TEKTRONIX

2445B

The Tektronix 2445B is a 150 MHz, 4-channel analog oscilloscope from the renowned Tektronix 2400 Series, known for its high-performance triggering, automated on-screen readouts, and cursor measurements.

SPECIFICATIONS

General

Interfaces	GPIB (Option 10)
Display	8 x 10 cm CRT with internal graticule and on-screen readouts

Physical

Power Supply	90 - 250 V AC, 48 - 440 Hz, 120 W maximum
Operating Temperature	-15°C to +55°C °C
Dimensions (W×H×D)	329 mm x 137 mm x 439 mm (cabinet only) mm
Weight	9.3 kg kg

Vertical System

Number of Channels	4
Bandwidth (-3 dB)	150 MHz
Rise Time	2.33 ns
Deflection Factor Range (CH 1, CH 2)	2 mV/div to 5 V/div (in 1-2-5 sequence)
Deflection Factor Range (CH 3, CH 4)	0.1 V/div and 0.5 V/div
Deflection Factor Accuracy	±2%
Variable Sensitivity Range (CH 1, CH 2)	Continuously variable between steps, extends deflection factor to at least 12.5 V/div
Vertical Input Coupling (CH 1, CH 2)	AC, DC, GND
Vertical Input Coupling (CH 3, CH 4)	DC only
Input Impedance (Resistance)	1 MΩ (±0.5%) or 50 Ω (±1%)
Input Impedance (Capacitance)	15 pF (±2 pF) (in parallel with 1 MΩ)
Maximum Safe Input Voltage (1 MΩ)	400 V (DC + peak AC)
Maximum Safe Input Voltage (50 Ω)	5 V RMS
Common Mode Rejection Ratio (CMRR)	At least 20:1 at 50 MHz
Vertical Operating Modes	CH 1, CH 2, CH 3, CH 4, ADD, ALT, CHOP, INVERT (CH 2)
Vertical Chop Frequency	Approximately 1 MHz
Channel 1 to Channel 2 Delay Match	≤ 100 ps
Signal Delay	≥ 20 ns of visible pre-trigger trace
Channel 2 Invert Capability	Selectable on Channel 2
Bandwidth Limit Filter	20 MHz
Vertical Dynamic Range (CH 1, CH 2)	±8 divisions from graticule center

Horizontal System

Time Base A Sweep Speed Range	500 ms/div to 10 ns/div (in 1-2-5 sequence)
Time Base B Sweep Speed Range	50 ms/div to 10 ns/div
Sweep Speed Accuracy	±0.7% (+15°C to +35°C, A sweep)
Horizontal Magnifier	x10 (extends fastest sweep speed to 1 ns/div)
Horizontal Operating Modes	A, A INTEN, ALT, B (Delayed)
X-Y Operation Bandwidth	DC to 3 MHz
X-Y Phase Difference	1° or less from DC to 1 MHz

Triggering System

Trigger Sources	CH 1, CH 2, CH 3, CH 4, LINE
Trigger Coupling Modes	AC, LF REJ, HF REJ, DC, NOISE REJ
Trigger Modes	AUTO LEVEL, AUTO, NORM, SINGLE SEQ
Internal Trigger Sensitivity	0.3 div from DC to 10 MHz, 1.0 div at 150 MHz

Display and CRT Specifications

CRT Type	Rectangular, internal graticule, meshless scan expansion
Display Area (Graticule Size)	8 x 10 cm
Accelerating Voltage	16 kV
Phosphor Type	P31 standard
Trace Rotation Adjustment	Front-panel screwdriver-adjustable
Z-Axis Modulation Input Impedance	9 kΩ

On-Screen Readouts and Cursor Measurements

Cursor Functions	Volts (ΔV), Time (Δt), 1/Time (1/Δt), Phase, Ratio

Signal Outputs and Calibration

Probe Calibrator Output Voltage	0.4 V (±1%) into 1 MΩ
Probe Calibrator Output Frequency	1 kHz (±20%)
Channel 1 Vertical Signal Output	20 mV/div (±10%) into 50 Ω

Physical Characteristics

Cooling System	Forced-air cooling (internal fan)

Environmental and Safety

Storage Temperature Range	-62°C to +85°C
Operating Humidity Range	Up to 95% RH at 40°C
Operating Altitude Range	Up to 4,500 m (15,000 ft)

Power Requirements

AC Line Voltage Range	90 V to 250 V AC (continuous range)
AC Line Frequency Range	48 Hz to 440 Hz
Maximum Power Consumption	120 W (typically 85 W without options)

Environmental

Environmental Shock	50 g, half-sine, 11 ms duration

Option 10 (GPIB Interface)

GPIB Interface Option (Option 10) Codes	SH1, AH1, T6, L4, SR1, RL1, PP0, DC1, DT0, C0, E1

Option 01 (DMM)

Digital Multimeter DC Voltage Accuracy	±(0.15% of reading + 1 count) (Option 01)
Digital Multimeter AC Voltage Accuracy	±(0.6% of reading + 10 counts) from 40 Hz to 20 kHz (Option 01)

Option 09 / 15 (CTT / Word Recognizer)

Word Recognizer Input Channels	17 bits (Option 09 / Option 15)

Option 06 / 09 (Counter/Timer/Trigger)

Counter/Timer Timebase Standard Accuracy	10 ppm (Option 06 / Option 09)
Counter/Timer High-Stability Timebase Accuracy	0.1 ppm (with Option 1E or 1T)

General & Interface

Setup Memory Capacity	30 front-panel setups

Auxiliary Inputs & Outputs

Maximum Z-Axis Input Voltage	30 V (DC + peak AC) / 30 V p-p at 100 kHz

Display System

Beam Finder	Compels display to within the graticule area regardless of position control settings
Graticule Illumination	Continuously variable

Options

Option 11 Probe Power Outputs	±5 V and ±15 V (up to 150 mA per output, supports 2 active probes)
Option 05 TV Trigger Formats	NTSC, PAL, SECAM

TECHNOLOGY

Analog

APPLICATIONS

Electronic testing, waveform analysis, and troubleshooting