

TEKTRONIX

DPO3034

The Tektronix DPO3034 is a high-performance 300 MHz, 4-channel digital phosphor oscilloscope from the DPO3000 Series. Featuring a standard 5 Mpoint record length on all channels, a 2.5 GS/s real-time sample rate, and a 50,000 wfm/s waveform capture rate, it is designed for comprehensive visualization, search, and serial bus debugging. It features the innovative Wave Inspector® controls and a 9-inch widescreen WVGA display for streamlined electronic troubleshooting.

SPECIFICATIONS

General

Interfaces	USB 2.0 Host (1x front, 1x rear), USB 2.0 Device (USBTMC), LAN (10/100 Base-T Ethernet), Video Out (DB-15)
Display	9.0 in (229 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 power consumption
Operating Temperature	0 to +50 °C °C
Dimensions (W×H×D)	416.6 × 203.2 × 137.2 mm mm
Weight	4.2 kg kg
Rackmount Size	5U

Vertical System

Analog Bandwidth (-3 dB)	300 MHz
Calculated Rise Time (10% to 90%)	1.17 ns
Number of Input Channels	4
Input Impedance	1 MΩ ± 1% 13 pF ± 2 pF, 50 Ω ± 1%
Input Coupling	AC, DC
Vertical Resolution (ADC)	8 bits
DC Gain Accuracy	±1.5% (for 5 mV/div and above), ±2.0% (for 2 mV/div), ±2.5% (for 1 mV/div)
Maximum Input Voltage (1 MΩ)	300 V RMS CAT II
Maximum Input Voltage (50 Ω)	5 V RMS
Vertical Sensitivity Range (1 MΩ)	1 mV/div to 10 V/div
Vertical Sensitivity Range (50 Ω)	1 mV/div to 1 V/div
Channel-to-Channel Isolation	≥ 100:1 at ≤ 100 MHz, ≥ 30:1 at > 100 MHz up to rated bandwidth
Hardware Bandwidth Limits	20 MHz, 150 MHz

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 250 s/div
Time Base Accuracy	±10 ppm
Channel-to-Channel Deskew Range	±75 ns
Horizontal Delay Range	-10 divisions to 5000 s
Time Base Delay Time Range	-10 divisions to 5000 s

Trigger System

Trigger Modes	Auto, Normal, Single
Trigger Coupling	DC, AC, HF Reject, LF Reject, Noise Reject
Trigger Holdoff Range	20 ns to 8 s
Edge Triggering	Positive or negative slope on any channel
Pulse Width Triggering	Trigger on width of positive or negative pulses (4 ns to 8 s)
Runt Triggering	Trigger on a pulse that crosses one threshold but fails to cross a second threshold
Window Triggering	Trigger on an event that enters or exits a window defined by two thresholds
Timeout Triggering	Trigger on an event that remains high, low, or either for a specified time (4 ns to 8 s)
Pattern/State Triggering	Trigger when pattern goes false or stays true for specified period of time
Setup/Hold Triggering	Trigger on violations of setup/hold times between clock and data
Video Triggering	NTSC, PAL, SECAM signals on all lines, odd/even/all fields
Serial Bus Triggering (Options)	I2C, SPI, CAN, LIN, RS-232/422/485/UART
Trigger Level Range, Internal	±8 divisions from center of screen
Trigger Level Range, External	Not applicable (External trigger is available on 2-channel models only)
Trigger Sensitivity, DC Coupled	0.5 div from DC to 50 MHz, increasing to 1 div at rated bandwidth
Trigger Jitter	< 8 ps RMS (typical)
Trigger After Time Range	4 ns to 8 s
Trigger After Events Range	1 to 9,999,999

Acquisition System

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

Waveform Measurements and Analysis

Automatic Voltage Measurements	Amplitude, High, Low, Max, Min, Peak-to-Peak, Mean, Cycle Mean, RMS, Cycle RMS, Positive Overshoot, Negative Overshoot
Automatic Time Measurements	Period, Frequency, Rise Time, Fall Time, Positive Width, Negative Width, Duty Cycle, Delay, Phase, Burst Width
Measurement Statistics	Mean, Minimum, Maximum, Standard Deviation
Waveform Histograms	Not supported
Basic Math Functions	Add, Subtract, Multiply, Divide
Advanced Math & Formula Editor	Not supported
FFT Window Types	Rectangular, Hamming, Hanning, Blackman-Harris

Display and User Interface

Waveform Display Formats	YT, XY
Color Grading	Intensity-graded digital phosphor display

Connectivity and Ports

Auxiliary Output (Trigger Out)	BNC, provides trigger signal
Probe Calibration Output	1 kHz, 2.5 V amplitude square wave
Probe Interface	TekVPI Probe Interface

Environmental Specifications

Storage Temperature	-40 °C to +71 °C
Operating Humidity Range	5% to 95% RH at or below +30 °C; 5% to 45% RH up to +50 °C
Non-Operating Humidity Range	5% to 95% RH at or below +30 °C; 5% to 45% RH up to +80 °C
Operating Altitude	Up to 3,000 m (9,843 ft)
Non-Operating Altitude	Up to 12,000 m (39,370 ft)

Physical Characteristics

Form Factor	Benchtop
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External Trigger Input

External Trigger Input Impedance	Not applicable
External Trigger Max Input Voltage	Not applicable

Wave Inspector

Wave Inspector Search Criteria	Edge, Pulse Width, Runt, Timeout, Pattern, State, Setup/Hold, Window, and Serial Bus Packet Content
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Waveform Measurements

Measurement Gating	Screen or Cursors
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Auxiliary Outputs

Probe Compensator Output Voltage	0 to 2.5 V
Probe Compensator Output Frequency	1 kHz

Display System

Display Graticule	8 × 10 divisions
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Power

Power Consumption	120 W maximum
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Software & Connectivity

Supported Software	OpenChoice Desktop, NI LabVIEW SignalExpress Tektronix Edition
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Interfaces & Connectivity

USB Host Ports	2 ports (1 front, 1 rear), USB 2.0 High-speed
USB Device Port	1 port (rear panel), USB 2.0 High-speed (supports USBTMC)
LAN Port	RJ-45, 10/100Base-T Ethernet
Video Out Port	DB-15 female, SVGA resolution
Security Slot	Kensington lock slot on rear panel

Power & Environmental

Power Source Voltage	100 to 240 V ±10%
Power Source Frequency	50 to 60 Hz (100 to 240 V), 400 Hz ±10% (115 V)
Vibration (Operating)	0.31 g RMS, 5 Hz to 500 Hz, 10 minutes per axis, 3 axes
Vibration (Non-operating)	2.46 g RMS, 5 Hz to 500 Hz, 10 minutes per axis, 3 axes
Shock (Operating)	30 g, 11 ms, half-sine
Shock (Non-operating)	50 g, 11 ms, half-sine

Measurements

Cursor Types	Screen, Waveform
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Waveform Analysis

Wave Inspector Controls	Dedicated front-panel controls for zoom, pan, play/pause, search, and user marks
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TECHNOLOGY

Digital Phosphor

APPLICATIONS

Embedded Design, Serial Debugging, Power Measurement, and General Electronic Troubleshooting

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