TEKTRONIX

TDS8000B

The Tektronix TDS8000B is a high-performance Digital Sampling Oscilloscope and Communications Signal Analyzer designed for the analysis of high-speed optical and electrical communication signals. Utilizing a modular architecture, the TDS8000B supports up to eight channels of acquisition with exceptional trigger jitter performance and horizontal timebase stability, driven by a Windows 2000 graphical user interface.

SPECIFICATIONS

General

Interfaces	GPIB, LAN (10/100 Base-T Ethernet), RS-232, Parallel Port (Centronics), VGA out, USB
Display	10.4-inch Color TFT LCD, 640 x 480 resolution

Physical

Power Supply	90 to 250 V AC, 45 to 66 Hz, <300 W typical
Operating Temperature	+10 to +40 °C °C
Dimensions (W×H×D)	457 mm × 343 mm × 419 mm mm
Weight	21 kg kg

Vertical System

Number of Input Channels	Up to 8 channels (4 dual-channel modules)
Vertical Resolution	14 bits
Modular Architecture Slots	4 small optical/electrical slots, 2 large optical slots
Input Impedance	50 Ω (module dependent)
Analog Bandwidth (-3 dB)	DC to 70+ GHz (module dependent)

Horizontal System

Maximum Real-Time Sampling Rate	200 kS/s (sampler rate)
Horizontal Time Base Range	2 ps/div to 5 ms/div
Maximum Record Length	16,384 points per channel
Horizontal Resolution	10 fs (minimum)
Time Base Accuracy	8 ppm (typical)
Channel-to-Channel Deskew Range	±100 ns
Minimum Horizontal Sample Interval	10 fs

Trigger System

Trigger Sources	External Direct, Prescaled (with option), Internal Clock
Trigger Modes	Auto, Normal
Direct Trigger Bandwidth	DC to 3.0 GHz
Prescaled Trigger Bandwidth	2.0 GHz to 12.5 GHz (with Option 1T)
Trigger Jitter (Phase Reference)	< 200 fs RMS (typical with 82A04 module)
Direct Trigger Sensitivity	50 mV at 100 MHz, 400 mV at 3 GHz
External Trigger Input Impedance	50 Ω, DC coupled
External Trigger Maximum Input Voltage	±2 V (DC + peak AC)
Direct Trigger Input Connector	SMA female (50 Ω)
Prescaled Trigger Input Connector	SMA female (50 Ω)
Internal Clock Output Frequency	100 kHz (nominal)

Acquisition System

Acquisition Modes	Sample, Average, Envelope
Averaging Factor Range	2 to 4096

Waveform Measurements & Analysis

Automatic Measurements	Over 80 automated measurements
Waveform Histograms	Vertical and Horizontal
FFT Window Types	Rectangular, Hamming, Hanning, Kaiser-Bessel, Blackman-Harris
Math Functions	Arithmetic, algebraic, integral, derivative, FFT
Limit and Mask Testing	Standard telecommunication and data standard masks plus user-defined masks
Jitter and Eye Diagram Analysis	Supported (module and software dependent)

Display and User Interface

Display Type	Color TFT Liquid Crystal Display
Display Size	10.4 inches (264 mm) diagonal
Display Resolution	640 × 480 pixels
Color Grading	Database-style color-graded display

Processor and Storage

Internal Operating System	Microsoft Windows 2000
Internal Storage	≥20 GB Hard Disk Drive
Removable Storage	3.5-inch 1.44 MB floppy drive
Internal CD-ROM Drive	Supported

Connectivity and Ports

GPIB Interface	IEEE-488.2 compliance
LAN Port (Ethernet)	10/100 Base-T RJ-45
USB Ports	USB 1.1 (rear panel)
Parallel Port	Centronics D-sub 25-pin
Serial Port	RS-232-C D-sub 9-pin
VGA Video Output	D-sub 15-pin
External Reference Clock Input	10 MHz (rear panel BNC)
External Reference Clock Output	10 MHz (rear panel BNC)

Power Specifications

Power Supply Voltage Range	90 to 250 V AC
Power Supply Frequency Range	45 to 66 Hz
Power Consumption (Maximum)	300 W (typical)

Environmental Specifications

Operating Temperature Range	+10 to +40 °C
Storage Temperature Range	-30 to +60 °C
Operating Humidity Range	20% to 80% RH (non-condensing)
Non-Operating Humidity Range	5% to 90% RH (non-condensing)
Operating Altitude	3,000 m (9,843 ft)
Non-Operating Altitude	12,190 m (40,000 ft)

Physical Characteristics

Form Factor	Benchtop with optional rackmount
Width	457 mm (18.0 in)
Height	343 mm (13.5 in)
Depth	419 mm (16.5 in)

Compliance and Standards

Shock and Vibration Resistance	Meets MIL-T-28800E Type III, Class 5
Calibration Interval	1 year

Display & Controls

Touch Screen	Yes

Storage

Floppy Drive	3.5 in, 1.44 MB

I/O Interfaces

PS/2 Ports	2 (1 keyboard, 1 mouse)

Modular System

Supported Optical Modules	80C00 series
Supported Electrical Modules	80E00 series

Calibrator

Calibrator Output Connector	SMA female
Calibrator Output Voltage Range	-2.5 V to +2.5 V
Calibrator Voltage Resolution	1 mV
Calibrator Voltage Accuracy	±(0.1% of setting + 1.0 mV)

Compliance

Safety Compliance Standards	UL3111-1, CSA C22.2 No. 1010.1, EN61010-1
EMC Compliance Standards	EN61326-1, FCC Part 15 Class A, AS/NZS 2064

TECHNOLOGY

Digital Sampling Oscilloscope

APPLICATIONS

High-Speed Optical and Electrical Communications Analysis, Jitter and Eye Diagram Characterization

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