

TEKTRONIX

TDS2024C

The Tektronix TDS2024C is a 4-channel, 200 MHz Digital Storage Oscilloscope from the TDS2000C Series, featuring a digital real-time sampling rate of up to 2 GS/s on all channels, a 2.5k point record length, and built-in USB connectivity for advanced data logging and limit testing.

SPECIFICATIONS

General

Interfaces	USB 2.0 Host (front panel), USB 2.0 Device (rear panel)
Display	5.7 inches (144 mm) Active TFT Color Display

Physical

Power Supply	100 to 240 V $\pm 10\%$ (50/60 Hz), 115 V $\pm 10\%$ (400 Hz); 30 W max
Operating Temperature	0 to +50 °C °C
Dimensions (W×H×D)	326.3 mm × 158.0 mm × 124.2 mm mm
Weight	2 kg kg

Vertical System (Analog Channels)

Analog Bandwidth (-3 dB)	200 MHz
Number of Input Channels	4
Vertical Sensitivity Range	2 mV to 5 V/div with calibrated fine adjustment
Vertical Resolution (A/D Converter)	8 bits
Maximum Input Voltage	300 VRMS CAT II; derated at 20 dB/decade above 100 kHz to 13 Vp-p AC at 3 MHz
Hardware Bandwidth Limiters	20 MHz

Horizontal System & Acquisition

Maximum Real-time Sample Rate	2.0 GS/s on each channel
Maximum Record Length	2.5 k points at all time bases
Time Base Range	2.5 ns to 50 s/div

Trigger System

Advanced Triggers	Pulse Width Trigger, Line-selectable Video Trigger
Trigger Coupling	AC, DC, Noise Reject, HF Reject, LF Reject
Trigger Sources	CH1, CH2, CH3, CH4, Ext, Ext/5, AC Line
External Trigger Input Range	± 1.2 V (EXT), ± 6 V (EXT/5)
Trigger Sensitivity (Edge Trigger)	Internal: 1 div from DC to 10 MHz, 1.5 div from 10 MHz to 200 MHz; EXT: 100 mV (DC to 100 MHz), 150 mV (100 MHz to 200 MHz)

Measurements & Analysis

Automated Measurements	16 automated measurements
Waveform Math Operators	FFT Analysis
Limit and Mask Testing	Built-in Waveform Limit Testing
Extended Data Logging	Automated, Extended Data Logging Feature

General Features

Autoset & Auto-ranging	Standard Autoset and Signal Auto-ranging
Built-in Help	Context-sensitive Help Menu
Probe Check Wizard	Standard
User Interface Language	Multiple-language User Interface

Accessories & Ordering Options

Standard Bundled Software	National Instruments LabVIEW SignalExpress TE Limited Edition, Tektronix OpenChoice Software
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Power & Physical Characteristics

Depth	124 mm (4.9 inches)
Weight (Imperial)	4.4 lbs

Vertical System

Rise Time	1.75 ns
Input Coupling	AC, DC, GND
Input Impedance	1 M Ω $\pm$ 2% in parallel with 20 pF $\pm$ 3 pF
DC Vertical Accuracy	$\pm$ 3% for 10 mV/div to 5 V/div, $\pm$ 4% for 2 mV/div to 5 mV/div
Common Mode Rejection Ratio (CMRR)	100:1 at 60 Hz, reducing to 10:1 at 50 MHz with equal Volts/div settings

Horizontal System

Horizontal Zoom	Vertically or horizontally expand or contract a live or stopped waveform
Time Base Accuracy	50 ppm

Acquisition System

Acquisition Modes	Sample, Peak Detect, Average
Peak Detect Acquisition	Captures high-frequency and random glitches as narrow as 12 ns (typical)
Waveform Averaging	Selectable from 4, 16, 64, 128 waveforms

Environmental

Storage Temperature	-40 to +71 °C
Operating Altitude	Up to 3,000 m
Non-Operating Altitude	Up to 3,000 m
Operating Humidity	Up to 90% RH at or below +30 °C; up to 60% RH up to +50 °C
Non-Operating Humidity	Up to 90% RH at or below +30 °C; up to 60% RH up to +60 °C

Compliance & Certifications

Regulatory Safety Compliance	UL 61010-1:2004, CSA22.2 No. 61010-1:2004, EN 61010-1:2001, IEC 61010-1:2001
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Physical & Accessories

Standard Included Probes	TPP0201 (one per channel) 200 MHz 10X Passive Probes
Recommended Calibration Interval	1 year

Signal Processing & Math

FFT Window Types	Hanning, Hamming, Blackman-Harris, Rectangular
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Connectivity & Control

Optional GPIB Interface	Via TEK-USB-488 GPIB-to-USB Adapter
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TECHNOLOGY

Digital Storage Oscilloscope (DSO)

APPLICATIONS

Electronic Design and Debugging, Manufacturing Test, Education, Service and Repair

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