

TEKTRONIX

TDS784D

The Tektronix TDS784D is a 4-channel digital oscilloscope featuring 1 GHz bandwidth, sample rates up to 4 GS/s, and a maximum waveform capture rate of 200,000 waveforms per second. It is equipped with advanced analysis capabilities including FFT, histograms, and communication signal mask testing.

SPECIFICATIONS

General

Interfaces	GPIO
Display	Color CRT
Removable Storage	Floppy Disk Drive; Iomega Zip and Zip Plus drive compatible

Physical

Power Supply	90 to 250 VRMS, 45 to 440 Hz, 300 W max
Operating Temperature	+4 to +50 (+10 to +50 with floppy) °C
Dimensions (W×H×D)	432 × 193 × 432 mm
Weight	14 kg

Vertical System

Analog Bandwidth	1 GHz
Number of Input Channels	4
Vertical Resolution	8 bits (>11 bits with averaging, >13 bits with Hi-Res)
Input Sensitivity Range	1 mV/div to 10 V/div
DC Gain Accuracy	±1%
Input Impedance	1 MΩ ±0.5% 10 pF, 50 Ω ±1%
Maximum Input Voltage (50 Ω)	5 VRMS, peaks ≤ ±25 V
Maximum Input Voltage (1 MΩ)	400 V (DC + peak AC)
Bandwidth Limits	20 MHz, 250 MHz
Vertical Coupling	AC, DC, GND
Analog Rise Time	350 ps

Horizontal System

Channel-to-Channel Deskew Range	Supported
Timebase Range	50 ps/div to 10 s/div
Timebase Accuracy	±25 ppm

Acquisition System

Maximum Real-Time Sample Rate	4 GS/s (configuration/channel dependent)
Maximum Waveform Capture Rate	400,000 waveforms/s
Maximum Record Length	Up to 8 M points (configuration dependent)
Peak Detect	1 ns
Acquisition Modes	FastFrame™ with Time Stamp

Triggering System

Advanced Trigger Types	Supported
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Measurement and Analysis

Automatic Measurements	29 (with Measurement Statistics)
Waveform Math	Advanced Math
Fast Fourier Transform (FFT)	Supported
Waveform Histograms	Supported (with Histogram Statistics)
Limit Test	Supported
Signal Analysis	Communication Signal Analysis (Mask Testing, SONET/SDH, Fibre Channel)

Input and Output Interfaces

GPIO Interface	Full GPIO Programmability
Optical Input	Optical Reference Receivers

Triggering

Trigger Coupling	AC, DC, HF Rej, LF Rej, Noise Rej
Trigger Jitter	≤8 ps RMS (typical)
Video Trigger Formats	NTSC, PAL, SECAM

Display System

Display Resolution	640 x 480 pixels
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Inputs & Outputs

External Video Output	15-pin D-sub (VGA)
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Data Storage

Saved Setups	10 front-panel setups
Reference Waveforms	4 reference waveforms

Power

Maximum Power Consumption	300 W
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Compliance

Safety Certifications	UL3111-1, CSA1010.1, EN61010-1, IEC61010-1
Electromagnetic Compatibility (EMC)	CE Mark, FCC Part 15 Class A

TECHNOLOGY

Digital

APPLICATIONS

Test equipment > Oscilloscopes > Digital

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