

TEKTRONIX

TDS420A

The Tektronix TDS420A is a legacy 4-channel, 200 MHz digital storage oscilloscope designed to capture transient events with a maximum 100 MS/s sample rate and a 10 ns peak detect mode. It delivers high-precision signal analysis with $\pm 1.5\%$ DC gain accuracy, 25 built-in automatic measurements, and supports up to 120 K points of record length per channel (with Option XL). The instrument features dedicated video triggers, a roll mode for real-time waveform monitoring, and a built-in floppy disk drive for convenient data storage.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE 488.2) standard; RS-232 and Centronics (by option)
Display	7-inch Monochrome CRT

Physical

Power Supply	90 to 250 VAC, 45 to 440 Hz, 240 W maximum
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Vertical System

Number of Channels	4
Analog Bandwidth	200 MHz
Calculated Rise Time	1.75 ns
Vertical Resolution	8 bits (up to 12 bits in Hi-Res mode)
Input Coupling	AC, DC, GND
Input Impedance	$1\text{ M}\Omega \pm 1\%$ // $15\text{ pF} \pm 2\text{ pF}$, or $50\text{ }\Omega \pm 1\%$
Input Sensitivity Range	1 mV/div to 10 V/div ($1\text{ M}\Omega$); 1 mV/div to 1 V/div ($50\text{ }\Omega$)
DC Gain Accuracy	$\pm 1.5\%$
Maximum Input Voltage	400 V (DC + peak AC) at $1\text{ M}\Omega$; 5 Vrms at $50\text{ }\Omega$
Offset Range	$\pm 1\text{ V}$ (1 to 99.5 mV/div); $\pm 10\text{ V}$ (100 to 995 mV/div); $\pm 100\text{ V}$ (1 to 10 V/div)
Position Range	± 5 Divisions
Channel-to-Channel Isolation	$>100:1$ at 100 MHz

Horizontal System

Maximum Sample Rate	100 MS/s
Maximum Record Length	30,000 points/channel (120,000 points/channel with Option XL)
Timebase Range	1 ns/div to 20 s/div

Trigger System

Trigger Modes	Auto, Normal, Single
Pre-Trigger Position Range	0 to 100% of record length

Acquisition System

Peak Detect Minimum Width	10 ns
Hardware Bandwidth Limits	20 MHz, 100 MHz

Measurements and Math

Automatic Waveform Measurements	25 built-in measurements
FFT	Supported (with Option XL)

Interfaces and Connectivity

Storage Media	3.5-inch Floppy Disk
Probe Interface	TekProbe BNC

Power

Maximum Power Consumption	240 W
Line Frequency Range	45 Hz to 440 Hz
Line Voltage Range	90 to 250 VAC RMS

Display

Display Type	7-inch Monochrome CRT
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Environmental

Operating Altitude	Up to 4,570 m (15,000 ft)
Non-Operating Altitude	Up to 15,240 m (50,000 ft)

Triggering

Trigger Coupling	DC, AC, HF Reject, LF Reject, Noise Reject
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TECHNOLOGY

Digital

APPLICATIONS

Electronic testing, transient analysis, video signal monitoring, and general circuit debugging

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