

MDO3000 Series Mixed Domain Oscilloscope Configuration Guide

Step 1. Start by selecting an MDO3000 model based on number of analog channels and analog channel bandwidth you need.

Choose the bandwidth you need today. You can upgrade it later by purchasing an upgrade kit. All MDO3000 Series models include a spectrum analyzer input.

	Model	Analog Channels	Analog Bandwidth	Spectrum Analyzer Frequency Range
<input type="checkbox"/>	MDO3104	4	1 GHz	9 kHz – 1 GHz
<input type="checkbox"/>	MDO3102	2	1 GHz	9 kHz – 1 GHz
<input type="checkbox"/>	MDO3054	4	500 MHz	9 kHz – 500 MHz
<input type="checkbox"/>	MDO3052	2	500 MHz	9 kHz – 500 MHz
<input type="checkbox"/>	MDO3034	4	350 MHz	9 kHz – 350 MHz
<input type="checkbox"/>	MDO3032	2	350 MHz	9 kHz – 350 MHz
<input type="checkbox"/>	MDO3024	4	200 MHz	9 kHz – 200 MHz
<input type="checkbox"/>	MDO3022	2	200 MHz	9 kHz – 200 MHz
<input type="checkbox"/>	MDO3014	4	100 MHz	9 kHz – 100 MHz
<input type="checkbox"/>	MDO3012	2	100 MHz	9 kHz – 100 MHz

Every MDO3000 includes:

- Passive Probe per Analog Channel; TPP0250 (100, 200 MHz models), TPP0500B (350, 500 MHz models) or TPP1000 (1 GHz models) Passive Voltage Probes
- N-to-BNC Adapter
- Installation and Safety Guide
- CD containing Documentation and OpenChoice® Desktop Communication Software
- Calibration Certificate
- Accessory Bag
- Power Cord
- 3-year Warranty

Step 2. Add instrument functionality¹

	Option	Description
<input type="checkbox"/>	MDO3AFG	Arbitrary Function Generator
<input type="checkbox"/>	MDO3MSO	16 Digital Channels (includes P6316 digital probes and accessories)
<input type="checkbox"/>	MDO3SA	Spectrum Analyzer extended to 9 kHz – 3 GHz

Digital Voltmeter (DVM) available free with product registration.

¹Instrument functionality can be ordered with the instrument or later as upgrade kit.

Step 3. Add optional serial bus triggering, decode and search capabilities

	Option	Description
<input type="checkbox"/>	MDO3AERO	Aerospace (MIL-STD 1553)
<input type="checkbox"/>	MDO3AUDIO	Audio (I ² S, LJ, RJ, TDM)
<input type="checkbox"/>	MDO3AUTO	Automotive (CAN, LIN)
<input type="checkbox"/>	MDO3COMP	Computer (RS-232/422/485/UART)
<input type="checkbox"/>	MDO3EMBD	Embedded (I ² C, SPI)
<input type="checkbox"/>	MDO3FLEX	FlexRay
<input type="checkbox"/>	MDO3USB	USB (USB2.0 LS, FS, HS ²)

Differential serial bus? Be sure to check Step 6 for differential probes.

²USB high-speed supported only on models with 1 GHz bandwidth

Step 4. Add optional power measurement and analysis capabilities

	Option	Description
<input type="checkbox"/>	MDO3PWR	Power measurement and analysis
<input type="checkbox"/>	TEK-DPG	TekVPI deskew pulse generator signal source
<input type="checkbox"/>	067-1686-xx	Power measurement deskew and calibration fixture

Making current, high voltage, low voltage measurements? Check Step 6 for probes specific to your application.

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Step 5. Add additional analysis capabilities

- | | | |
|--------------------------|----------------------|------------------------|
| <input type="checkbox"/> | DPO4LMT ³ | Limit and mask testing |
|--------------------------|----------------------|------------------------|

³ ≥350 MHz bandwidth recommended for mask testing on telecomm standards >55 Mb/s.
1 GHz bandwidth recommended for mask testing on high-speed (HS) USB.

Step 6. Add additional probes

- | | | |
|--------------------------|------------------------|--|
| <input type="checkbox"/> | TAP1500 | 1.5 GHz TekVPI® active single-ended voltage probe |
| <input type="checkbox"/> | TCP0150 | 20 MHz TekVPI® 150 Ampere AC/DC current probe |
| <input type="checkbox"/> | TDP0500 | 500 MHz TekVPI® differential voltage probe, ±42 V differential input voltage |
| <input type="checkbox"/> | TDP1000 | 1 GHz TekVPI® differential voltage probe, ±42 V differential input voltage |
| <input type="checkbox"/> | THDP0100 | ±6 kV, 100 MHz TekVPI® high-voltage differential probe |
| <input type="checkbox"/> | THDP0200 | ±1.5 kV, 200 MHz TekVPI® high-voltage differential probe |
| <input type="checkbox"/> | TMDP0200 | ±750 V, 200 MHz TekVPI® high-voltage differential probe |
| <input type="checkbox"/> | TPP0502 | 500 MHz, 2X TekVPI® passive voltage probe, 12.7 pF input capacitance |
| <input type="checkbox"/> | TPP0850 | 2.5 kV, 800 MHz, 50X TekVPI® passive high-voltage probe |
| <input type="checkbox"/> | TPA-N-BNC ⁴ | TekVPI® to TekProbe™ BNC adapter |

Looking for other probes? Check out the probe selector tool at www.tek.com/probes.
Planning to use your probe on the Spectrum Analyzer input? Check the TPA-N-VPI in Step 7.

⁴ Recommended for connecting your existing TekProbe probes to the MDO3000.

Step 7. Add spectrum analyzer accessories

- | | | |
|--------------------------|-----------|---|
| <input type="checkbox"/> | TPA-N-PRE | External Preamplifier, 12 dB nominal Gain, 9 kHz to 6 GHz |
| <input type="checkbox"/> | TPA-N-VPI | Probe adapter from Type-N connector to TekVPI |
| <input type="checkbox"/> | 119414600 | Near field probe set, 100 kHz to 1 GHz |
| <input type="checkbox"/> | 119660900 | Flexible monopole antenna, 5 MHz to 1080 MHz |

Step 8. Add additional I/O capabilities

- | | | |
|--------------------------|-------------|--|
| <input type="checkbox"/> | MDO3SEC | Password protected security to enable or disable all communication ports and firmware upgrades |
| <input type="checkbox"/> | TEK-USB-488 | GPIO-to-USB adapter |

Instruments ship with (2) USB host ports, (1) USB device port, (1) LAN port

Step 9. Add mounting or traveling accessories

- | | | |
|--------------------------|-----------|---------------------------------------|
| <input type="checkbox"/> | ACD3000 | Soft carrying case |
| <input type="checkbox"/> | HCTEK4321 | Hard carrying case (requires ACD3000) |
| <input type="checkbox"/> | RMD3000 | Rackmount kit |

Step 10. Select power cord and manual options

Power cord (no charge)	<input type="checkbox"/> A0-North America	<input type="checkbox"/> A6-Japan	
	<input type="checkbox"/> A1-Universal Euro	<input type="checkbox"/> A10-China	
User manual (no charge)	<input type="checkbox"/> A2-United Kingdom	<input type="checkbox"/> A11-India	
	<input type="checkbox"/> A3-Australia	<input type="checkbox"/> A12-Brazil	
	<input type="checkbox"/> A5-Switzerland	<input type="checkbox"/> A99-No power cord	
	<input type="checkbox"/> L0-English	<input type="checkbox"/> L4-Spanish	<input type="checkbox"/> L8-Traditional Chinese
	<input type="checkbox"/> L1-French	<input type="checkbox"/> L5-Japanese	<input type="checkbox"/> L9-Korean
	<input type="checkbox"/> L2-Italian	<input type="checkbox"/> L6-Portuguese	<input type="checkbox"/> L10-Russian
	<input type="checkbox"/> L3-German	<input type="checkbox"/> L7-Simplified Chinese	<input type="checkbox"/> L99-No manual

Step 11. Add extended service and calibration

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|--------------------------|----|--|
| <input type="checkbox"/> | C3 | Calibration service 3 years |
| <input type="checkbox"/> | C5 | Calibration service 5 years |
| <input type="checkbox"/> | R5 | Repair service 5 years (including warranty) |
| <input type="checkbox"/> | G3 | Complete care 3 years (includes loaner, scheduled calibration, and more) |
| <input type="checkbox"/> | G5 | Complete care 5 years (includes loaner, scheduled calibration, and more) |
| <input type="checkbox"/> | D1 | Calibration data report |
| <input type="checkbox"/> | D3 | Calibration data report 3 years (with C3) |
| <input type="checkbox"/> | D5 | Calibration data report 5 years (with C5) |