

TEKTRONIX

2445

The Tektronix 2445 is a high-performance, 150 MHz, four-channel analog oscilloscope designed for general-purpose, laboratory, and field service applications. Known for its advanced CRT readout, cursor measurement system, and rugged construction, the 2445 provides detailed waveform analysis with exceptional precision.

SPECIFICATIONS

General

Interfaces	GPIB (optional, Option 10)
Display	CRT (Green Phosphor, P31, with CRT Readout)

Physical

Power Supply	90 V to 250 V AC, 48 Hz to 440 Hz, 120 W max
Operating Temperature	-15 °C to +55 °C °C
Weight	9.3 kg kg

Vertical System

Bandwidth (-3 dB)	150 MHz
Rise Time	2.33 ns
Number of Channels	4
Deflection Factor Range (CH 1 & CH 2)	2 mV/div to 5 V/div
Deflection Factor Range (CH 3 & CH 4)	0.1 V/div and 0.5 V/div
Vertical Accuracy	±2%
Input Impedance (CH 1 & CH 2)	1 MΩ 15 pF (selectable to 50 Ω)
Input Impedance (CH 3 & CH 4)	1 MΩ 15 pF
Maximum Input Voltage (1 MΩ)	400 V (DC + peak AC)
Maximum Input Voltage (50 Ω)	5 V RMS
Input Coupling (CH 1 & CH 2)	AC, DC, GND
Input Coupling (CH 3 & CH 4)	DC only
Vertical Display Modes	CH 1, CH 2, ADD, ALT, CHOP, CH 3, CH 4
Invert Channel Capability	CH 2
Channel Isolation (Crosstalk)	100:1 or greater at 100 MHz
Common Mode Rejection Ratio (CMRR)	At least 20:1 at 50 MHz
Bandwidth Limit (-3 dB)	20 MHz
Vertical Chop Frequency	1 MHz
AC Coupling Low-Frequency Limit (-3 dB)	10 Hz or less (1X probe), 1 Hz or less (10X probe)
Probe Scale Factor Sensing	Automatic detection of 1X, 10X, or 100X coded probes
Input Capacitance (CH 1 & CH 2)	15 pF ± 2 pF
Input Capacitance (CH 3 & CH 4)	15 pF ± 3 pF

Horizontal System

A Sweep Rate Range	20 ns/div to 0.5 s/div
B Sweep Rate Range	20 ns/div to 50 ms/div
Sweep Rate Accuracy	±0.7%
Sweep Magnifier	x10
Horizontal Display Modes	A, A INTEN, ALT, B (Delayed)

Trigger System

Trigger Modes	Auto Level, Auto, Normal, Single Sequence
Trigger Sources	CH 1, CH 2, CH 3, CH 4, Line, Vertical
Trigger Coupling Modes	AC, DC, HF Reject, LF Reject, Noise Reject
Trigger Level Range	±18 times the VOLTS/DIV setting (CH 1 & CH 2)
Trigger Sensitivity (CH 1 & CH 2, DC Coupled)	0.35 div from DC to 30 MHz, 1.5 div at 150 MHz

X-Y Operation

X-Axis Input Source	CH 1
Y-Axis Input Source	CH 2
X-Axis Bandwidth	DC to 3 MHz
X-Y Phase Difference	Within 3° from DC to 1 MHz

CRT & Display

CRT Size	8 cm x 10 cm
Phosphor Type	P31 (standard)
Graticule Illumination Control	Adjustable
Trace Rotation Adjustment	Front panel screwdriver-adjustable

Cursor & Readout System

CRT Readout Capability	Volts, Time, Frequency, Phase, Ratio, Trigger Level
Cursor Measurement Functions	ΔV , Δt , $1/\Delta t$ (frequency)

Auxiliary Outputs & Calibrator

Calibrator Output Voltage (Amplitude)	0.5 V square wave ($\pm 1\%$) into high impedance
Calibrator Output Frequency	1 kHz ($\pm 1\%$)
CH 2 Vertical Signal Output Voltage	20 mV/div into 50 Ω
A Gate Output Voltage	TTL compatible (active high)
B Gate Output Voltage	TTL compatible (active high)

Power Supply

AC Input Voltage Range	90 V to 250 V AC
AC Input Frequency Range	48 Hz to 440 Hz
Power Consumption	120 W maximum

Physical Specifications

Width	338 mm
Height	137 mm
Depth	445 mm
Net Weight	9.3 kg
Shipping Weight	Approx. 12.7 kg
Cooling System Type	Forced-air cooling (fan)

Environmental & Reliability

Operating Temperature Range	-15 °C to +55 °C
Non-Operating Temperature Range	-62 °C to +85 °C
Operating Altitude Limit	Up to 4,600 m (15,000 ft)
Non-Operating Altitude Limit	Up to 15,200 m (50,000 ft)
Vibration Resistance	Meets MIL-T-28800C, Class 3
Shock Resistance	Meets MIL-T-28800C, Class 3

Display

CRT Accelerating Voltage	16 kV
Beam Finder	Compresses the display to within the graticule area and intensifies the trace
Graticule Type	Internal, parallax-free

Options

Option 01 (Digital Multimeter)	4.5-digit autoranging DMM, measures DCV, ACV, Ohms, and temperature
Option 05 (TV Triggering)	Compatible with SECAM, NTSC, and PAL standards; provides TV Field 1, Field 2, and Line Sync
Option 06 (Counter/Timer/Trigger - CTT)	Provides 9-digit frequency counter, period, and time interval measurements up to 150 MHz
Option 09 (Word Recognizer)	Adds a 17-bit word recognizer probe (16 data + 1 clock) to the Counter/Timer/Trigger
Option 10 (GPIB Interface)	Provides full remote programmability conforming to IEEE-488.1
Option 11 (Probe Power)	Provides power for active probes (+5 V, -5 V, +15 V, and -15 V)
Option 1R (Rackmount)	Configures the instrument for installation in a standard 19-inch rack

Compliance

Safety Standards	Certified to UL 1244, CSA C22.2 No. 231
Military Specifications	Meets MIL-T-28800C, Class 5 environmental limits

Z-Axis System

Z-Axis Input Impedance	9.1 kΩ
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Calibrator

Calibrator Loop Current	10 mA (into shorting loop)
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TECHNOLOGY

Analog

APPLICATIONS

Electronic testing and measurement

