	40/20/10 GS/s

- 500 MHz, 1 GHz, 2.5 GHz, and 3.5 GHz models
- Windows 10 Enterprise 64-bit operating system and touch-screen display
- >250,000 wfm/s max. waveform capture rate with FastAcq™ technology
- Over 1400 available trigger combinations with Pinpoint® triggering
- Automated search and mark for waveform events
- 53 automated measurements and FFT analysis
- Includes the DPOJET essentials jitter and eye pattern analysis software package - free.
- Over 30 optional software packages available for specialized applications.

SHIPS WITH PRODUCT
Four P6139B 500 MHz, 10X Passive Voltage Probes
Calibration Certificate, Accessory Pouch, Mouse
Front Panel Cover, Power Cord
1-year Warranty

INSTRUMENT OPTIONS
- 50M/ch or 125M/ch extended record length

ADVANCED ANALYSIS OPTIONS
- Decode/trigger/search for key serial buses
- Compliance testing for key serial standards
- Memory bus analysis
- Vector signal analysis
- Power analysis
- Jitter analysis
- Limit and mask testing
- See datasheet for a complete list

RECOMMENDED PROBES AND ACCESSORIES
- TekVPI probe interface; compatible with a wide range of passive, active, differential, high voltage, isolated, and current probes
- Available hard case and rackmount kit
- See datasheet for a complete list of compatible probes and accessories

LEARN MORE ⌄ Download "Understanding & Characterizing Timing Jitter".

MSO/DPO70000 and DX Series

Whether you're at first power-up on your latest design, verifying compliance to the fastest standards, or researching fundamentals of the universe, you have the performance, precision, and tools to get your job done faster.

MODEL	MSO/DPO70404C	MSO/DPO70604C	MSO/DPO70804C	MSO/DPO71254C	MSO/DPO71604C
Analog + Digital Channels	4 (DPO), 4 + 16 (MSO)	4 (DPO), 4 + 16 (MSO)	4 (DPO), 4 + 16 (MSO)	4 (DPO), 4 + 16 (MSO)	4 (DPO), 4 + 16 (MSO)
Analog Bandwidth	4 GHz	6 GHz	8 GHz	12.5 GHz	16 GHz
Sample Rate (2/4 Channels)	25 GS/s	25 GS/s	25 GS/s	100/50 GS/s	100/50 GS/s
Record Length (Std/Opt)	31 Mpoints/ 125 Mpoints	31 Mpoints/ 125 Mpoints	31 Mpoints/ 125 Mpoints	31 Mpoints/ 250 Mpoints	31 Mpoints/ 250 Mpoints

MODEL	MSO/DPO72004C	MSO/DPO72304DX	MSO/DPO72504DX	MSO/DPO73304DX
Analog + Digital Channels	4 (DPO), 4 + 16 (MSO)	4 (DPO), 4 + 16 (MSO)	4 (DPO), 4 + 16 (MSO)	4 (DPO), 4 + 16 (MSO)
Analog Bandwidth	20 GHz	23 GHz	25 GHz	33 GHz
Sample Rate (2/4 Channels)	100/50 GS/s	100/50 GS/s	100/50 GS/s	100/50 GS/s
Record Length (Std/Opt)	31 Mpoints/ 250 Mpoints	31 Mpoints/ 1 Gpoints	31 Mpoints/ 1 Gpoints	31 Mpoints/ 1 Gpoints

- 4 to 33 GHz true analog bandwidth for measurements on the latest high-speed serial standards
- 100 GS/s Sample Rate on 2 Channels
- 16 Logic Channels with 80 ps Timing Resolution for Debug of Digital and Analog Signals (MSO70000 models)
- iCapture – One Connection for Analog and Digital Signals (MSO70000 models)
- Fastest Waveform Capture Rate with >300,000 wfms/s Maximum
- Up to 1 Gpoints Record Length with MultiView Zoom™ for Quick Navigation and Advanced Search
- Visual Trigger to Precisely Qualify Triggers and Find Unique Events in Complex Waveforms
- Nearly 50 Application-specific Solutions Enable Standard-specific Certification, Measurement Automation, and Extended Signal Analysis.

SHIPS WITH PRODUCT

Accessory pouch, front cover, mouse, keyboard, user manual, (4) TekConnect® to 2.92 mm adapters and (1) TekConnect-to-BNC adapter, static protection wrist strap, MSO/DPO70000 software/GPIB reference on instrument HDD, performance verification procedure PDF file, calibration certificate documenting NIST traceability, Z 540-1 compliance and ISO9001, power cord, one-year warranty, MSO Models Include: P6717A Logic Probe, Logic Probe Deskew Fixture

INSTRUMENT OPTIONS

- Frame and bit error rate detector
- Triggering and decoding for 8b/10b
- Extended record length to 62.5, 125, 250, or 500 Mpoints/ch

ADVANCED ANALYSIS OPTIONS

- Decode/trigger/search for key serial buses
- Compliance testing for key serial standards
- Memory bus analysis
- Vector signal analysis
- Cable, channel, and probe compensation
- Serial data link analysis
- Power analysis
- Jitter analysis
- Limit and mask testing
- See datasheet for a complete list

RECOMMENDED PROBES AND ACCESSORIES

- TekConnect® probe interface; compatible with a wide range of passive, active, differential, high voltage, isolated, optical, and current probes
- Available hard case and rackmount kit
- See datasheet for a complete list of compatible probes and accessories

DPO70000SX Series

DPO70000SX 70 GHz Oscilloscope provides lowest-noise, real-time acquisition using Tektronix' patented Asynchronous Time Interleaving technology. Its compact, scalable package allows flexible system configurations. Get the most accurate real-time performance for ultra-bandwidth applications like coherent optical modulation, 100G/400G Datacom, wideband RF, and leading-edge research.

MODEL	DPO77002SX	DPS77004SX (2-UNIT SYSTEM)	DPO75002SX	DPS75004SX (2-UNIT SYSTEM)
Analog Channels	1, 2	2, 4	1, 2	2, 4
Analog Bandwidth	70 GHz, 33 GHz	70 GHz, 33 GHz	50 GHz, 33 GHz	50 GHz, 33 GHz
Sample Rate	200GS/s, 100GS/s	200GS/s, 100GS/s	200GS/s, 100GS/s	200GS/s, 100GS/s
Record Length (Std/Opt)	62.5 Mpoints/ 1 Gpoints	62.5 Mpoints/ 1 Gpoints	62.5 Mpoints/ 1 Gpoints	62.5 Mpoints/ 1 Gpoints

MODEL	DPO73304SX	DPS73308SX (2-UNIT SYSTEM)	DPO72304SX
Analog Channels	2, 4	4, 4	2, 4
Analog Bandwidth	33 GHz, 23 GHz	33 GHz, 23 GHz	23 GHz, 23 GHz
Sample Rate	100GS/s, 50GS/s	100GS/s, 50GS/s	100GS/s, 50GS/s
Record Length (Std/Opt)	62.5 Mpoints/ 1 Gpoints	62.5 Mpoints/ 1 Gpoints	62.5 Mpoints/ 1 Gpoints

- 70 GHz bandwidth with the industry's lowest noise, highest ENOB
- Compact, scalable package allows you to position units very close to the device under test
- UltraSync architecture ensures precise data synchronization and convenient Master/Extension operation in multi-unit systems
- 200 GS/s sample rate for 5 ps timing resolution
- Up to 1 Gpoints Record Length with MultiView Zoom for Quick Navigation and Advanced Search
- Enable comprehensive analysis and presentation of optical modulation systems with Coherent Optical Modulation Analysis software.
- Precisely characterize your system's performance with DPOJET Advanced Jitter and Eye Diagram measurement application.

SHIPS WITH PRODUCT

Accessory pouch, front cover, mouse, keyboard, user manual, TekConnect® to 2.92 mm adapters, static protection wrist strap, DPO70000SX software/GPIB reference on instrument SSD, performance verification procedure PDF file, calibration certificate documenting NIST traceability, Z 540-1 compliance and ISO9001, power cord, one-year warranty

INSTRUMENT OPTIONS

- Extended record length to 125, 250, or 500 Mpoints/ch

ADVANCED ANALYSIS OPTIONS

- Decode/trigger/search for key serial buses
- Compliance testing for key serial standards
- Memory bus analysis
- Vector signal analysis
- Cable, channel, and probe compensation
- Serial data link analysis
- High speed serial lin training analysis
- PAM4 transmitter analysis
- Power analysis
- Jitter analysis
- Limit and mask testing
- See datasheet for a complete list

RECOMMENDED PROBES AND ACCESSORIES

- TekConnect® probe interface; compatible with a wide range of passive, active, differential, high voltage, isolated, optical, and current probes
- Available hard case and rackmount kit
- See datasheet for a complete list of compatible probes and accessories

SAMPLING OSCILLOSCOPES
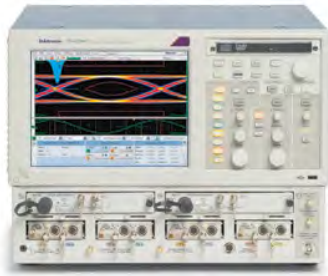
- High Optical Sensitivity, Low Noise, and Wide Dynamic Range of the Optical Sampling Modules
- Remote Samplers or Compact Sampling Extender Module Cables allowing the Sampler to be located at the DUT
- Fully Calibrated Clock Recovery Solutions – No need to manually calibrate for data pick-off losses
- The PAM-4 analysis has full signal path emulation tools that support Continuous Time Linear Equalizer (CTLE), channel emulators described by S-parameters or TDR waveforms, and receiver equalizers Feed Forward (FFE) and Decision Feedback (DFE).
- Design characterization is supported beyond 100GBASE-SR4 compliance requirements for all measurements.
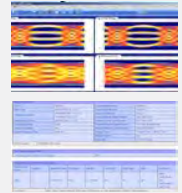
DSA8300 Series

With an industry-leading intrinsic jitter of less than 100 femtoseconds for extremely accurate device characterization, the DSA8300 Series provides comprehensive support for Optical Communications Standards, Time Domain Reflectometry and S-parameters. The DSA8300 Digital Sampling Oscilloscope is a complete high-speed PHY Layer testing platform for data communications from 155 Mb/sec to 100 Gb/sec.

OPTICAL MODULES	80C07B	80C08D	80C10C	80C11B	80C12B	80C14	80C15	80C17	80C18	80C20	80C21
Channels	1	1	1	1	1	1	1	1	2	1	2
Bandwidth	2.5 GHz	12.5 GHz	80+ GHz	30 GHz	12 GHz	14 GHz	32 GHz	>30 GHz	>30 GHz	53 GHz	53 GHz
Clock Recovery (Min/Max)	155 Mb/s - 2.666 Gb/s	9.8 Gb/s - 12.6 Gb/s	Provided by Opt. CRTP and CR286A	9.8 Gb/s - 12.6 Gb/s	Provided by CR125A	Provided by CR175A or CR286A	Provided by CR286A	NA	NA	NA	NA
Filter Rates Supported (Min/Max)	155 Mb/s - 2.5 Gb/s	9.953 Gb/s - 12.5 Gb/s	25.8 Gb/s - 43.018 Gb/s	9.953 - 12.5 Gb/s	155 Mb/s - 11.3 Gb/s	8.500 Gb/s - 14.025 Gb/s	25.781 Gb/s - 28.05 Gb/s	25.781 Gb/s - 28.05 Gb/s	25.781 Gb/s - 28.05 Gb/s	26.388 Gb/s - 54.215 Gb/s	26.388 Gb/s - 54.215 Gb/s

ACCESSORIES MODULES	82A04B	80A02	80A03	80X01	80X02	80A08	CR125A, CR175A, CR286A	80A09
Description	Phase Reference Module	EOS/ESD Protection Module	Probe Adapter Module	1 Meter Extender Cable	2 Meter Extender Cable	Accessory Kit	Clock Recovery Instrument	EOS/ESD Static Protection Device
Functionality	<100 fs RMS timebase jitter	EOS/ESD protection	Sampling Scope Probe Connectivity	Clock Recovery Phase Alignment	Position Module Close To DUT	Connection to DUT and CRU @ 25G	Continues Clock Recovery, 150 Mb/s to 28.6 Gb/s	26 GHz EOS/ESD Static Protection

ELECTRICAL MODULES	80E03	80E07B	80E09B	80E11	80E11X1
Channels	2	2	2	2	1
Vertical Resolution	16 bits	16 bits	16 bits	16 bits	16 bits
Bandwidth	20 GHz	30 GHz	60 GHz	70+ GHz	70+ GHz
Rise Time (10%-90%)	17.5 ps	11.7 ps	5.8 ps	5 ps	5 ps
Monolithic or Remote	Monolithic	Remote (2 meter)	Remote (2 meter)	Monolithic	Monolithic

TDR / ELECTRICAL MODULES	80E04	80E08B	80E10B
Channels	2	2	2
Vertical Resolution	16 bits	16 bits	16 bits
Bandwidth	20 GHz	30 GHz	50 GHz
TDR System Incident Rise Time (10%-90%)	23 ps	18 ps	12 ps
TDR System Reflected Rise Time (10%-90%)	28 ps	20 ps	15 ps
Monolithic or Remote	Monolithic	Remote (2 meter)	Remote (2 meter)

TBS1000B Series

More features, more scope; the TBS1000B is in a class all on its own. With up to 200 MHz bandwidth, 34 automated measurements, limit testing, data logging, dual-channel frequency counters, waveform trending and sample rates of up to 2 GS/s, the TBS1000B Series is designed for extensive monitoring and analysis activities. It can handle everyday test challenges without challenging your budget.

MODEL	TBS1032B*	TBS1052B	TBS1072B
Analog Channels	2	2	2
Analog Bandwidth	30 MHz	50 MHz	70 MHz
Analog Sample Rate (per channel)	500 MS/s	1 GS/s	1 GS/s

MODEL	TBS1102B	TBS1152B	TBS1202B
Analog Channels	2	2	2
Analog Bandwidth	100 MHz	150 MHz	200 MHz
Analog Sample Rate (per channel)	2 GS/s	2 GS/s	2 GS/s

*Available only for North America and Europe.

- Two channel instruments
- Extensive monitoring capability using TrendPlot™ testing
- Pass/Fail analysis with built in waveform limit testing
- Automated data logging featur
- Up to 2 GS/s sample rate on all channels
- Dual-channel frequency counters
- Front-panel USB host port and rear-panel USB device port
- TekSmartLab™ supported
- TrendPlot™ function can evaluate signal behavior over extended time periods.
- Thoroughly analyze your waveforms with convenient math tools and 34 automated measurements.

SHIPS WITH PRODUCT
Two TPP0xx1 200 MHz, 100 MHz or 50 MHz Passive Probes
Certificate of Calibration
CD with Customer Documentation; Installation & Safety Manual
Power Cord
5-year Warranty

RECOMMENDED PROBES AND ACCESSORIES
- BNC probe interface; compatible with a wide range of passive, active, differential, high voltage, and current probes
- Available hard case, soft case, and rackmount kit
- See datasheet for a complete list of compatible probes and accessories

LEARN MORE ↘ Download "Reliability by Design" Technical Brief.

TBS1000B-EDU Series

Meet the world's first dedicated teaching oscilloscope: the TBS1000B-EDU. Not only does it deliver the performance you expect to see in a Tektronix scope, it comes with an innovative course-ware feature that allows students to review lab material, follow step-by-step instructions and document results, all on the oscilloscope. We couldn't make engineering easier, so we made it easier to teach and learn.

MODEL	TBS1052B-EDU	TBS1072B-EDU	TBS1102B-EDU	TBS1152B-EDU	TBS1202B-EDU
Analog Channels	2	2	2	2	2
Analog Bandwidth	50 MHz	70 MHz	100 MHz	150 MHz	200 MHz
Analog Sample Rate (per channel)	1 GS/s	1 GS/s	2 GS/s	2 GS/s	2 GS/s

- Two-channel instruments
- Integrated courseware feature—perform labs directly on the oscilloscope
- Autoset enable/disable capability
- Included PC editor tool for easy lab creation
- Up to 2 GS/s sample rate on all channels
- Dual-channel frequency counters
- 34 automated measurements and FFT analysis
- TekSmartLab™ supported
- The Courseware Resource Center is an interactive, multi-lingual website where educators can share lab material and ideas.
- The FFT function can show both frequency and time domain waveforms simultaneously.

SHIPS WITH PRODUCT
Two TPP0xx1 200 MHz, 100 MHz or 50 MHz, Passive Probes
Certificate of Calibration
CD with Customer Documentation
Education CD with Course Editor SW and Lab Examples
Installation & Safety Manual
Power Cord
5-year Warranty

RECOMMENDED PROBES AND ACCESSORIES
- BNC probe interface; compatible with a wide range of passive, active, differential, high voltage, and current probes
- Available hard case, soft case, and rackmount kit
- See datasheet for a complete list of compatible probes and accessories

HELP STUDENTS ↘ Master the use of an oscilloscope with the included courseware software and labs. Click here to learn more.

BASIC OSCILLOSCOPES
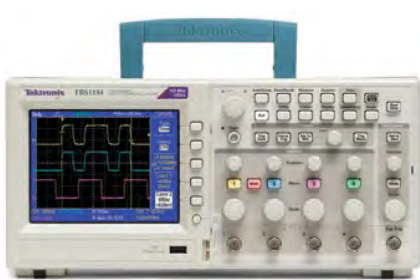
TBS1000 Series

Usually, entry-level instruments are as light in features as they are in price. But Tektronix TBS1000 Series aren't usual instruments. Ideal for students, hobbyists or any person or organization on a tight budget, TBS1000 Series oscilloscopes deliver outstanding performance, including best-in-class digital real-time sampling, pass/fail testing, and familiar, easy-to-use controls. All at a price that's equally impressive.

MODEL	TBS1064	TBS1104	TBS1154
Analog Channels	4	4	4
Analog Bandwidth	60 MHz	100 MHz	150 MHz
Analog Sample Rate (per channel)	1 GS/s	1 GS/s	1 GS/s

- Four-channel instruments
- 1 GS/s sample rate on all channels
- 7-inch WVGA high-res display
- 16 automated measurements, and FFT analysis
- Built-in waveform limit testing
- Built-in help system and probe check wizard
- Front-panel USB host port and rear-panel USB device port
- TekSmartLab™ supported
- Accurately capture signals with at least 10X oversampling on all channels with Digital Real-Time Sampling technology.
- Quickly store and transfer your waveforms and settings with the front panel USB port.

SHIPS WITH PRODUCT
Four TPP0x01 100 MHz or 200 MHz, 10X Passive Probes
OpenChoice® Desktop Software
Educator Classroom and Lab Resource CD
Calibration Certificate, Quick Reference Manual, & Documentation on CD
Power Cord
5-year Warranty

RECOMMENDED PROBES AND ACCESSORIES
- BNC probe interface; compatible with a wide range of passive, active, differential, high voltage, and current probes
- Available hard case, soft case, and rackmount kit
- See datasheet for a complete list of compatible probes and accessories

LEARN MORE ⬂ Download the Technical Brief "Be Sure to Capture the Complete Picture".

TBS2000 Series

When you see more signal, you find anomalies faster. With an impressive 9-in. WVGA display and 15 horizontal divisions—the most in its class—the TBS2000 not only helps you see the big picture, it gives you a clearer picture. Plus a 20-million point record length lets you easily capture long time windows. The TBS2000 also includes courseware support for education labs.

MODEL	TBS2072	TBS2102	TBS2074	TBS2104
Analog Channels	2	2	4	4
Analog Bandwidth	70 MHz	100 MHz	70 MHz	100 MHz
Analog Sample Rate (per channel)	1 GS/s	1 GS/s	1 GS/s	1 GS/s

- 9-inch WVGA display with 15 horizontal divisions
- Long 20M record length
- 32 automated measurements with gating
- TekVPI® Probe Interface allows you to use latest-generation active voltage and current probes
- A large, 9-inch display, with 15 horizontal divisions lets you see more of your signal.
- Select any of the 32 available measurements from a single screen, with helpful tips on each.

SHIPS WITH PRODUCT
TPP0100 100 MHz, 10x passive probe (one per analog channel)
Documentation CD
Installation and safety manual
Programmer manual, available on documentation CD and on Tek Web
Power Cord
Calibration certificate documenting traceability to National Metrology Institute(s) and ISO9001 quality system registration

RECOMMENDED PROBES AND ACCESSORIES
- TekVPI probe interface; compatible with a wide range of passive, active, differential, high voltage, and current probes
- Available soft case
- See datasheet for a complete list of compatible probes and accessories

LEARN MORE ⬂ Download the "Anatomy of Digital Oscilloscopes" Poster which shows how parts in an oscilloscope work together.

BATTERY POWERED AND HANDHELD OSCILLOSCOPES

THS3000 Series

Affordable performance in a rugged, portable design. This handheld, battery-powered oscilloscope is packed with features and analysis tools. With up to 5 GS/s sampling rate and four isolated channels that can measure up to 1000 Volts, you can quickly, reliably and accurately evaluate your signal characteristics on the bench or in the field.

MODEL	THS3014	THS3014-TK	THS3024	THS3024-TK
Analog Channels	4	4	4	4
Analog Bandwidth	100 MHz	100 MHz	200 MHz	200 MHz
Analog Sample Rate	2.5 GS/s	2.5 GS/s	5 GS/s	5 GS/s

- 4 fully isolated and floating channels
- 21 automated measurements
- 600 VRMS CAT III, 1000 VRMS CAT II rated inputs
- Measurement data logging with Trendplot™ testing
- 7 hours of continuous battery operation
- Four isolated input channels easily handle any type of mixed signal inputs.
- User-defined limit testing can automatically monitor your signals and output Pass or Fail results.

SHIPS WITH PRODUCT
Four THP0301-Y/B/M/G 300 V CAT III, 300 MHz 10X Passive Probes
OpenChoice® Desktop Software
USB-A to Mini USB-B Cable for PC Communication
Lithium-ion Battery with 7 Hour Battery Life
Calibration Certificate, Installation/Safety Manual, Documentation on CD
Carrying Handle, Hanging Strap
ACHHS Soft-sided Carry Case*3, AC Power Adapter with Power Cord
Hard-sided Travel Case*4
Soft-sided Probe Case, Two Probe Replacement Accessory Kits*4
3-year Warranty

RECOMMENDED PROBES AND ACCESSORIES
- Isotated BNC probe interface; compatible with a range of passive and current probes
- Additional battery, external charger
- Available hard case, soft case
- See datasheet for a complete list of compatible probes and accessories

LEARN MORE ⬎ Download "Fundamentals of Floating Measurements and Isolated Input Oscilloscopes" Application Note.

TPS2000B Series

Great performance goes beyond the lab. Make floating or differential measurements with up to four isolated channels. Tackle challenging environments with backlit buttons and optional power analysis software. Capture signals with Digital Real-Time Sampling.

MODEL	TPS2012B	TPS2014B	TPS2024B
Analog Channels	2	4	4
Analog Bandwidth	100 MHz	100 MHz	200 MHz
Analog Sample Rate	1 GS/s	1 GS/s	2 GS/s

- 10X oversampling on all channels
- 4 isolated analog channels
- 11 automated measurements and FFT analysis
- Optional power analysis software
- Safely and easily make floating measurements with the four isolated channels.
- Battery pack gives you up to 4 hours of portable operation. Hot-swap the pack for 4 more hours!

SHIPS WITH PRODUCT
One TPP0101 100 MHz, 10X Passive Probe Per Analog Channel (TPS2012B & TPS2014B)
One TPP0201 200 MHz, 10X Passive Probe Per Analog Channel (TPS2024B)
OpenChoice® Desktop Software
RS-232 to USB Adapter Cable
One Lithium-Ion Battery with 4-hour Battery Life
Calibration Certificate, Quick Reference Manual, & Documentation on CD
Front Panel Cover, AC Adapter with Power Cord
3-year Warranty

ADVANCED ANALYSIS OPTIONS
- Power analysis

RECOMMENDED PROBES AND ACCESSORIES
- Isotated BNC probe interface; compatible with a range of passive, differential, high voltage, and current probes
- Available hard case, soft case
- Additional battery, external charger
- See datasheet for a complete list of compatible probes and accessories

LEARN MORE ⬎ Download "Fundamentals of Floating Measurements and Isolated Input Oscilloscopes" Application Note.

TDS SERIES OSCILLOSCOPES

TDS2000C Series

Big performance has never been so small. Featuring Digital Real-Time Sampling, you can trust your scope to accurately capture your signal. Add in USB connectivity, 16 automated measurements and even a built-in help system; this compact oscilloscope helps you get more done in less time. It's true: big things do come in small packages.

MODEL	TDS2001C	TDS2002C	TDS2004C
Analog Channels	2	2	4
Analog Bandwidth	50 MHz	70 MHz	70 MHz
Analog Sample Rate	500 MS/s	1 GS/s	1 GS/s

MODEL	TDS2012C	TDS2014C	TDS2022C	TDS2024C
Analog Channels	2	4	2	4
Analog Bandwidth	100 MHz	100 MHz	200 MHz	200 MHz
Analog Sample Rate	2 GS/s	2 GS/s	2 GS/s	2 GS/s

- 10X oversampling on all channels
- Bright color display
- 16 automated measurements and FFT analysis
- Built-in help system and probe check wizard
- Front-panel USB host port and rear-panel USB device port
- Lifetime Warranty[1]
- TekSmartLab™ supported
- Accurately capture signals with at least 10X over-sampling on all channels with Digital Real-Time Sampling technology.
- Easily check if your waveforms pass or fail your specifications with built-in waveform limit testing.

SHIPS WITH PRODUCT
One TPP0x01 100 MHz or 200 MHz, 10X Passive Probe Per Analog Channel
OpenChoice® Desktop Software
Calibration Certificate, Quick Reference Manual and Documentation on CD
Power Cord
Lifetime Warranty[1]

RECOMMENDED PROBES AND ACCESSORIES
- BNC probe interface; compatible with a wide range of passive, active, differential, high voltage, and current probes
- Available hard case, soft case
- See datasheet for a complete list of compatible probes and accessories

TDS3000C Series

Performance meets portability. Featuring up to 500 MHz bandwidth and optional battery-powered operation, this oscilloscope is as capable as it is convenient. Capture fast-changing signals with Digital Real-Time Sampling. Maximize efficiency with WaveAlert® Anomaly Detection and 25 automated measurements. Performance and versatility—turns out you can take it with you.

MODEL	TDS3012C	TDS3014C	TDS3032C
Analog Channels	2	4	2
Analog Bandwidth	100 MHz	100 MHz	300 MHz
Analog Sample Rate	1.25 GS/s	1.25 GS/s	2.5 GS/s

MODEL	TDS3034C	TDS3052C	TDS3054C
Analog Channels	4	2	4
Analog Bandwidth	300 MHz	500 MHz	500 MHz
Analog Sample Rate	2.5 GS/s	5 GS/s	5 GS/s

- 10 kpoints record length on all channels, all the time
- 3,600 wfm/s max. waveform capture rate with DPO technology
- 25 automated measurements and FFT analysis
- Front-panel USB host port and optional rear-panel Ethernet, GPIB, and RS-232 ports
- Optional battery pack gives you up to 3 hours of portable operation.
- Accurately capture signals with at least 5X over-sampling on all channels with Digital Real-Time Sampling technology.

SHIPS WITH PRODUCT
One P6139B 500 MHz, 10X Passive Probe Per Analog Channel
OpenChoice® Desktop Software
Calibration Certificate, Quick Reference Manual, & Documentation on CD
Front Panel Cover, Power Cord
3-year Warranty

ADVANCED ANALYSIS OPTIONS
- Limit Testing
- Mask Testing
- HDTV and Custom Video Triggering

RECOMMENDED PROBES AND ACCESSORIES
- TekProbe® probe interface; compatible with a wide range of passive, active, differential, high voltage, and current probes
- Battery pack and charger
- Available soft case
- See datasheet for a complete list of compatible probes and accessories

OSCILLOSCOPE APPLICATION SOFTWARE

The newest wireless, embedded systems technologies, serial data and video designs present you with unprecedented measurement challenges. Our standards expertise and measurement tools help you meet them all. You can shorten your design cycle, gain greater technical insight and improve team productivity to bring new products and services to market much faster.

Advanced Analysis Applications

Jitter, Eye Diagram, Timing and Noise Analysis
- Comprehensive DPOJET tool set for measuring timing, amplitude, jitter and noise with integrated clock recovery
- Reporting and plotting capabilities for signal and root cause analysis

Serial Data Link Analysis
- SDLA Visualizer provides channel de-embed, emulation, reference equalizers and IBI-ABI model support to enable characterization, performance and what-if analysis of next generation high speed designs.

SignalVu RF and Vector Signal Analysis
- Characterize wideband spectral events
- Demodulate the signal and verify designs
- Supports wideband radar, high data rate satellite links, WiFi, WiGig, Zigbee and Bluetooth

Power Analysis
- DPOPWR provides automated measurements for analyzing power quality, current harmonics, switching loss, slew rate, modulation and ripple

SignalCorrect
- SignalCorrect allows quick characterization and de-embed of the cables, fixtures and other types of interconnects using the DPO/MSO70000 series of oscilloscopes enabling signal margin recovery leading to more accurate measurements.

DDR Memory Bus Analysis
- Comprehensive memory validation and debug suite supporting legacy and next generation memory standards

Visual Trigger
- Precisely qualify triggers and find unique events in complex waveforms

Protocol Decode and Triggering
- Observe specific system behavior to isolate specific states or locate invalid bus sequences
- Automotive
- Wi-Fi

Compliance and Debug Applications

TekExpress Automation software provides automated instrument setup, multi-instrument control, test execution, and reporting to characterize Transmitter/Receiver performance and easily verify designs comply with the latest High Speed Serial Standards. Additionally, standard specific DPOJet software allows the user to seamlessly debug designs in the event of compliance failure.

Sample of Supported Technologies

Computer Peripherals
- PCI Express
- USB
- Thunderbolt

Storage
- SATA
- SAS

Mobile
- MIPI M-PHY
- MIPI D-PHY
- MIPI C-PHY

Display
- HDMI
- MHL
- DisplayPort

Data Communications
- 10/100/1000 BaseT
- 10G BaseT
- SFP+
- 10GKR
- 16G FibreChannel
- 100G/400G
- QSFP

OSCILLOSCOPE APPLICATION SOFTWARE
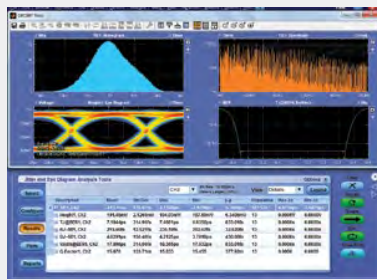
Jitter Analysis

Oscilloscope-based jitter analysis tools automate key jitter measurements and provide important insight into the nature of jitter.

- Flexible clock recovery
- Automated time interval error measurement
- Plot eye diagrams, histograms, trends, and bathtub plots
- Decompose jitter into random and deterministic components
- Jitter analysis tools are available in several real time oscilloscope series, sampling oscilloscopes, and bit error rate testers.

tek.com/jitter-measurement-and-timing-analysis

High-Speed Serial Data Link Analysis

Serial data link analysis (SDLA) tools remove the impact of the measurement system on your high-speed measurements.

- The SDLA Visualizer allows you to remove the effects of reflections, insertion loss, and cross-coupling caused by the measurement system
- Signal Correct software works with a fast step generator to quickly characterize cables, fixtures, and connectors automatically
- Available on high-performance real-time and sampling oscilloscopes

tek.com/application/serial-data-link-analysis-sdla-1

Serial ATA/SAS

Powerful Serial ATA/SAS Automated Compliance Toolset Saves Time and Effort

- SATA/ SAS characterization and compliance testing
- Full characterization tool set including voltage, equalization and jitter analysis across multiple date rates and operating conditions
- One button SATA solution for device state control and test automation

tek.com/sata-sas

PCI Express®

PCI Express design dhallenges need fast, accurate answers

- Dual-port acquisition and million unit interval analysis
- Full sample rate and deep record length on all channels for compliance testing and debug
- Channel emulation, equalization and up to 70GHz bandwidth supporting PCIe Gen 1, 2, 3 & 4
- Upgradeable to PCIe Gen 5

tek.com/pci_express
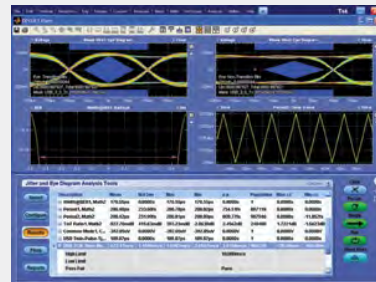
USB and Type-C

Flexible Tools for Compliance and Debug of USB Hosts and Peripherals

- Comprehensive automated and manual tool set for USB 2.0, 3.x and USB Type-C verification, characterization, debug, and compliance testing
- USB-IF compliant
- USB-PD electrical parametric and protocol measurements also available

tek.com/usb
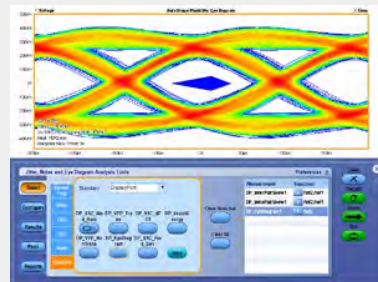
HDMI, MHL and DisplayPort

Characterize and stress devices to the maximum potential

- Comprehensive and automated testing for DisplayPort (1.x), HDMI (1.x, 2.x) & MHL (1.x, 2.x, 3.x) transmitter, receiver and protocol test solution

HDMI: tek.com/hdmi
MHL: tek.com/mhl
DisplayPort: tek.com/displayport-0
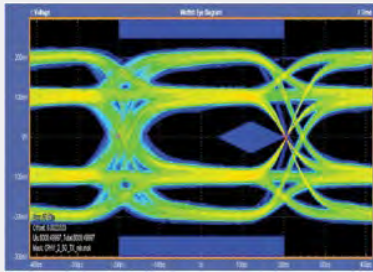
MIPI®

Complete MIPI D-PHY, C-PHY and M-PHY Transmitter, Receiver and Protocol Test Solutions

- Automated compliance and conformance transmitter testing for MIPI D-PHY (1.2), C-PHY (1.1) & M-PHY (3.1) transmitter, receiver and protocol test solutions
- Arbitrary Waveform Generator based D-PHY and C-PHY receiver compliance and margin testing solution with 100% RX test coverage per CTS

tek.com/mipi
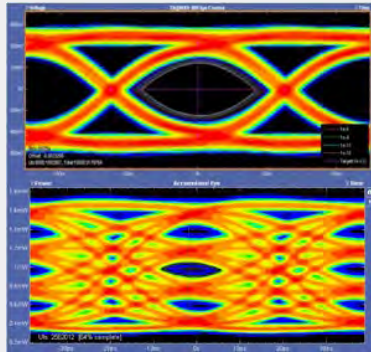
100G/400G Rx/Tx Technology and Application Solutions

Streamline PAM4 analysis and debug with all the capabilities needed at your finger tips

- Comprehensive set of electrical and optical measurements that cover IEEE and OIF-CEI standards as well as jitter and eye measurements for PAM4
- Single integrated application with auto configuration of several signal parameters

tek.com/wired-communications/400g-pam4-testing

tek.com/100g-optical-and-electrical-tx-rx
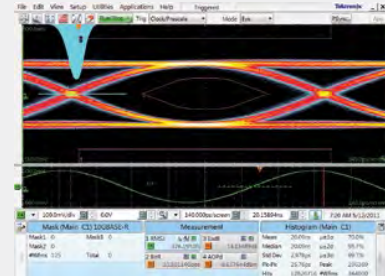
Optical Testing

Tools and analysis software for testing optical standards and technologies

- Complete coherent signal analysis system for polarization-multiplexed QPSK, QAM, differential BPSK/QPSK, and other advanced modulation formats

tek.com/wired-communications/coherent-optical
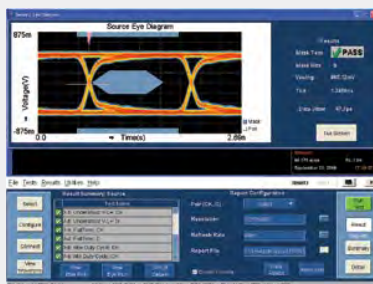
Memory

Comprehensive Tools for Memory Interface Verification and Debug

- Capture, measure and characterize DDR memory interface signal behavior, jitter, eye size, crossover, strobes/clock alignment, bit errors
- Capture and measure the digital logic state of the DDR memory interface and perform bus cycle based timing and protocol analysis

tek.com/ddr-test-validation-and-debug
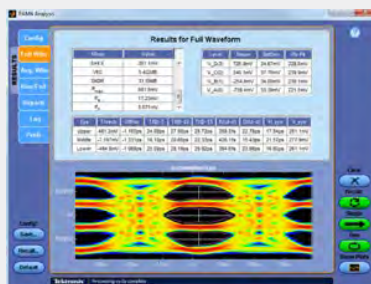
Data Communications

IEEE802.3 and non-IEEE device development, debug and physical layer validation

- Comprehensive, integrated tool sets for supporting 10BASET to 400Gbps Ethernet based systems
- Compliance and debug solutions for SFF 8431, SFP+, OIF-CEI, InfiniBand and FC-16G

tek.com/ethernet-test
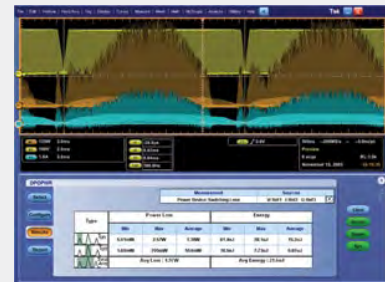
Power Analysis

Automated power analysis packages help you make fast, accurate, repeatable measurements on power supplies and converters. Power analysis packages are available for many oscilloscope series, and may include:

- AC line power and harmonics analysis
- Switching transistor loss and safe operating area
- In-circuit inductor and transformer loss
- Control loop frequency response analysis and rejection ratio
- Turn on/off timing, efficiency, and noise measurements

tek.com/power-efficiency/power-supply-measurement-analysis

OSCILLOSCOPE APPLICATION SOFTWARE
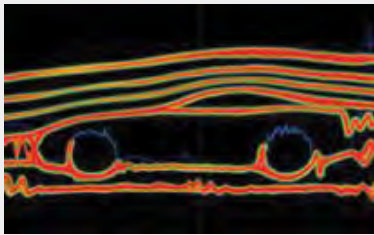
Automotive Ethernet

Automate testing to validate your design and confirm compliance with 100BASE-T1 and 1000BASE-T1 per IEEE 802.3bw and IEEE 802.3bp standards.

- Detailed instructions and automated setups help deliver consistent results
- Comprehensive reporting shows pass/fail information with margins
- Available on multiple oscilloscope platforms, all designed to quickly troubleshoot failures
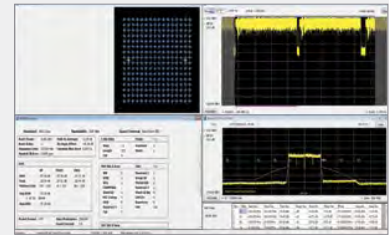
tek.com/automotive/automotive-ethernet

Bluetooth®

Get your design to market faster

- Perform Bluetooth SIG standard-based transmitter RF measurements in time, frequency and modulation domains
- Customizable limits and Bluetooth pre-sets for push-button testing

tek.com/application/bluetooth-testing-and-analysis-1#content

WLAN (IEEE 802.11)

Speed up WiFi testing of your latest design

- Physical layer RF transmitter measurements supporting IEEE 802.11a/b/g/j/p/n/ac standards for up to 160 MHz
- Robust measurement summary reporting

tek.com/product-software-series/signalvu-spectrum-analyzer-software
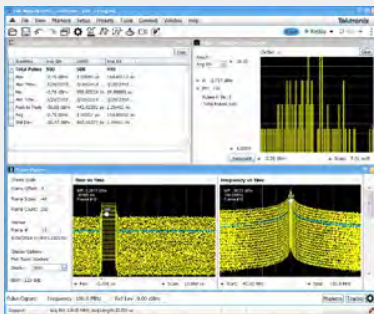
Radar/EW

Performance, precision and insight for your radar/electronic warfare design

- Extensive toolset with 31 individual measurements to automatically characterize long pulse trains
- Cumulative statics of key performance indicators and histograms for thorough analysis

tek.com/radar
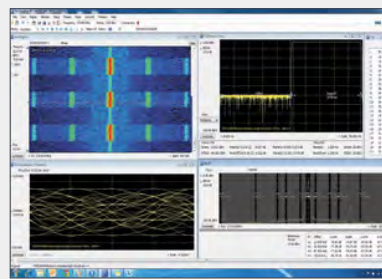
APCO Project 25 (P25)

Accurate and fast performance and compliance testing

- Complete APCO Project 25 transmitter testing and analysis for Phase 1 (C4FM) and Phase 2

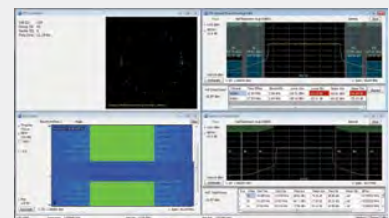tek.com/apco-project-25-p25-transmitter-testing-and-analysis

WiGig (IEEE 802.11ad)

Design leading-edge performance with confidence

- Single integrated software tool for standard and performance troubleshooting and debugging
- Analyze up to 70 GHz bandwidth per acquisition

Search **802.11ad** on tek.com

LTE™ Downlink

Fast validation of LTE base station transmitter with push button preset, and pass/fail information

- Comprehensive RF measurements including ACLR, SEM, Channel Power and OBW, plus Cell ID detection
- Support for TDD and FDD frame formats

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. 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.

LEARN MORE
ON THE GO!

Isolated Probes

- High-resolution measurements in the presence of common mode signals or noise
- Up to 1 GHz bandwidth
- Complete galvanic isolation
- 1 Million to 1 (120 dB) of common mode rejection at 100 MHz

tek.com/isolated-measurement-systems

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

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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
- DC to 33 GHz (DPO7OE1)

Optical Probe DPO7OE2 DC to 59 GHz

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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: tektronix.com/probes.

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Common mode interference often causes engineers to design, debug, evaluate, and optimize "blind." Revolutionary IsoVu™ technology uses optical communications and power-over-fiber for complete galvanic isolation. When combined with an oscilloscope equipped with the TekVPI interface, it is the first, and only, measurement system capable of accurately resolving high bandwidth differential signals in the presence of large common mode voltage.

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