TEKTRONIX

TDS430A

The Tektronix TDS430A is a portable 400 MHz, 2-channel digital storage oscilloscope with a maximum real-time sampling rate of 100 MS/s. Designed for electronic debugging, circuit analysis, and video signal troubleshooting, it offers a high-fidelity vertical system with 8-bit resolution, 1.5% DC accuracy, and standard 15,000-point record length (expandable to 120,000 points with Option XL). It features a built-in 3.5-inch floppy drive for storage, 25 automatic measurements, and peak detect mode down to 10 ns.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488.2) standard; RS-232 and Centronics parallel port (with Option 05)
Display	7-inch (178 mm) monochrome CRT

Physical

Power Supply	90 to 250 V RMS, 45 to 440 Hz, maximum 180 W
Operating Temperature	0 to +50 °C °C
Dimensions (W×H×D)	363 mm × 191 mm × 472 mm mm
Weight	8.6 kg

Vertical System

Analog Bandwidth (-3 dB)	400 MHz
Calculated Rise Time	875 ps
Number of Input Channels	2
Vertical Resolution	8 bits (up to 12 bits with HiRes)
DC Gain Accuracy	±1.5%
Input Sensitivity Range	1 mV/div to 10 V/div
Input Impedance	1 MΩ in parallel with 15 pF
Input Coupling	AC, DC, GND
Maximum Input Voltage	300 V CAT II
Hardware Bandwidth Limits	20 MHz, 100 MHz
Input Capacitance	15 pF
Channel Isolation	>= 100:1 at 100 MHz
Vertical Position Range	±5 divisions
Vertical Offset Range	±1 V (1 mV/div to 99.5 mV/div), ±10 V (100 mV/div to 995 mV/div), ±100 V (1 V/div to 10 V/div)

Horizontal System

Maximum Real-Time Sampling Rate	100 MS/s
Maximum Record Length	30,000 points (standard), 120,000 points (with Option XL)
Time Base Range	1 ns/div to 20 s/div
Time Base Accuracy	±0.015% (±150 ppm)

Trigger System

Trigger Sources	Channel 1, Channel 2, Line, External
Trigger Modes	Auto, Normal, Single
Edge Triggering	Yes
Video Triggering	NTSC, PAL, SECAM, and custom formats
Pulse Triggering	Glitch, Width
Trigger Holdoff Range	200 ns to 12 s
Internal Edge Trigger Sensitivity	0.35 div (DC to 50 MHz), 1.0 div (at 400 MHz)

Acquisition System

Acquisition Modes	Sample, Envelope, Average, Peak Detect, Roll
Peak Detect Minimum Pulse Width	10 ns

Waveform Measurements and Analysis

Automatic Measurements	25 built-in measurements
Waveform Math Functions	Addition, subtraction, multiplication; FFT and Extended Math with Option 3F

Processor and Storage

Removable Storage	3.5-inch 1.44 MB MS-DOS compatible floppy drive

Environmental Specifications

Storage Temperature Range	-22 to +60 °C

Storage & Memory

Reference Waveform Storage	4 waveforms (nonvolatile)
Instrument Setup Storage	10 panel setups

Environmental

Maximum Operating Altitude	4,500 m (15,000 ft)
Maximum Non-Operating Altitude	15,000 m (50,000 ft)
Operating Humidity	Up to 95% RH at or below +30 °C

Options

Option 1M	Increases record length to 120,000 points
Option 13	Adds RS-232 and Centronics interface ports
Option 1F	Floppy disk drive is standard
Option 2F	Advanced DSP Math (adds FFT, integration, and differentiation)

Signal Outputs

Probe Compensator Output Voltage	0.5 V into ≥ 1 MOhm
Probe Compensator Output Frequency	1 kHz

Power

AC Power Source Voltage	90 V to 250 V RMS (continuous)
AC Power Source Frequency	45 Hz to 440 Hz
Maximum Power Consumption	190 W

TECHNOLOGY

Digital Storage Oscilloscope (DSO)

APPLICATIONS

Electronic troubleshooting, circuit analysis, video signal testing, design debugging