Digital Storage Oscilloscope

▶ TDS6000B Series

Uncompromised Performance Oscilloscope Solution — Probing, Acquisition, Analysis, Compliance and Debug

TDS6000B Series digital storage oscilloscopes provide unprecedented performance along with a complete feature set designed to address design validation, debug and compliance challenges of next generation computer, datacom and communications equipment. High bandwidth, high sample rate and deep memory also provide the ideal solution for data acquisition applications.

Uncompromised Acquisition

Never again will you need to trade-off bandwidth, record length and sample rate. The TDS6000B Series DSO provides a new acquisition architecture that has maximum sample rate (20 GS/s) and record length (32 Megasamples) on each of the four channels simultaneously. The TDS6804B provides matched 8 GHz performance across all four channels using advanced DSP enhancement, important for high speed channel-to-channel measurements. The DSP filter on each channel provides magnitude and phase compensation of the analog bandwidth to provide more accurate signal fidelity for high-speed measurements. Ideal for analyzing and debugging multi-lane serial device designs and interconnect. Four lanes of serial data traffic can be analyzed simultaneously. The DSP filter on each channel can also be disabled to take advantage of the true 7 GHz analog bandwidth.

▶ Features & Benefits

8 GHz (TDS6804B) and 6 GHz (TDS6604B) Models

35 ps (20 to 80%) Typical Rise Time, with Channel Matched, User Selectable DSP[*1]

20 GS/s Real-time Sample Rate (500 fs Interpolated Resolution) on Each Channel

Up to 32 Megasamples Record Length on Each Channel with MultiView Zoom™ for quick navigation

Pinpoint™ Triggering Provides Highest Performance and Over 1400 Triggering Combinations

Serial Data Compliance and Analysis up to 5 Gb/s

Dual Processor System (2.8 GHz Pentium 4 and 583 MHz PowerPC) Provide Fast Waveform Processing

OpenChoice® Software with Windows XP OS Delivers Built-in Networking and Analysis

Technology-specific Software Solutions Provide Built-in Domain Expertise for Serial Data, Jitter, Ethernet, DVI, USB2.0, Communications and Power Measurements

System Includes: High-resolution XGA Display, Front Panel CD-R/W, Front Panel USB2.0 Port and 1000Base-T Network Connection

[*1] TDS6804B Only. Analog BW is 7 GHz guaranteed, with 43 ps (20 to 80%) typical rise time. Rise time specified with 10 ps (20 to 80%) source.

▶ Applications

Signal Integrity, Jitter and Timing Analysis

Validation, Debug, Characterization and Compliance of Next Generation Digital Designs

Computer, Datacom, Storage Area Network Equipment Designs and High-speed Backplanes

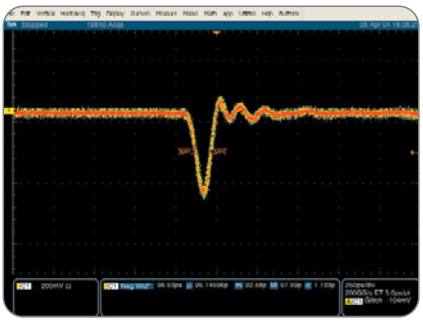
High Energy Physical Measurements and Data Acquisition

Tektronix

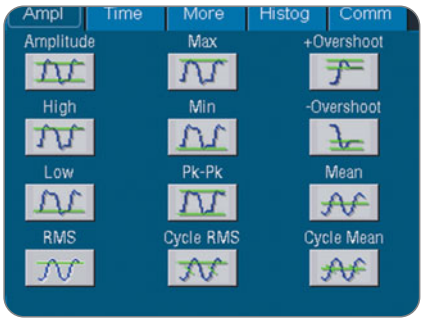
Enabling Innovation

Pinpoint™ Triggering

The ability to trigger an oscilloscope on events of interest is paramount in high speed debug and validation. Whether you are trying to isolate a system error or need to isolate a section of interest of a complex signal for further analysis, Tektronix' new Pinpoint trigger system provides the solution. The Pinpoint trigger system uses Silicon Germanium (SiGe) technology to provide trigger sensitivity of 7 GHz (at 2.5 divisions) for all trigger types on both A and B trigger circuits. Capture glitches down to 100 ps wide, trigger jitter less than to 1.5 ps_{RMS}. In the past, advanced trigger types were offered on a single event (A Event). If a delayed trigger (B Event) were used, it would be limited to edge triggering and not provide any way to reset the trigger after the B-event occurred (or didn't occur). With Pinpoint triggering, the system provides the full suite of advance trigger types on both A and B triggers. Reset triggering provides the ability to reset the trigger circuit after a specified time, state or transition so that even events in the most complex signals can be captured. Other oscilloscopes offer less than 20 trigger combinations; Pinpoint triggering offers over 1400 combinations, all at full bandwidth.

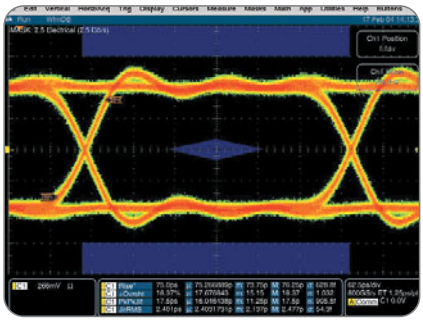


▶ Trigger on glitches down to 100 ps wide.



▶ Measurement System. Enables over 50 parametric measurements in the amplitude, time and statistical domain.

▶ Pinpoint Trigger System provides the most advanced, highest performance triggering available.



▶ HW Golden PLL Clock Recovery and Mask Testing up to 3.125 Gb/s (with Opt.SM). Supports widest range of industry standards.

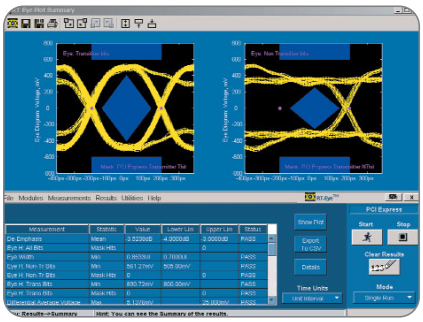
Unparalleled Analysis

Waveform data analysis can take many forms. Whether it's a simple math expression, waveform mask testing, a pass/fail compliance test or a custom application that you develop. The TDS6000B Series offers the industry's most comprehensive set of analysis and compliance tools.

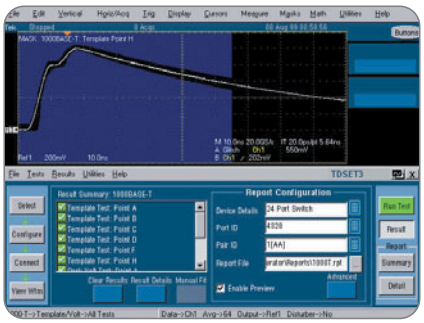
▶ Waveform Math Equation Editor. Enables boundless analysis on waveform data.

Embedded Analysis Tools

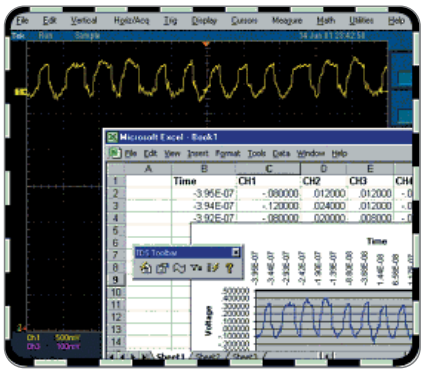
Embedded in the oscilloscope user interface is a wide range of analysis tools including Cursors, Measurements, Math Equation Editor, Serial Data Communications Mask Testing (with Opt. SM) and Spectrum Analysis.

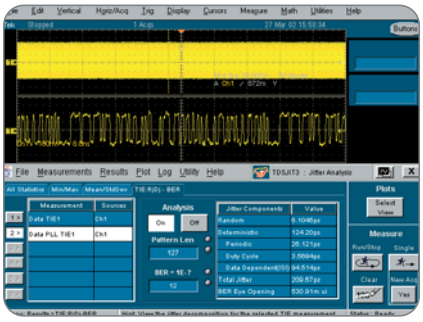


▶ TDSRT-Eye™. Compliance and analysis for testing high-speed serial standards. Eye diagrams to 5 Gb/s. Software clock recovery to 10 Gb/s.

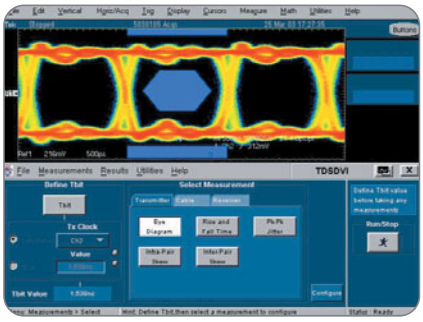


▶ TDSET3 10/100/1000BaseT Compliance.

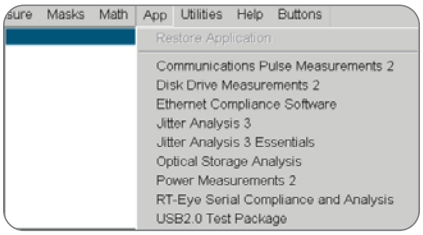




▶ TDSJIT3. Jitter analysis for validation and debug high-speed digital systems.



▶ TDSDVI Digital Visual Interface Compliance.



Technology-specific Software Solutions

Validation, debug and compliance testing often require automated test tools that quickly analyze waveform data and provide the answers you need. The TDS6000B Series provides complete "turn-key" solutions for the most demanding technologies. The unique dual-processor system off-loads data intensive operations to the 2.8 GHz Pentium 4 processor to provide jitter measurement efficiency*2 of greater than 100,000 TIE measurements per second using TDSJIT3 Jitter and Timing Analysis Software. Software options are also available for performing validation and compliance measurements on emerging industry standards.

*2 Jitter measurement efficiency is a performance benchmark that combines acquisition and analysis performance. It is defined by the number of TIE (Time Interval Error) measurements per second made by an oscilloscope's jitter measurement software. The signal under test is a 4 Gb/s serial data bit stream with repeating CJTPAT (Compliance Jitter Test Pattern) from an AWG710 arbitrary waveform generator. The acquisition system is set to 20 GS/s and 8 Mb record length.

OpenChoice® Analysis

Designing your own custom solution? The analysis and networking features of OpenChoice software adds more flexibility to Tektronix open Windows XP oscilloscopes:

- Fast, PCI bus speed communication between the data acquisition processor and the Microsoft Windows desktop
- ActiveX controls to connect the oscilloscope to popular Windows applications – WITHOUT leaving the application
- PnP drivers to control the scope from LabVIEW and Lab Windows/CVI running directly on the oscilloscope or running on external PCs

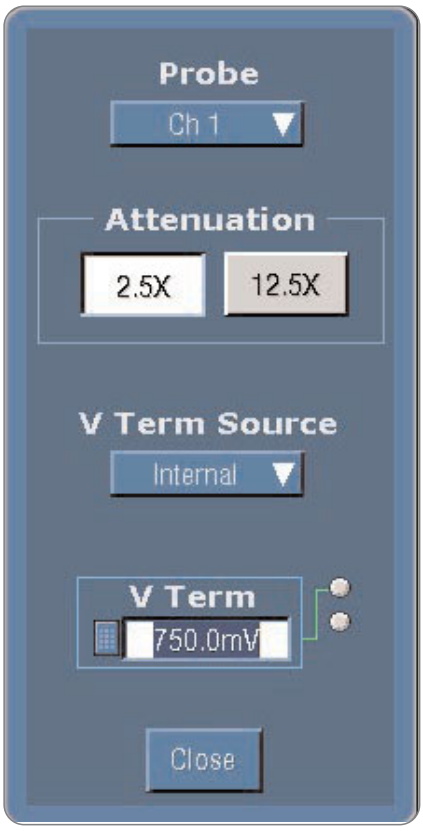
Support for application development environments includes Visual BASIC, .NET, C, C++, MATLAB, LabVIEW and LabWindows/CVI.

8 GHz Differential Probing

Most high-speed signals today are differential. The P7380SMA 8 GHz Differential Probing System provides true differential SMA connection (for SMA connected test fixtures) to the device under test. The optional P7380SMA Differential Probing System provides a 50 Ω per side termination network with a termination voltage. The termination voltage can be applied externally or through the TekConnect® interface from the TDS6000B probe menu or not used at all. A gain switch provides two different sensitivity settings of the probe and an Aux Out provides an inverted version of the signal for driving other equipment. The P7380SMA probing system used with the TDS6000B oscilloscopes provide an ideal solution for validation and compliance testing of high speed serial data links.

▶ P7380SMA Differential Probing System.

The P7380SMA uses second generation SiGe (Silicon Germanium) technology and is the first of a new family of differential probing solutions.



▶ Termination Voltage Menu.

▸ Characteristics

▸ Vertical System

	TDS6604B	TDS6804B
Input Channels	4	4
Bandwidth, Rise Time (DSP)	N/A	8 GHz 50 ps (10 to 90%) (typical) 35 ps (20 to 80%) (typical)
True Analog Bandwidth (–3 dB), Rise Time	6 GHz 70 ps (10 to 90%) (typical) 53 ps (20 to 80%) (typical)	7 GHz 62 ps (10 to 90%) (typical) 43 ps (20 to 80%) (typical)
Hardware Bandwidth Limits (Requires TCA-1 MEG Adapter)	Full, 250 MHz or 20 MHz	
Input Coupling	DC, GND	
Input Impedance	50 Ω ±2.5%	
Input Sensitivity, 50 Ω	10 mV/div to 1 V/div	
Vertical Resolution	8-Bit (>11-Bit with averaging)	
Max Input Voltage, 50 Ω	<1 V_{RMS} for <100 mV/div, <7 V_{RMS} for ≥100 mV/div settings Also determined by TekConnect® accessory	
DC Gain Accuracy	±(2.5% + (2% x offset))	
Position Range	±5 divisions	
Offset Range*1	10 mV to 50 mV/div: ±0.5 V 50.5 mV to 99.5 mV: ±0.25 V 100 mV to 500 mV: ±5 V 505 mV to 1 V/div: ±2.5 V	
Offset Accuracy	±(0.5% of channel offset + 15 mV + 0.1 div x V/div setting) for ranges >100 mV/div	
Channel-to-channel Isolation for Any Two Channels at Equal Vertical Scale	≥80:1 at 1.5 GHz and ≥15:1 at rated bandwidth	

*1 Offset range in addition to ±5 division position range.

▶ Timebase System

	All Models
Timebase Range	25 ps to 40 s/div; Interpolation down to 500 fs/pt
Timebase Delay Time Range	5 ns to 250 s
Channel-to-channel Deskew Range	±75 ns
Trigger Jitter (RMS)	<1.5 ps_{RMS} (typical)
Long-term Sample Rate and Delay Time Accuracy	2.5 ppm over any ≥100 ms interval
Clock Stability	<1 ppm (typical) <2.5 ppm (warranted)

▶ Acquisition System

	All Models
Max Sample Rate	20 GS/s on all 4 Channels
Equivalent Time Sample Rate (max)	2 TS/s
Maximum Record Length per Channel	
Standard	2 Mb on all 4 Channels
with Memory Opt. 2M	8 Mb on all 4 Channels
with Memory Opt. 3M	16 Mb on all 4 Channels
with Memory Opt. 4M	32 Mb on all 4 Channels

▶ Maximum Time Duration Captured at Highest Real-time Resolution (All Channels)

	All Models
Max Duration with Standard Memory	100 µs
Max Duration with Opt. 2M	400 µs
Max Duration with Opt. 3M	800 µs
Max Duration with Opt. 4M	1.6 ms

▸ Acquisition Modes

	All Models
Waveform Database	Accumulate Waveform Database providing three-dimensional array of amplitude, time and counts
Sample	Acquire sampled values
Peak Detect	Captures narrow glitches at all real-time sampling rates
Minimum Peak Detect Pulse Width	50 ps
Averaging	From 2 to 10,000 waveforms included in average
Envelope	From 2 to $2x10^9$ waveforms included in min-max envelope
Hi-Res	Real-time boxcar averaging reduces random noise and increases resolution
FastFrame™ Acquisition	Acquisition memory divided into segments; maximum trigger rate >310,000 waveforms per second Time of arrival recorded with each event
Roll Mode	200 kSamples/sec at 8 Mg Record Length and 500 kSamples/sec at 4 Mg Record Length on all channels

▸ Pinpoint™ Trigger System

	All Models
Sensitivity	
Internal DC Coupled	0.5 div DC to 50 MHz increasing to 2.5 div at 7 GHz (typical)
External (auxiliary input)	200 mV from DC to 50 MHz increasing to 500 mV at 2 GHz
Trigger Characteristics	
Main Trigger Modes	Auto, Normal and Single
A Event and Delayed B Event Trigger Types	Edge, Glitch, Runt, Width, Transition Time, Timeout, Pattern, State, Setup/Hold, Window – all except Edge, Pattern and State can be Logic State qualified by up to two channels
Trigger Sequences	Main, Delayed by Time, Delayed by Events, Reset by Time, Reset by State, Reset by Transition. All sequences can include separate horizontal delay after the trigger event to position the acquisition window in time
Communications-related Triggers (requires Opt. SM)	Support for AMI, HDB3, BnZS, CMI, MLT3 and NRZ encoded communications signals up to 3.125 Gb/s. Select among isolated positive or negative one, zero pulse form or eye patterns as applicable to standard
Serial Pattern Trigger (requires Opt. ST)	64-Bit serial word recognizer, bits specified in binary (high, low, don't care) or hex format Trigger on NRZ-encoded data up to 1.25 G Baud
Trigger Level Range	
Internal	±12 divisions from center of screen
External (auxiliary in)	±5 V
Line	Fixed at 0 V
Trigger Coupling	DC, AC (attenuate <60 Hz), HF reject (attenuate >30 kHz) LF reject (attenuates <80 kHz) Noise reject (reduce sensitivity)
Trigger Holdoff Range	250 ns minimum to 12 s maximum

Trigger Types

Edge – Positive and/or negative slope on any channel or front panel auxiliary input. Coupling includes DC, AC, noise reject, HF reject and LF reject.

Glitch – Trigger on or reject glitches of positive, negative or either polarity. Minimum glitch width is down to 100 ps with rearm time of 250 ps.

Width – Trigger on width of positive or negative pulse (down to 100 ps) either within or out of selectable time limits.

Runt – Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again. Optional time qualification.

Timeout – Trigger on an event which remains high, low or either for a specified time period, selectable from 360 ps to 1 s.

Transition – Trigger on pulse edge rates that are faster or slower than specified. Slope may be positive, negative or either.

Setup/Hold – Trigger on violations of both setup time and hold time between clock and data present on any two input channels.

Pattern – Trigger when pattern goes false or stays true for specified period of time. Pattern (AND, OR, NAND, NOR) specified for four input channels defined as HIGH, LOW or Don't Care.

State – Any logical pattern of channels (1, 2, 3) clocked by edge on channel 4. Trigger on rising or falling clock edge.

Window – Trigger on an event that enters or exits a window defined by two user-adjustable thresholds. Event can be time or logic qualified.

Trigger Delay by Time – 5 ns to 250 seconds.

Trigger Delay by Events – 1 to 10,000,000 Events.

Waveform Measurements

Amplitude – Amplitude, High, Low, Maximum, Minimum, Peak to Peak, Mean, Cycle Mean, RMS, Cycle RMS, Positive Overshoot, Negative Overshoot.

Time – Rise Time, Fall Time, Positive Width, Negative Width, Positive Duty Cycle, Negative Duty Cycle, Period, Frequency, Delay.

Combination – Area, Cycle Area, Phase, Burst Width.

Histogram-related – Waveform count, Hits in box, Peak hits, Median, Maximum, Minimum, Peak-to-peak, Mean (μ), Standard Deviation (σ), $\mu + 1\sigma$, $\mu + 2\sigma$, $\mu + 3\sigma$.

Eye Pattern-related – Extinction Ratio (absolute, % and dB), Eye Height, Eye Top, Eye Base, Eye Width, Crossing %, Jitter (peak-peak, RMS and 6sigma), Noise (Peak-to-peak and RMS), S/N ratio, Cycle Distortion, Q-factor.

Waveform Processing/Math

Algebraic Expressions – Define extensive algebraic expressions including waveforms, scalars and results of parametric measurements e.g., (Integral (CH.1-Mean(CH.1))x1.414).

Arithmetic – Add, subtract, multiply, divide waveforms and scalars.

Relational –
Boolean result of comparison $>, <, \geq, \leq, =, \neq$.

Calculus – Integrate, differentiate.

Frequency Domain Functions – Spectral magnitude and phase, real and imaginary spectra.

Vertical Units – Magnitude: Linear, dB, dBm; Phase: Degrees, radians.

Window Functions – Rectangular, Hamming, Hanning, Kaiser-Bessel, Blackman-Harris, Gaussian, Flattop2, Tek Exponential.

Waveform Definition –
As arbitrary math expressions.

Display Characteristics

Display Type –
Liquid crystal active-matrix color display.

Display Size – Diagonal: 264 mm (10.4 in.).

Display Resolution –
1024 horizontal x 768 vertical pixels.

Waveform Styles – Vectors, Dots, Variable Persistence, Infinite Persistence.

Computer System and Peripherals

CPU – Intel Pentium 4 processor, 2.8 GHz.

PC System RAM – 1 GB (266 MHz DDR).

Hard Disk Drive – 40 GB removable hard disk drive: rear-panel standard or front-panel (option FHD).

USB Ports – One front panel, four on rear panel, USB2.0 compliant.

CD-R/W Drive – Front-panel CD-R/W standard or rear-panel (option FHD).

Mouse – Thumb wheel model included, USB interface.

Keyboard – Small keyboard included (fits in pouch). Order 119-6297-xx for full-size keyboard; USB interface and hub.

Input/Output Ports

Front Panel

Probe Compensator Output – Front panel SMA connector, requires Probe Cal-Deskew Fixture (included) for probe attachment. Amplitude 350 mV ±20% into a ≥50 Ω load, frequency 1 kHz ±5%, 200 ps typical rise time.

Recovered Clock – SMA connector, ≤1.25 Gb/s, Output swing ≥130 mV_{p-p} into 50 Ω. Requires Opt. SM or Opt. ST to enable.

Recovered Data – SMA connector, ≤1.25 Gb/s, Output swing of 1010 repeating pattern 200 mV into 50 Ω. Requires Opt. SM or Opt. ST to enable.

Probe Calibration Output –
BNC connector, ±10 V DC for DC probe calibration.

AUX Trigger Output – BNC connector, provides a TTL-compatible, polarity switchable pulse when the oscilloscope triggers.

USB2.0 Port – One in front. Allows connection or disconnection of USB keyboard, mouse or storage device while oscilloscope is on.

Rear Panel

External Time Base Reference In – BNC connector, time base system can phase-lock to external 10 MHz reference.

Time Base Reference Out – BNC connector, accepts TTL-compatible output of internal 10 MHz reference oscillator.

Aux Trigger Input – BNC, see Ext Trigger specification.

Parallel Port – IEEE 1284, DB-25 connector.

Audio Ports – Miniature phone jacks for stereo microphone input and stereo line output.

USB2.0 Ports – Four in back. Allows connection or disconnection of USB keyboard, mouse or storage device while oscilloscope power is on.

Keyboard Port – PS-2 compatible.

Mouse Port – PS-2 compatible.

LAN Port – RJ-45 connector, supports 10Base-T, 100Base-T, and 1000Base-T.

Serial Port – DB-9 COM1 port.

Windows Video Port – 15 pin D-Sub connector on the rear panel; connect a second monitor to use dual-monitor display mode allowing analysis results and plots to be viewed along with the oscilloscope display. Video is DDC2B compliant.

GPIB Port – IEEE 488.2 standard.

Scope XGA Video Port – 15 pin D-Sub connector on the rear panel, video is IBM XGA compatible. Connect to show the oscilloscope display, including live waveforms on an external monitor or projector. The primary Windows desktop can also be displayed on an external monitor using this port.

Power Source

Power – 100 to 240 V_{RMS}, ±10%, 50/60 Hz; 115 V_{RMS} ±10%, 400 Hz; CAT II, <500 W typical (650 VA).

Option SM

156 Standards Masks Supported –

ITU-T (1.544 Mb/s to 155 Mb/s)

ANSI T1.102 (1.544 Mb/s to 155 Mb/s)

Ethernet IEEE Std 802.3, ANSI X3.263 (1.544 Mb/s to 3.125 Gb/s XAUI)

Sonet/SDH (51.84 Mb/s to 2.4883 Gb/s)

Fibre Channel (133 Mb/s to 4.25 Gb/s[*2])

InfiniBand (2.5 Gb/s)

USB (12 Mb/s to 480 Mb/s)

Serial ATA (1.5 Gb/s, 3.0 Gb/s)

Serial Attached SCSI (1.5 Gb/s, 3.0 Gb/s)

IEEE 1394b (491.5 Mb/s to 1.966 Gb/s)

Rapid I/O (1.25 Gb/s to 3.125 Gb/s)

OIF Standards (2.488 Gb/s to 3.11 Gb/s)

PCI Express (2.5 Gb/s)

[*2] 4.25Gb/s mask supported using Glitch Trigger.

Physical Characteristics

BENCHTOP CONFIGURATION

Dimensions	**mm**	**in.**
Height	282	11.1
Width	457	18.0
Depth	540	23.25
Weight	**kg**	**lb.**
Net	21	47
Shipping	32.3	71.2

RACKMOUNT CONFIGURATION

Dimensions	**mm**	**in.**
Height	267	10.5
Width	491	19.3
Depth	638	25.1
Weight	**kg**	**lb.**
Net	22	49
Kit	5.6	12.25

MECHANICAL

Cooling – Required Clearance	**mm**	**in.**
Top	0 or >76	0 or >3
Bottom	25	1
Left side	76	3
Right side	76	3
Front	0	0
Rear	0	0

Environmental

Temperature

Operating – +5 ºC to +50 ºC, excluding CD-R/W drive; +10 ºC to +45 ºC, including CD-R/W drive.

Nonoperating – –22 ºC to +60 ºC.

Humidity

Operating – 20% to 80% relative humidity with a maximum wet bulb temperature of +29 ºC at or below +50 ºC, noncondensing. Upper limit derated to 25% relative humidity at +50 ºC.

Nonoperating – 5% to 90% relative humidity with a maximum wet bulb temperature of +29 ºC at or below +60 ºC, noncondensing. Upper limit derated to 20% relative humidity at +60 ºC.

Altitude

Operating – 10,000 ft. (3,048 m).

Nonoperating – 40,000 ft. (12,190 m).

Random Vibration

Operating – 0.000125 g^2/Hz from 5 to 350 Hz, –3 dB/octave from 350 to 500 Hz, 0.0000876 g^2/Hz at 500 Hz. Overall level of 0.24 g_{RMS}.

Nonoperating – 0.0175 g^2/Hz from 5 to 100 Hz, –3 dB/octave from 100 to 200 Hz, 0.00875 g^2/Hz from 200 to 350 Hz, –3 dB/octave from 350 to 500 Hz, 0.006132 g^2/Hz at 500 Hz. Overall level of 2.28 g_{RMS}.

Certifications

Electromagnetic Compatibility – 89/336/EEC.
Safety –
UL 3111-1, CSA1010.1, EN61010-1, IEC 61010-1.

▸ Ordering Information

TDS6604B

6 GHz Digital Storage Oscilloscope.

TDS6804B

8 GHz Digital Storage Oscilloscope.

TDS6604B and TDS6804B Includes:
Accessory pouch, front cover, USB mouse, PS2 mini-keyboard, user manual (071-1503-xx), quick reference kit (020-2552-xx), TDS6000B Series Documentation CD-ROM (063-3760-xx), TDS6000B Series product software CD-ROM (063-3761-xx), TDS6000B Series operating system restoration CD-ROM (063-3762-xx), TDS6000B Series optional applications software CD-ROM (063-3478-xx), performance verification procedure PDF file, GPIB programmer's reference (on product software CD-ROM), calibration certificate documenting NIST traceability, 2 540-1 compliance and ISO9000, power cord, one year warranty. (4) TekConnect® to SMA adapters (TCA-SMA), Deskew Fixture (067-0484-xx). Please specify power plug when ordering.

Instrument Options

Power Plug Options

Opt. A0 – North America power.

Opt. A1 – Universal EURO power.

Opt. A2 – United Kingdom power.

Opt. A3 – Australia power.

Opt. A5 – Switzerland power.

Opt. A6 – Japan power.

Opt. A10 – China power.

Opt. A99 – No power cord or AC adapter.

Disk Drive Options

Opt. FHD – Front-panel 40 GB removable hard disk drive, replaces front panel CD-R/W which is moved to the back.

Cables

GPIB Cable (1 m) – Order 012-0991-01.

GPIB Cable (2 m) – Order 012-0991-00.

RS-232 Cable – Order 012-1298-00.

Centronics Cable – Order 012-1214-00.

Mounting Options

1K – K4000 Oscilloscope Cart.

1R – Rackmount Kit.

Service Options

Opt. C3 – Calibration Service 3 Years.

Opt. C5 – Calibration Service 5 Years.

Opt. D1 – Calibration Data Report.

Opt. D3 – Calibration Data Report 3 Years (requires Option C3).

Opt. D5 – Calibration Data Report 5 Years (requires Option C5).

Opt. R3 – Repair Service 3 Years.

Opt. R5 – Repair Service 5 Years.

Acquisition Memory Options

2M – 8 Mb samples on all channels.

3M – 16 Mb samples on all channels.

4M – 32 Mb samples on all channels.

Software Options

CP2[*1] – TDSCPM2 ANSI/ITU Telecom pulse compliance testing software (requires option SM).

DVD – TDSDVD Optical storage analysis.

DVI – TDSDVI DVI compliance test solution.

ET3 – TDSET3 Ethernet compliance test software.

JT3 – TDSJIT3 Advanced jitter analysis software.

J3E – TDSJIT3 Essentials.

J2 – TDSDDM2 Disk drive analysis software.

PW3[2] – TDSPWR3 Power measurement and analysis software.

RTE – TDSRT-Eye™ Serial Data Compliance and Analysis Software.

RTJ – Software Bundle of TDSJIT3 (Opt. JT3) and TDSRT-Eye (Opt. RTE).

RJS – Software Bundle of TDSJIT3 (Opt. JT3), RT-Eye (Opt. RTE), and Serial Mask testing (Opt. SM).

PCE[*3] – PCI Express Compliance Module for Opt. RTE.

IBA[*3] – InfiniBand Compliance Module for Opt. RTE.

SM – Serial communications mask testing (enables hardware clock recovery).

ST – Serial pattern trigger (enables hardware clock recovery).

USB[*4] – TDSUSBS USB2.0 Compliance test S/W only.

Recommended Accessories

P7380SMA – 8 GHz Differential Probing System.

P7380 – 8 GHz Differential Probe.

AFTDS – Telecom differential electrical interface adapter (for line rates <8 MB/sec; requires TCA-BNC adapter).

Keyboard (USB interface) full-size keyboard with 4-port USB hub – Order 119-6297-00.

Transit Case – Order 016-1942-00.

TekConnect® Adapters –

TCA-1MEG: TekConnect® high-impedance buffer amplifier. Includes P6139A passive probe.

TCA-SMA: TekConnect-to-SMA Adapter.

TCA-N: TekConnect-to-N Adapter.

TCA-BNC: TekConnect-to-BNC Adapter.

TCA75: 4 GHz precision TekConnect 75 Ω to 50 Ω adapter with 75 Ω BNC input connector.

Oscilloscope Cart – Order K4000.

Software – WSTRO: WaveStar™ waveform capture and documentation software.

Test Fixtures – TDSUSBF: TDSUSB test fixture for use with Opt. USB.

[*1] Requires Opt. SM.

[*2] Opt. 3M and a TCA-1MEG TekConnect 1 MΩ buffer amplifier are recommended for use with this software.

[*3] Requires Opt. RTE (Serial Data Compliance and Analysis).

[*4] Requires Opt. TDSUSBF (USB Test Fixture).

▸ After Purchase Upgrades of TDS6000B Series Oscilloscopes

To upgrade your oscilloscope, order option as noted.

Acquisition Record Length:

Current Record Length	Desired	Order
Standard	8 Msamples	TDS6BUP Opt. M02
	16 Msamples	TDS6BUP Opt. M03
	32 Msamples	TDS6BUP Opt. M04
8 Msamples	16 Msamples	TDS6BUP Opt. M23
	32 Msamples	TDS6BUP Opt. M24
16 Msamples	32 Msamples	TDS6BUP Opt. M34

Desired Option	Order
Serial Comm Mask Testing	TDS6BUP Opt. SM
Serial Pattern Trigger	TDS6BUP Opt. ST
Hardware Clock Recovery for Serial Data Stream	Included in Opt. SM and ST
Analysis and Compliance Software	
ANSI/ITU Telecom Pulse Compliance	TDS6BUP Opt. CP2 (Requires Opt. SM)
DVD Optical Storage Analysis	TDS6BUP Opt. DVD
DVI Compliance Test	TDS6BUP Opt. DVI
Ethernet Compliance	TDS6BUP Opt. ET3
JIT3 Advanced Jitter Analysis Software	TDS6BUP Opt. JT3
JIT3 Essentials	TDS6BUP Opt. J3E
DDM2 Disk Drive Analysis Software	TDS6BUP Opt. J2
Power Measurement/Analysis	TDS6BUP Opt. PW3
RT-Eye Serial Data Compliance and Analysis Software	TDS6BUP Opt. RTE
PCI Express Compliance Module for option RTE	TDS6BUP Opt PCE (Requires Opt. RTE)
InfiniBand Compliance Module for Option RTE	TDS6BUP Opt IBA (Requires Opt. RTE)
USB2.0 Compliance, Software Only	TDS6BUP Opt. USB (Requires TDSUSBF test fixture)
RT-Eye Serial Data Analysis Software and TDSJIT3 Advanced Jitter Analysis Software Bundle	TDS6BUP Opt. RTJ
RT-Eye Serial Data Analysis, TDSJIT3 Advanced Jitter Analysis, Opt. SM Serial Mask Software Bundle	TDS6BUP Opt. RJS

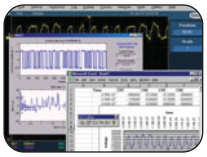
DPO – Digital Phosphor Technology

You have to see it to believe it.

A Digital Phosphor Oscilloscope (DPO) is ideal for those who need the best design and troubleshooting tool for a wide range of applications, for communication mask testing, digital debug of intermittent signals, repetitive digital design and timing applications. Covering a spectrum of bandwidth from 100 MHz to 7 GHz, Tektronix offers a wide selection of DPOs for you to see a world others don't.

OpenChoice®

Provides more choices for your networking and analysis solutions.



OpenChoice is a collection of software libraries, utilities, samples, industry-standard protocols and interfaces offered with many Tektronix oscilloscopes and logic analyzers. From 60 MHz to 6 GHz, OpenChoice allows you to communicate with your oscilloscope or logic analyzer over a network, using numerous connectivity protocols and physical interfaces, such as GPIB, Ethernet, RS-232 and shared memory.

TekConnect®

Superior signal fidelity and unparalleled versatility at your fingertips.

TekConnect interface takes probe intelligence to the next level whether you are measuring high voltage, current, power, or even micro-volt level signals. The TekConnect interface ensures superior signal fidelity with useful bandpass up to 18 GHz at the oscilloscope input, while offering unparalleled versatility. With the TekConnect interface, you can be assured that maximum signal integrity is maintained to meet your present and future bandwidth needs.

Oscilloscope Software

Turn your general purpose oscilloscope into a highly specialized analysis tool.

Tektronix offers exceptional application solutions that instill your oscilloscope with specific technology or procedure expertise, vastly simplifying the development and testing of specialized designs. From serial data standards to power measurements, Tektronix has the broadest selection of oscilloscope software to convert your oscilloscope into a highly specialized and power analysis tool.

Contact Tektronix:

ASEAN / Australasia / Pakistan (65) 6356 3900
Austria +43 2236 8092 262
Belgium +32 (2) 715 89 70
Brazil & South America 55 (11) 3741-8360
Canada 1 (800) 661-5625
Central Europe & Greece +43 2236 8092 301
Denmark +45 44 850 700
Finland +358 (9) 4783 400
France & North Africa +33 (0) 1 69 86 80 34
Germany +49 (221) 94 77 400
Hong Kong (852) 2585-6688
India (91) 80-22275577
Italy +39 (02) 25086 1
Japan 81 (3) 6714-3010
Mexico, Central America & Caribbean 52 (55) 56666-333
The Netherlands +31 (0) 23 569 5555
Norway +47 22 07 07 00
People's Republic of China 86 (10) 6235 1230
Poland +48 (0) 22 521 53 40
Republic of Korea 82 (2) 528-5299
Russia, CIS & The Baltics +358 (9) 4783 400
South Africa +27 11 254 8360
Spain +34 (91) 372 6055
Sweden +46 8 477 6503/4
Taiwan 886 (2) 2722-9622
United Kingdom & Eire +44 (0) 1344 392400
USA 1 (800) 426-2200
USA (Export Sales) 1 (503) 627-1916
For other areas contact Tektronix, Inc. at: 1 (503) 627-7111
Last Update March 01, 2004

Our most up-to-date product information is available at:
www.tektronix.com

Product(s) are manufactured in ISO registered facilities.

07/04 HB/WWW 55W-14873-5

Tektronix
Enabling Innovation