

TEKTRONIX

TDS460

The Tektronix TDS460 is a high-performance 4-channel digital digitizing oscilloscope belonging to the TDS400 series. Featuring a 350 MHz bandwidth and a unique 12-bit vertical resolution, it provides highly precise measurements and waveform acquisition capabilities, supporting up to 100 MS/s real-time sampling rate across all channels simultaneously.

SPECIFICATIONS

General

Interfaces	GPIB standard; RS-232 and Centronics parallel optional (via Option 05)
Display	17.78 cm (7-inch) monochrome CRT
Warm-up Time	20 minutes

Physical

Power Supply	90 to 250 V AC (RMS), 45 to 440 Hz, < 240 W max power consumption
Operating Temperature	0 to +50 °C °C
Dimensions (W×H×D)	362 mm × 191 mm × 471 mm mm
Weight	8.6 kg kg

Signal Acquisition and Channels

Number of Channels	4
Simultaneous Channels	4
Max Real-Time Sample Rate (1 Channel)	100 MS/s
Max Real-Time Sample Rate (Multi-Channel)	100 MS/s per channel
Vertical Resolution (A/D Converter)	8 bits
Standard Record Length	15,000 points per channel
Optional Record Length	120,000 points (with Option 1M)
Acquisition Modes	Sample, Envelope, Average, Peak Detect, High Resolution

Vertical System

Analog Bandwidth (-3 dB)	350 MHz
Calculated Rise Time	1 ns
Input Coupling	AC, DC, GND
Input Impedance	1 M Ω in parallel with 15 pF, or 50 Ω
Input Sensitivity Range	1 mV/div to 10 V/div
Bandwidth Limits	20 MHz, 100 MHz
Maximum Input Voltage (1 MOhm)	400 V (DC + peak AC)
Maximum Input Voltage (50 Ohm)	5 V RMS
DC Gain Accuracy	$\pm 1.5\%$
Hi-Res Vertical Resolution	Up to 12 bits
Channel-to-Channel Isolation	$\geq 100:1$ at 350 MHz
Vertical Position Range	± 5 divisions
Vertical Offset Range (1 mV/div to 99.5 mV/div)	± 1 V
Vertical Offset Range (100 mV/div to 995 mV/div)	± 10 V
Vertical Offset Range (1 V/div to 10 V/div)	± 100 V
Input Capacitance (1 M Ω)	15 pF

Horizontal System

Timebase Range	1 ns/div to 20 s/div
Timebase Accuracy	$\pm 0.015\%$

Trigger System

Trigger Modes	Auto, Normal, Single Sequence
Trigger Coupling	DC, AC, HF Reject, LF Reject, Noise Reject
Edge Triggering	Yes
Trigger Holdoff Range	1.5 μ s to 8 s
Internal Trigger Level Range	± 12 divisions from center screen

Waveform Measurements and Math

Automatic Measurements	25 automated measurements
Cursor Functions	Volts, Time, Paired
Waveform Math Operators	Addition, Subtraction, Multiplication

Display and User Interface

Display Type	CRT Monochrome
Display Size	17.78 cm

Connectivity and Storage

Non-Volatile Waveform Storage	4 reference waveforms
Non-Volatile Setup Storage	10 front-panel setups

Environmental and Physical

Operating Humidity	Up to 95% RH (at +30°C)
Operating Altitude	Up to 4,500 m (15,000 ft)

Accessories and Options

Standard Probes Included	P6138 10X Passive Probes
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Triggering

Internal Trigger Sensitivity (DC to 50 MHz)	0.35 div
Internal Trigger Sensitivity (50 MHz to 350 MHz)	1.0 div
Trigger Delay Range	16 ns to 250 s
Video Triggering Formats	NTSC, PAL, SECAM (with Option 05)

Waveform Processing

Advanced DSP Math Functions	FFT, Integration, Differentiation (with Option 2F)
Limit Testing	Standard

Storage

Floppy Disk Drive	3.5-inch 1.44 MB (with Option 1F)
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Power

Max Power Consumption	240 W
Line Voltage Range	90 V to 250 V AC
Line Frequency Range	45 Hz to 440 Hz

Environmental

Cooling System	Forced air, fan
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Compliance

Safety Certifications	UL 1244, CSA C22.2 No. 231, EN 61010-1
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Options

Rackmount Option	Option 1R
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Signal Output

Probe Compensator Output Voltage	0.5 V into high impedance
Probe Compensator Output Frequency	1 kHz

TECHNOLOGY

Digital Digitizing Oscilloscope

APPLICATIONS

Electronic Design, Troubleshooting, General-purpose Test and Measurement

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