

TEKTRONIX

DPO3032

The Tektronix DPO3032 is a 300 MHz, 2-channel Digital Phosphor Oscilloscope (DPO) belonging to the DPO3000 Series. Designed for comprehensive visualization and debugging of complex electronic systems, the DPO3032 delivers a 2.5 GS/s real-time sampling rate across all channels, a generous 5 Mpoint record length, and a dedicated Wave Inspector® control system for seamless waveform navigation.

SPECIFICATIONS

General

Interfaces	USB 2.0 Host (2 ports), USB 2.0 Device (USBTMC), LAN (10/100 Base-T Ethernet), Video Out (SVGA)
Display	9 inch (228.6 mm) widescreen TFT-LCD, 800 × 480 pixels (WVGA)

Physical

Power Supply	100 to 240 V ±10% (50/60 Hz), 115 V ±10% (400 Hz), 120 W maximum
Operating Temperature	0 °C to +50 °C °C
Dimensions (W×H×D)	416.6 mm × 203.2 mm × 137.2 mm mm
Weight	4.17 kg kg
Cooling Clearance	50 mm (2 in.) required on left side and rear of instrument

Vertical System

Analog Bandwidth (-3 dB)	300 MHz
Number of Input Channels	2
Calculated Rise Time (10% to 90%)	1.17 ns
Input Impedance	1 M Ω $\pm$ 1% (13 pF $\pm$ 2 pF), 50 Ω $\pm$ 1%
Input Coupling	AC, DC, GND
Vertical Resolution (ADC)	8 bits (11 bits with HiRes)
DC Gain Accuracy	$\pm$ 1.5% for 5 mV/div and above, $\pm$ 2.0% for 2 mV/div, $\pm$ 2.5% for 1 mV/div
Maximum Input Voltage (1 M Ω)	300 Vrms CAT II with peaks $\leq$ $\pm$ 450 V
Maximum Input Voltage (50 Ω)	5 Vrms with peaks $\leq$ $\pm$ 20 V
Position Range	$\pm$ 5 divisions
Hardware Bandwidth Limits	20 MHz
Channel-to-Channel Isolation	$\geq$ 100:1 at $\leq$ 300 MHz
Offset Range (1 mV/div to 50 mV/div)	$\pm$ 1 V
Offset Range (50.5 mV/div to 99.5 mV/div)	$\pm$ 0.5 V
Offset Range (100 mV/div to 500 mV/div)	$\pm$ 10 V
Offset Range (1 V/div to 5 V/div)	$\pm$ 100 V
Offset Range (5.05 V/div to 10 V/div)	$\pm$ 50 V
Probe Interface	TekVPI
Vertical Sensitivity Range (1 M Ω)	1 mV/div to 10 V/div
Vertical Sensitivity Range (50 Ω)	1 mV/div to 1 V/div

Horizontal System

Maximum Real-Time Sampling Rate	2.5 GS/s (on all channels)
Maximum Record Length	5 Mpoints (on all channels)
Time Base Range	1 ns/div to 1000 s/div
Time Base Delay Time Range	-10 divisions to 5000 s
Channel-to-Channel Deskew Range	$\pm$ 100 ns
Time Base Accuracy	$\pm$ 10 ppm

Trigger System

Trigger Sources	CH1, CH2, Line, External
Trigger Modes	Auto, Normal, Single
Trigger Coupling	DC, AC, HF Reject (> 50 kHz), LF Reject (< 50 kHz), Noise Reject
Trigger Holdoff Range	20 ns to 8 s
Edge Triggering	Standard
Pulse Width Triggering	Yes (4 ns to 8 s)
Runt Triggering	Yes (minimum pulse width 4 ns)
Window Triggering	No
Timeout Triggering	Yes (4 ns to 8 s)
Pattern/State Triggering	Yes
Setup/Hold Triggering	Yes
External Trigger Input Impedance	1 M Ω $\pm$ 1% (13 pF $\pm$ 2 pF)
External Trigger Maximum Input Voltage	300 Vrms CAT II with peaks $\leq$ $\pm$ 450 V
Video Trigger Formats	NTSC, PAL, SECAM, and HDTV (480i, 576i, 480p, 576p, 720p, 1080i, 1080p)

Acquisition System

Acquisition Modes	Sample, Peak Detect, Averaging, Envelope, HiRes, Roll
Peak Detect Mode Min Pulse Width	400 ps
Averaging Factor Range	2 to 512
Maximum Waveform Capture Rate	50,000 wfm/s

Waveform Measurements and Analysis

Automatic Measurements	29
Waveform Histograms	No
Basic Math Functions	Add, Subtract, Multiply, FFT
FFT Window Types	Rectangular, Hamming, Hanning, Blackman-Harris
Limit and Mask Testing	Optional (with DPO3LMT)

Display and User Interface

Color Grading / Intensity Modulation	Yes
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Connectivity and Ports

Auxiliary Output (Trigger Out)	BNC connector
Probe Calibration Output	1 kHz, 0 to 2.5 V

Environmental Specifications

Storage Temperature Range	-40 °C to +71 °C
Operating Altitude	Up to 3,000 m (10,000 ft)
Non-Operating Altitude	Up to 12,192 m (40,000 ft)

Physical Characteristics

Form Factor

Benchtop

Wave Inspector

Wave Inspector Controls

Dedicated front-panel controls for panning, zooming, playing, pausing, setting/clearing marks, and searching

Optional Analysis

Serial Bus Decode and Trigger Options

I²C, SPI, CAN, LIN, RS-232/422/485/UART, I²S/LJ/RJ/TDM (with optional application modules)

Power Analysis Option

DPO3PWR module provides automated power measurements and analysis

Software & Connectivity

Software Support

OpenChoice® Desktop, National Instruments LabVIEW
SignalExpress Tektronix Edition

Compliance & Safety

Safety Certifications

UL61010-1:2004, CAN/CSA-C22.2 No. 61010.1:2004,
EN61010-1:2001, IEC61010-1:2001

Electromagnetic Compatibility

EC Council Directive 2004/108/EC, EN61326-1:2006

Triggering

Internal Trigger Sensitivity

0.4 div from DC to 50 MHz, increasing to 1.0 div at 300 MHz

External Trigger Sensitivity

200 mV from DC to 50 MHz, increasing to 500 mV at 300 MHz

Trigger Level Range

±8 div from screen center (internal), ±8 V (external)

Inputs & Outputs

USB Host Ports

2x USB 2.0 (1 front, 1 rear)

USB Device Port

1x USB 2.0 (rear, supports PictBridge and PC communication)

LAN Port

1x RJ-45, 10/100Base-T Ethernet

Video Output Port

1x DB-15 VGA connector

GPIO Interface

Optional via TEK-USB-488 adapter

Serial Bus & Options

Optional Application Modules

DPO3AERO (MIL-STD-1553), DPO3AUDIO (I2S/LJ/RJ/TDM),
DPO3AUTO (CAN/LIN), DPO3COMP (RS-232/422/485/UART),
DPO3EMBD (I2C/SPI), DPO3FLEX (FlexRay), DPO3PWR (Power
Analysis)

TECHNOLOGY

Digital Phosphor Oscilloscope (DPO)

APPLICATIONS

Electronic design, debug, serial bus troubleshooting, and power measurement

