TEKTRONIX

TDS5054B

Tektronix TDS5054B is a 4-channel, 500 MHz Digital Phosphor Oscilloscope from the TDS5000B Series. It offers up to 5 GS/s real-time sampling and up to 16 M point record length with a maximum waveform capture rate of 100,000 wfms/s. An embedded Windows 2000 platform with OpenChoice and MyScope features streamlines analysis and control.

SPECIFICATIONS

General

Interfaces	LAN (Ethernet), GPIB (IEEE-488), USB
Display	Color LCD with digital phosphor/intensity grading

Instrument Identification

Manufacturer	Tektronix
Series	TDS5000B Series
Model	TDS5054B
Instrument Type	Digital Phosphor Oscilloscope
Bandwidth Class	500 MHz
Analog Channels	4

Acquisition System

Maximum Sample Rate (real-time)	5 GS/s (channel-dependent)
Interpolation	sin(x)/x
FastFrame / Segmented Memory	Supported
Roll Mode Support	Supported at slow timebases
Sample Resolution (ADC)	8 bits

Vertical System

Number of Analog Channels	4
Analog Bandwidth (–3 dB)	500 MHz
Input Coupling	AC, DC, GND
Input Impedance	1 MΩ or 50 Ω (selectable)
Calculated Rise Time (10–90%)	≈ 0.7 ns (0.35/BW)
Probe Interface Type	TekProbe interface (powered, probe ID)
Probe Identification Support	Supported

Horizontal System

XY Mode	Supported

Trigger System

Trigger Sources	CH1–CH4, External, Line
Edge Trigger	Supported
Pulse Width/Glitch Trigger	Supported
Runt Trigger	Supported
Timeout Trigger	Supported
Logic/Pattern Trigger	Supported

Measurements and Analysis

Waveform Cursors	Time and Amplitude cursors

Math and Signal Processing

Basic Math	Add, Subtract, Multiply, Divide
FFT Spectrum Analysis	Supported

Display and User Interface

Digital Phosphor / Intensity Grading	Intensity-graded waveform density display
Front-Panel Controls	Dedicated knobs and keys for Vertical/Horizontal/Trigger
Windows UI Enhancements	Right-click context menus
MyScope Custom Control	User-configurable control panels

Embedded PC Platform

Operating System	Microsoft Windows 2000 Professional
OpenChoice Platform	Integrated connectivity and analysis with Windows 2000

Connectivity and Interfaces

Analog Input Connectors	BNC per channel
External Trigger Input	BNC
LAN (Ethernet)	Built-in networking (OpenChoice)
GPIB (IEEE-488)	Supported
USB Host Ports	Supported (file I/O, peripherals)

Remote Control and Automation

Programming Interface	Remote control over LAN/GPIB
SCPI Command Set	Supported (via VISA)
Driver Support	IVI / LabVIEW drivers available
Remote Protocols	VXI-11 over LAN (with VISA)

Data Storage and File Management

Internal Storage	Internal hard drive (Windows file system)
Removable Media	USB mass-storage devices
Screenshot Formats	BMP (via Windows)
Waveform File Formats	Tek .wfm, ASCII/CSV export

Physical Characteristics

Form Factor	Benchtop oscilloscope with integrated display and PC
Handle / Stand	Carrying handle; adjustable feet/tilt

Reliability and Maintenance

Self-Test / Diagnostics	Power-on self tests and system diagnostics

TECHNOLOGY

Digital Phosphor Oscilloscope (DPO) architecture