2010 Product Catalog
Test & Measurement Solutions
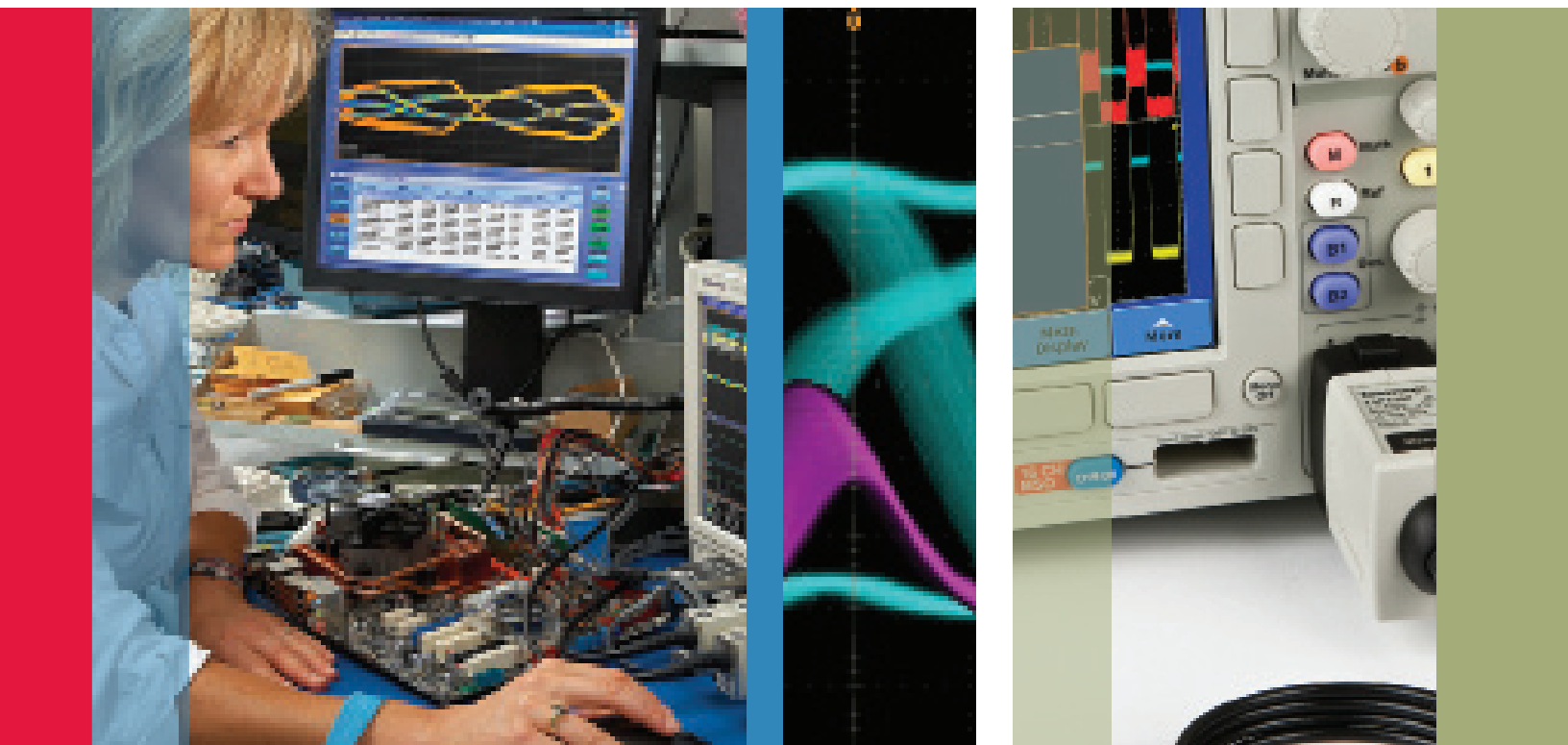
Tektronix®

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Tektronix: The World's Standard in Oscilloscopes

8 out of 10 engineers around the world trust Tektronix to help them speed debug and test of tomorrow's designs. With the broadest portfolio of scopes available, the richest set of product features, the most extensive analysis capability and our award-winning service and support, Tektronix has the right oscilloscope to meet your need. Innovators like you, committed to using the best, have made Tektronix the dominant provider of oscilloscopes around the world for more than 60 years.

- Basic Oscilloscopes for lowest cost signal visualization and troubleshooting.
- Bench Oscilloscopes up to 1 GHz bandwidth for debug and analysis of embedded system designs with analog, digital, and serial signals.
- Performance Oscilloscopes for analysis, characterization and automated compliance test of 1st and 2nd generation serial data standards, memory and RF devices including up to 20 GHz bandwidth for 3rd generation serial data standards and the fastest optical and electrical technologies.

Tektronix Online:

www.tektronix.com

Tektronix website is a reliable resource for the latest information on products, application and technology solutions, with online selection tools to guide you to the appropriate product to fulfill your need. You will also find a library of educational materials to help you master the challenges of your application and get the best out of your tools, including Primers, How-To Videos and Webinars.

Technical Content

Enhance your understanding of technology, application and product with the latest resources covering fundamentals and advanced topics.

www.tektronix.com/techpapers

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- Online look-up Tool
- Calibration

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Product Demos

Test-drive products on-line.

www.tektronix.com

Webinars

Learn the latest tips and tricks to address your application challenges.
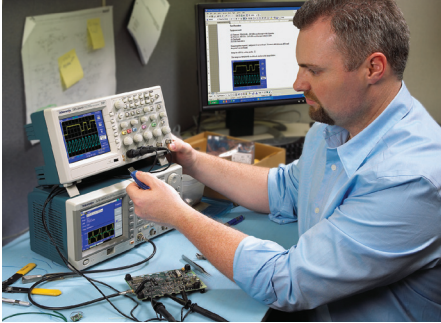
www.tektronix.com/tutorials

Videos

See and hear expert demonstrations and discussions.
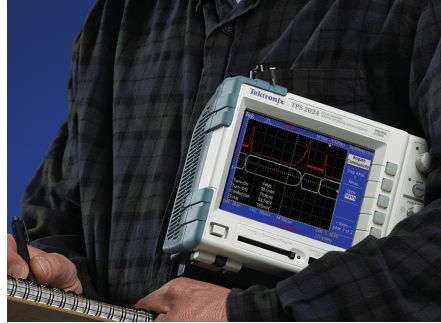
www.tektronix.com

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www.tektronix.com/rss

Oscilloscope Selection Guide
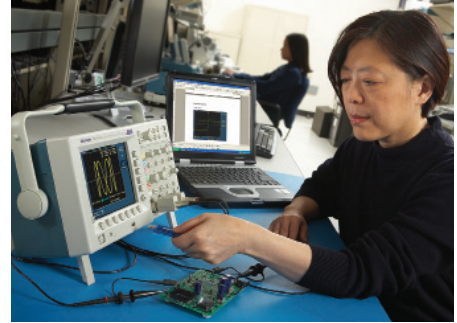
TDS2000B Series

TPS2000 Series

TDS3000C Series

Basic Oscilloscope Product Selection

To accurately visualize the intricate details of fast changing signals, you need an oscilloscope with uncompromised performance. Tektronix basic oscilloscopes feature digital real-time sampling with at least x5 oversampling on all channels, all the time, to precisely capture today's complex signals.

|	TDS1000B/TDS2000B	TPS2000	TDS3000C
Channels	2, 4	2, 4 (isolated)	2, 4
Bandwidth	40 MHz to 200 MHz	100 MHz to 200 MHz	100 MHz to 500 MHz
Rise Time	5.8 ns to 2.1 ns	3.5 ns to 2.1 ns	3.5 ns to 700 ps
Sample Rate	500 MS/s to 2 GS/s	1 GS/s to 2 GS/s	1.25 GS/s to 5 GS/s
Max Record Length	2.5 k points	2.5 k points	10 k points
Trigger Types	Edge, Pulse (width), Video	Edge, Pulse (width), Video	Edge, Logic (Pattern, State), Pulse (Glitch, Width, Runt, Slew Rate), Video, Extended Video*, Comm* *Optional
Connectivity	USB Host, USB Device, GPIB* *Optional	RS-232, Centronics, CompactFlash	USB Host, LAN (10Base-T Ethernet), GPIB*, RS-232*, Video Out* *Optional
Waveform Math and Analysis	12 Automated Measurements, Arithmetic Waveform Math, FFT	11 Automated Measurements, Arithmetic Waveform Math, FFT	25 Automated Measurements, Arithmetic Waveform Math, FFT, Advanced Math* *Optional
Software	PC Communications Software: OpenChoice® Desktop, NI LabVIEW SignalExpress™ Tektronix Edition	PC Communications Software: OpenChoice® Desktop	PC Communications Software: OpenChoice® Desktop, NI LabVIEW SignalExpress™ Tektronix Edition
Applications	■ Design and Debug ■ Education and Training ■ Manufacturing Test and Quality Control ■ Service and Repair	■ Portable Power Troubleshooting ■ Electronics Design and Installation ■ Automotive Electronics ■ Education	■ Design and Debug ■ Video Design and Service ■ Telecomm Mask Testing and Manufacturing ■ Manufacturing Test and Quality Control ■ Service and Repair
	see page 7	see page 7	see page 7

Probe Selector Tool: Find the best probe for your needs at: www.tektronix.com/probes

Oscilloscope Selection Guide
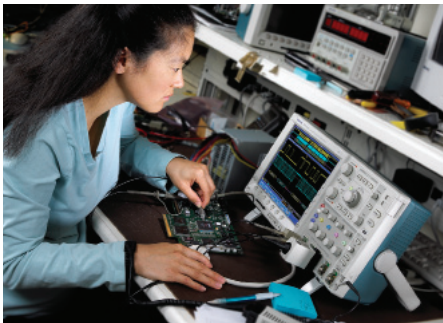
DPO3000 Series

DPO4000 Series
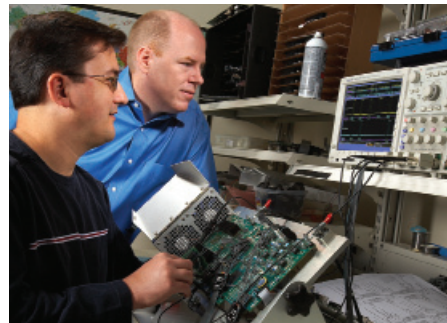
MSO4000 Series

Bench Oscilloscope Product Selection

With the MSO/DPO Series of bench oscilloscopes, you can analyze analog and digital signals with a single instrument. Combine that with automated serial and parallel bus analysis, innovative Wave Inspector® controls for rapid waveform navigation, and automated power measurements, and the MSO/DPO Series provides the feature-rich tools you need to simplify and speed debug of your complex design.

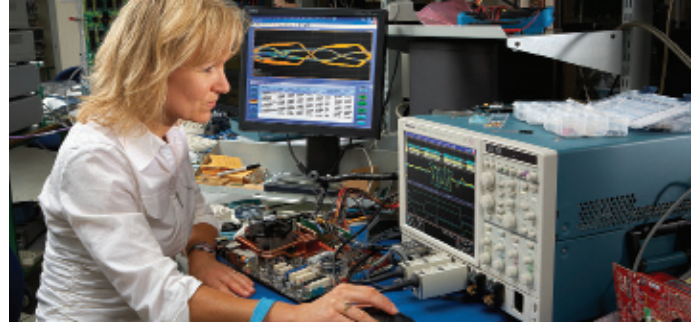|	MSO/DPO2000	MSO/DPO3000	MSO/DPO4000
Channels	2, 4 analog channels 16 digital channels	2,4 analog channels 16 digital channels	4 analog channels 16 digital channels
Bandwidth	100 MHz and 200 MHz	100 MHz to 500 MHz	350 MHz to 1 GHz
Rise Time	3.5 ns to 2.1 ns	3.5 ns to 700 ps	1 ns to 350 ps
Sample Rate	1 GS/s (analog) 1 GS/s (digital, only 1 pod) 500 MS/s (digital, both pods)	2.5 GS/s (analog) 121.2 ps (8.25 GS/s) MagniVU™ (digital)	2.5 GS/s to 5 GS/s (analog) 60.6 ps (16.5 GS/s) MagniVU™ (digital)
Max Record Length	1 M points	5 M points	10 M points
Trigger Types	Edge, Logic, Pulse Width, Runt, Set-up and Hold, Rise/Fall Time, Video, I²C*, SPI*, CAN*, LIN*, RS-232/422/485/UART*, Parallel (MSO2000) *Optional	Edge, Sequence, Logic, Pulse Width, Runt, Set-up and Hold, Rise/Fall Time, Video, Extended Video*, I²C*, SPI*, CAN*, LIN*, RS-232/422/485/UART*, I²S/LJ/RJ/TDM*, Parallel (MSO3000) *Optional	Edge, Sequence, Logic, Pulse Width, Runt, Set-up and Hold, Rise/Fall Time, Video, Extended Video*, I²C*, SPI*, USB*, CAN*, LIN*, FlexRay*, RS-232/422/485/UART*, I²S/LJ/RJ/TDM*, Parallel (MSO4000) *Optional
Optional Serial Bus Decode and Analysis	DPO2AUTO: CAN and LIN DPO2COMP: RS-232/422/485/UART DPO2EMBD: I²C, SPI	DPO3AUDIO: I²S, LJ, RJ, TDM DPO3AUTO: CAN and LIN DPO3COMP: RS-232/422/485/UART DPO3EMBD: I²C, SPI	DPO4AUDIO: I²S, LJ, RJ, TDM DPO4AUTO: CAN and LIN DPO4AUTOMAX: CAN, LIN and FlexRay DPO4COMP: RS-232/422/485/UART DPO4EMBD: I²C, SPI DPO4USB: USB
Connectivity	USB Host, USB Device, GPIB*, LAN (10/100-Base-T Ethernet)*, Video Out* *Optional	USB Host, USB Device, LAN (10/100 Base-T Ethernet), Video Out, GPIB* *Optional	USB Host, USB Device, CompactFlash, LAN (10/100 Base-T Ethernet), Video Out, GPIB* *Optional
Waveform Math and Analysis	29 Automated Measurements, Waveform and Screen Cursors, Arithmetic Waveform Math, FFT	29 Automated Measurements, Waveform and Screen Cursors, Arithmetic Waveform Math, FFT, Advanced Math, Measurement Statistics, Power Analysis* *Optional	29 Automated Measurements, Waveform and Screen Cursors, Arithmetic Waveform Math, FFT, Advanced Math, Measurement Statistics, Waveform Histograms, Power Analysis* *Optional
Software	PC communications software: OpenChoice® Desktop, NI LabVIEW Signal Express™ Tektronix Edition	PC Communications Software: OpenChoice® Desktop, NI LabVIEW Signal Express™ Tektronix Edition	PC Communications Software: OpenChoice® Desktop, NI LabVIEW Signal Express™ Tektronix Edition
Applications	■ Mixed Signal Design and Debug ■ Embedded Design and Debug ■ Investigation of Transient Phenomena ■ Automotive Electronics ■ Manufacturing Test and Quality Control	■ Mixed Signal Design and Debug ■ Embedded Design and Debug ■ Investigation of Transient Phenomena ■ Power Measurements ■ Video Design and Debug ■ Automotive Electronics ■ Manufacturing Test and Quality Control	■ Mixed Signal Design and Debug ■ Embedded Design and Debug ■ Investigation of Transient Phenomena ■ Power Measurements ■ Video Design and Debug ■ Automotive Electronics ■ Manufacturing Test and Quality Control

DPO7000 Series

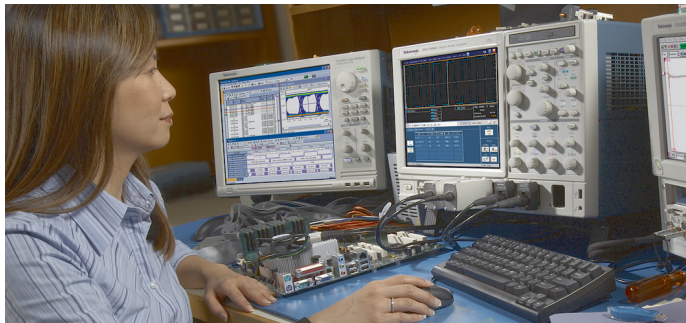MSO70000 Series

Performance Oscilloscope Product Selection

Tektronix Performance Oscilloscopes contain the analysis tools needed to speed up critical Serial and RF Design verification & debugging. The DPO/DSA Performance Oscilloscopes and MSO70000 Mixed Signal Oscilloscopes have access to greater than 30 different analysis and debugging packages.

	DPO7000	MSO70000
Channels	4	4 + 16 Logic
Bandwidth	500 MHz to 3.5 GHz	4 to 20 GHz
Rise Time	95 ps to 310 ps	14 ps to 68 ps *¹User Selectable DSP enhanced.*
Sample Rate	Up to 40 GS/s	25 GS/s on 4, 6, 8 GHz models; 50 GS/s on 12.5, 16, 20 GHz models.
Max Record Length	Up to 400 M	Up to 100 M on 4, 6, 8 GHz models; Up to 250 M on 12.5, 16, 20 GHz models.
Trigger Types	Pinpoint Triggering, Edge, Logic (Pattern State/Setup/Hold), Pulse (Glitch, Width, Runt, Timeout, Transition), Comm*, Serial Pattern*, I²C, SPI, RS-232, CAN* *Optional	Pinpoint Triggering, Edge, Logic (Pattern State/Setup/Hold), Pulse (Glitch, Width, Runt, Timeout, Transition), Comm*, 5 Gb Serial Pattern and more *Optional on DPO models
Connectivity	RS-232, GPIB, Centronic, Ethernet, Floppy Disk, LAN (10/100/1000 Base-T Ethernet), Open Access to Windows Platform, USB, DVD-ROM	RS-232, GPIB, Centronic, Ethernet, Floppy Disk, LAN (10/100/1000 Base-T Ethernet), Open Access to Windows Platform, USB, DVD-ROM
Waveform Math and Analysis	Advanced Waveform Math, FFT or Spectral, Compatability with Windows Analysis and Productivity Software	Advanced Waveform Math, FFT or Spectral, Compatability with Windows Analysis and Productivity Software
Software see pages 26-31	DPOJET, PWR, SignalVu™, CPM2, DDM, ET3, JIT3, PTD, USB2, VNM, DDRA, LSA, MTM, UWB, SVE, SVP, SVM	DPOJET, PWR, RT-EYE, SignalVu™, CPM, DDM, DVI, ET3, HT3, JIT3, USB2, UWB, VNM, TekExpress, DDRA, DSPT, FBD, IBA, LT, PCE, SLA, SST, SVE
Applications	■ Signal Integrity, Jitter, and Timing Analysis ■ Verification, Debug and Characterization of Sophisticated Designs ■ Long Record Search and Mark ■ Limit Testing ■ Debugging and Compliance Testing of Serial Data Streams for Telecom and Data Industry Standards ■ Investigation of Transient Phenomena ■ Power Measurements and Analysis ■ Spectral Analysis ■ Ethernet Compliance Testing ■ Low Speed Serial Triggers and CAN/LIN Decode ■ Radar/EW ■ WiMedia UWB	■ Signal Integrity, Jitter, and Timing Analysis ■ Verification, Debug and Characterization of Sophisticated Designs ■ Long Record Search and Mark ■ Limit Testing ■ Identify and trigger on DDR read and writes ■ USB High Speed and Wireless Compliance Testing ■ Design, Development and Compliance Testing of Serial Data Streams up to 8 Gb/s Rates ■ Serial Data Link Analysis (SDLA) ■ Radar/EW ■ WiMedia UWB

Probe Selector Tool: Find the best probe for your needs at: www.tektronix.com/probes

Oscilloscope Selection Guide

DPO/DSA70000 Series

DSA8200 Series

Performance Product Selection

Tektronix Performance Oscilloscopes with bandwidths up to 80 GHz, industry-best signal fidelity and the lowest noise floor provide you with the measurement accuracy to perform critical rise-time, jitter and noise measurements with confidence.

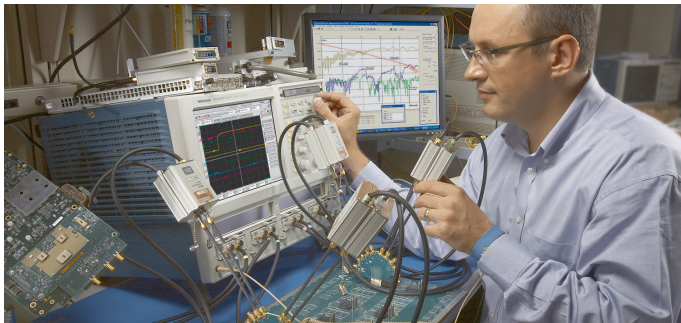|	DPO/DSA70000B	DSA8200
Channels	4	Up to 8
Bandwidth	4 to 20 GHz	DC - 80+ GHz
Rise Time	14 ps to 68 ps [1]User Selectable DSP enhanced.	5 ps
Sample Rate	25 GS/s on 4, 6, 8 GHz models; 50 GS/s on 12.5, 16, 20 GHz models.	200 kS/s (sequential)
Max Record Length	Up to 100 M on 4, 6, 8 GHz models; Up to 250 M on 12.5, 16, 20 GHz models.	–
Trigger Types	Pinpoint Triggering, Edge, Logic (Pattern State/Setup/Hold), Pulse (Glitch, Width, Runt, Timeout, Transition), Comm*, 5 Gb Serial Pattern and more *Optional on DPO models, standard on DSA models.	Edges, Internal Clock, Clock Recovery
Connectivity	RS-232, GPIB, Centronic, Ethernet, Floppy Disk, LAN (10/100/1000 Base-T Ethernet), Open Access to Windows Platform, USB, DVD-ROM	RS-232, GPIB, Centronic, Ethernet, Floppy Disk, LAN, Open Access to Windows Platform, USB, PCMCIA, CD-ROM, DVD
Waveform Math and Analysis	Advanced Waveform Math, FFT or Spectral, Compatability with Windows Analysis and Productivity Software	
Software	DPOJET, PWR, RT-EYE, SignalVu™, CPM, DDM, DVI, ET3, HT3, JIT3, USB2, UWB, VNM, TekExpress, DDRA, DSPT, FBD, IBA, LT, PCE, SLA, SST, SVE	IConnect® 80SICON, 80SOCMX, 80SSPAR, 80SJNB
Applications	■ Signal Integrity, Jitter, and Timing Analysis ■ Verification, Debug and Characterization of Sophisticated Designs ■ Long Record Search and Mark ■ Limit Testing ■ Identify and trigger on DDR read and writes ■ USB High Speed and Wireless Compliance Testing ■ Design, Development and Compliance Testing of Serial Data Streams up to 8 Gb/s Rates ■ Serial Data Link Analysis (SDLA) ■ Radar/EW ■ WiMedia UWB	■ Design/Verification of Telecom and Datacom Components and Systems ■ Manufacturing/Testing for ITU/ANSI/IEEE/SONET/SDH Conformance ■ High-Performance True Differential TDR Measurements ■ Advanced Jitter, Noise, BER and Serial Data Link Analysis ■ Impedance Characteristics and Network Analysis for Serial Data Applications Including S-parameters ■ Channel & Eye diagram Simulation and Measurement-based SPICE Modeling ■ Serial Data Link Analysis (SDLA)

Probe Selector Tool: Find the best probe for your needs at: www.tektronix.com/probes

Basic Oscilloscopes

TDS1000B/2000B Series
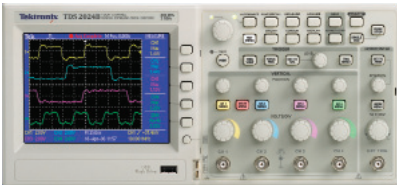
Applications

- Design and debug
- Education and training
- Manufacturing test and quality control
- Service and repair

www.tektronix.com/tds2000b

Features	Benefits
Digital real-time sampling	Accurately capture signals with at least 5X over-sampling on all channels, all the time.
Dedicated front-panel controls	Spend less time learning and more time on your task with easy-to-use front-panel controls.
Front-panel USB host port	Quickly store and transfer your waveforms.
USB plug-and-play PC connectivity	Simply transfer, analyze and document results with NI LabVIEW SignalExpress™ TE and Tektronix OpenChoice® Desktop software.
Direct print capability	Conveniently print to any PictBridge® compatible printer.
Lifetime Warranty*	Reduce your cost of ownership with the standard, Lifetime Warranty.
Just 4.4 lbs (2 kg)	Easily transport from lab-to-lab with the lightweight and compact design.

*Limitations apply. For terms and conditions, visit www.tektronix.com/lifetimewarranty

Take the TDS1000B/2000B for a spin, right from your desk.
Try the 360 degree interactive product demo at: www.tektronix.com/tds2000demo

TPS2000 Series
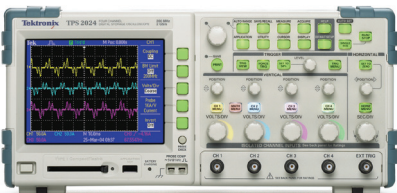
Applications

- Design and debug
- Industrial power design and debug
- Installation and maintenance
- Service and repair

www.tektronix.com/tps2000

Features	Benefits
Four isolated channels	Safely and easily make 4-channel floating measurements, including 3-phase power measurements.
Digital real-time sampling	Accurately capture signals with at least 5X over-sampling on all channels, all the time.
Dedicated front-panel controls	Spend less time learning and more time on your task with easy-to-use front-panel controls.
Front-panel CompactFlash™ port	Quickly store and transfer your waveforms.
Hot-Swappable battery pack	Work where you need to with up to 8 hours of continuous battery operation*.
Just 6 lbs (2.7 kg)	Easily transport from lab-to-lab or into the field with the lightweight and compact design.
Power measurement and analysis application module (optional)	Quickly make automatic measurements of real and apparent power, phase angle measurements, harmonics, and switching loss.

TDS3000C Series
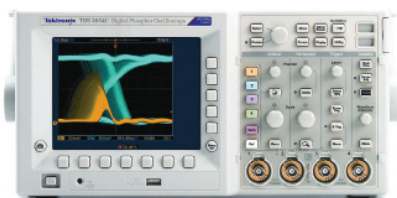
Applications

- Design and debug
- Video design and development
- Manufacturing test and quality control
- Service and repair

www.tektronix.com/tds3000c

Features	Benefits
Digital real-time sampling	Accurately capture signals with at least 5X over-sampling on all channels, all the time.
Digital phosphor display	Quickly capture and visualize glitches and infrequent events with a high waveform capture rate and intensity-graded display.
Advanced triggering	Capture digital signal anomalies with runt, glitch, rise/fall-time, and setup/hold violation triggers.
Dedicated front-panel controls	Spend less time learning and more time on the task at hand with easy-to-use front panel controls.
Front-panel USB host port	Quickly store and transfer your waveforms.
PC connectivity	Simply transfer, analyze and document results with NI LabVIEW SignalExpress™ TE and Tektronix OpenChoice® Desktop software.
Just 5.9 inches (149 mm) deep	Free up valuable bench-top space.
Battery pack (optional)	Work where you need to with up to three-hours of portable battery operation.
Application modules (optional)	Transform your oscilloscope into a specialized instrument for limit testing, telecom mask testing, and video troubleshooting.

Probe Selector Tool: Find the best probe for your needs at: www.tektronix.com/probes

Bench Oscilloscopes
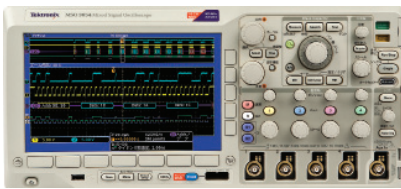
MSO/DPO2000 Series

Applications
- Design and debug of embedded systems
- Investigation of transient phenomena
- Visualization of signals masked by noise

www.tektronix.com/mso2000

Features	Benefits
Up to 4 analog and 16 digital channels	Analyze analog and digital signals on a single instrument for system-level troubleshooting of complex designs.
Digital phosphor display	Quickly discover glitches and infrequent events with a 5,000 wfm/s waveform capture rate and intensity-graded display.
Complete set of triggers	Rapidly capture signal anomalies with over 125 available trigger combinations, including setup/hold, serial packet content and parallel data.
Wave Inspector® controls	Easily search, mark and navigate long record lengths to find all occurrences of your event.
Automated Measurements	Simplify analysis of your device with 29 automated measurements and FFT analysis.
Parallel bus triggering and analysis (MSO Series)	Quickly debug your parallel bus with automated trigger, decode and search.
Serial triggering and analysis options	Quickly debug common serial buses with automated trigger, decode and search – I^2C, SPI, CAN, LIN and RS-232/422/485/UART.
FilterVu™ variable low-pass filter	Easily filter out unwanted noise without losing sight of important anomalies or glitches with the innovative peak detect glitch capture.

MSO/DPO3000 Series

Applications
- Design and debug of embedded systems
- Investigation of transient phenomena
- Power supply design and analysis

www.tektronix.com/mso3000

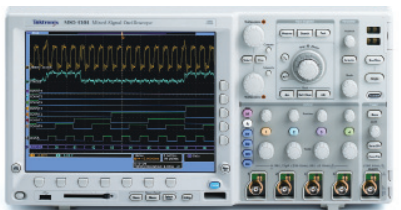| Features	Benefits
Up to 4 analog and 16 digital channels	Analyze analog and digital signals on a single instrument for system-level troubleshooting of complex designs.
Digital phosphor display	Quickly discover glitches and infrequent events with a greater than 50,000 wfm/s waveform capture rate and intensity-graded display.
Complete set of triggers	Rapidly capture signal anomalies with over 125 available trigger combinations, including setup/hold, serial packet content and parallel data.
Wave Inspector® controls	Easily search, mark and navigate long record lengths to find all occurrences of your event.
Automated Measurements	Simplify analysis of your device with 29 automated measurements, FFT analysis, measurement statistics, and advanced waveform math.
Parallel bus triggering and analysis (MSO Series)	Quickly debug your parallel bus with automated trigger, decode and search. Capture fast transitions with timing resolution up to 121.2 ps.
Serial triggering and analysis options	Quickly debug common serial buses with automated trigger, decode and search – I^2C, SPI, CAN, LIN, RS-232/422/485/UART and I^2S/LJ/RJ/TDM.
Power analysis option	Achieve fast, accurate results with integrated automated power measurements.

## MSO/DPO4000 Series

Applications
- Design and debug of embedded systems
- Investigation of transient phenomena
- Power supply design and analysis

www.tektronix.com/mso4000

Features	Benefits
4 analog and 16 digital channels	Analyze analog and digital signals on a single instrument for system-level troubleshooting of complex designs.
Digital phosphor display	Quickly discover glitches and infrequent events with a greater than 50,000 wfm/s waveform capture rate and intensity-graded display.
Complete set of triggers	Rapidly capture signal anomalies with over 125 available trigger combinations, including setup/hold, serial packet content and parallel data.
Wave Inspector® controls	Easily search, mark and navigate long record lengths to find all occurrences of your event.
Automated Measurements	Simplify analysis of your device with 29 automated measurements, FFT analysis, measurement statistics, waveform histograms, and advanced waveform math.
Parallel bus triggering and analysis (MSO Series)	Quickly debug your parallel bus with automated trigger, decode and search. Capture fast transitions with timing resolution up to 60.6 ps.
Serial triggering and analysis options	Quickly debug common serial buses with automated trigger, decode and search – I^2C, SPI, USB, CAN, LIN, FlexRay, RS-232/422/485/UART and I^2S/LJ/RJ/TDM.
Power analysis option	Achieve fast, accurate results with integrated automated power measurements.

Try the Tektronix Bench Oscilloscopes for yourself. With interactive product controls and 360 degree product views. Simply go to: www.tektronix.com/virtualmso

TDS5000B Series
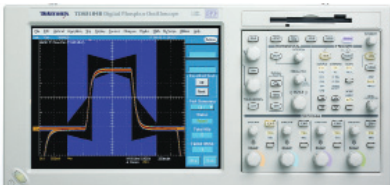
Applications

- Power measurements
- Communications mask testing
- Video design

www.tektronix.com/tds5000

Features	Benefits
3 Models with bandwidths from 350 MHz to 1 GHz	Pick the performance level that fits your signals and your budget. Accurate signal characterization of a variety of standards like Ethernet and CAN.
DPX® acquisition technology	Quickly find intermittent events that cannot be seen with a typical digital oscilloscope. Tektronix proprietary FastAcq mode captures and displays >100,000 waveforms per second to reveal infrequent signal anomalies.
High sample rate	Ensure accurate evaluation and greater signal visibility with 5 GS/s real-time sample rate.
Serial compliance and power analysis options	Perform compliance verification and debugging of serial designs such as Ethernet and CAN. Simplify common power measurements such as voltage, current, energy, and instantaneous power for device design.
Large 10.4" VGA resolution display	Greatly improve visual identification of measurement tasks. Easily see waveforms, menus, and measurements on an uncluttered display.

# DPO7000 Series

Applications

- Design and debug of digital systems (I²C, SPI)
- Switched mode power supply design and verification
- Electrical design verification to industry standards (e.g., USB 1.0, 2.0)
- CAN/LIN Bus decoding and analysis

www.tektronix.com/dpo7000

Features	Benefits
4 Models with bandwidths from 500 MHz to 3.5 GHz including user-selectable limits	Achieves more accurate characterization of designs by optimizing the oscilloscope performance individually by channel, based on the frequency content of the signal being measured.
Sample rate up to 40 GS/s on one channel, 10 GS/s on 4 channels simultaneously.	Improves design validation by accurately sampling the signal to ensure that all frequency content is being acquired and displayed.
Long record length up to 400M points on one channel, 100M per channel on 4 channels	Measurement on a large population for Compliance Verification is required by many standards test systems.
FastAcq mode with >250,000 waveforms per second continuous waveform capture rate	Shortens debugging time by quickly finding intermittent (rare) faults or events.
Pinpoint® triggering with Low-Speed Serial	Enables the capture of signals that are "bad" among many that are good. Speeds up debugging of lower speed chip to chip communications buses through standards-based trigger functions.
Powerful set of built in analysis features	Faster understanding of signal behavior using waveform limit testing (LT), advanced measurement analysis (DJE), and advanced event search and mark (ASM).
Full suite of compliance tools	Saves time with pre-determined reporting and analysis steps for Compliance Verification of different communications systems (Ethernet, USB, IEEE, etc.).
Large 12.1" XGA Resolution Display	Easier for control and visual identification of measurement tasks/signals.

Performance Oscilloscopes

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Performance Oscilloscopes

MSO70000 Series
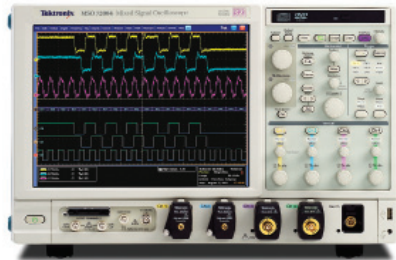
Applications
- DDR System Memory Analysis
- High Speed Embedded System Debugging
- Multi-channel acquisitions
- RF Subsystem Test

www.tektronix.com/mso70000

Features	Benefits
Highest performance MSO at 20GHz Bandwidth on 4 analog channels and 2.5 GHz on 16 logic channels	While debugging performance mixed signals, ensure that there is accurate characterization of critical higher speed buses like PCIe Gen.3 with data rates up to 8 Gb/sec.
iCapture to view analog characteristics on any connected digital channel with up to 50 GS/s sampling	Enables a quick check of any of the 16 logic signals' timing and amplitude without having to use a separate analog probe.
Extensive set of serial pattern, mixed analog+digital, logic pattern, and bus state triggers	Enhance debugging by capturing only the events of interest with triggers that look for bus cycles, specific serial words or patterns.
Simultaneous Analog and Digital Trace Display with precise timing resolution of 80 picoseconds.	Improve system design integration with views of analog and digital signals simultaneously. Ensures discovery & capture of intermittent faults tied to bus contention, power, etc.
Analog/Digital Probing with a variety of connectivity support options	Flexible probing solutions for small component leads or board vias that remove the need for special fixturing/costs. Industry's only 2.5 GHz differential logic probe.
Built-in bus analysis for common serial standards I²C & SPI along with parallel busses. Optional high-speed bus (PCI Express, USB, etc.) available.	Faster design and compliance testing with a toolset engineered to automate setup, acquisition and analysis of serial and parallel busses.
Great signal fidelity with industry's highest effective number of bits (ENOB) and very low instrument noise floor	Enables industry's best margin visibility of critical digital communications system designs. With a noise floor of less than 0.38% of full scale at 12 GHz, MSO70000 Series ensures clearer indication of true signal performance.

DPO/DSA70000B Series
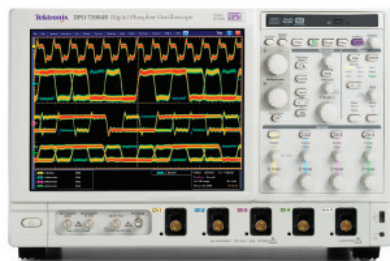
Applications
- High speed serial data compliance test software
- Serial Data Link Analysis software
- DDR system memory analysis
- Signal integrity, jitter & timing analysis
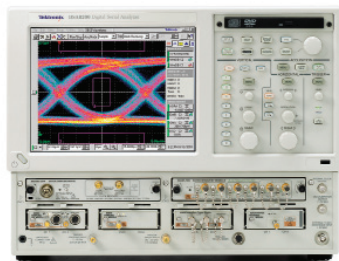
www.tektronix.com/dsa70000

Features	Benefits
6 models with bandwidths from 4 GHz to 20 GHz including user-selectable limits	Accurate characterization, jitter characterization and compliance testing of designs like PCIe Gen.3 with data rates up to 8 GB/sec.
High sample rate simultaneously on all 4 channels	Enables thorough analysis, channel to channel and multi-lane measurements. Capture more signal details (transients, imperfections, fast edges) with 50 GS/s across all 4 channels.
Industry leading signal fidelity, minimum noise and highest number of effective bits (ENOB)	Enables to perform tests with more margin. High measurements frequency designs have less available margin, which requires more exact measurement systems to pass your tests.
Industry's highest waveform capture rate on all 4 channels	Efficient discovery & capture of intermittent (rare) faults or events.
Pinpoint® triggering and high-speed serial pattern triggering	Speed up debug of buses like PCIe, SATA, DisplayPort and others through standards-specific trigger functions.
Comprehensive digital serial analysis solution – probing, triggering, decode and analysis	Faster design and compliance testing with a toolset engineered to automate setup, acquisition and analysis of high-speed serial data signals like SATA and DisplayPort.
Signal fidelity – all the way to the probe tip	Ensure measurement accuracy and signal fidelity with system bandwidth up to 20 GHz from the probe tip to the oscilloscope.

Learn more about the MSO70000 and DPO/DSA70000B Series at: www.tektronix.com/dpo70000_dsa70000

DSA8200 Series

Applications
- TDR/S-Parameter analysis
- Serial data link analysis
- Optical/Telecom standards compliance

www.tektronix.com/dsa8200

Features	Benefits
Up to 4 true differential channels	Accurately characterize non-linear devices such as amplifiers with true differential TDR stimulus.
High bandwidth (50 GHz) Time Domain Reflectometry	Resolve impedance discontinuities down to 1mm with a 12ps incident step.
IConnect® signal integrity	Reduce measurement errors resulting from test fixture signal degradation with integrated TDR and S-Parameter measurements.
Serial data network analysis (SDNA)	Reduce cost of test by combining time and frequency domain analysis with a single instrument. Accurately analyze signal path to predict signal crosstalk and jitter to ensure reliable system operation.
Serial data link analysis (SDLA)	Determine precise causes of eye closure with jitter, noise, and BER analysis.
Remote sampling heads	Optimize signal fidelity and minimize the effects of probes, cables, and fixtures by bringing the TDR head close to the device under test.

Probe Selector Tool

To match one of over 100 different probes directly to the oscilloscope, signal type or testing application you need, go online to the Tektronix Probe Selector Tool. Located at www.tektronix.com/probes

① Compare selected products and instantly create PDFs of your results!

② Select your probe by Instrument Series

③ Sort Results by:
- Probe Type
- Signal Type
- Signal Bandwidth

Probes and Accessories

Active Probes

Features

- Bandwidth up to 4 GHz
- True signal reproduction and fidelity
- Low input capacitances: < 0.5 pF
- Small Compact Probe Heads for Probing Small Geometry Circuit Elements
- DUT Attachment Accessories Enable Connection to SMDs as small as 0.5 mm Pitch
- Service, Durability and Reliability

Applications

- Verification, debug and characterization of high-speed designs
- Component design and characterization
- Design, development and compliance testing
- Signal integrity, jitter, timing analysis
- Manufacturing engineering and test
- Educational research

Differential Probes

Features

- TriMode™ probing provides differential, single-ended or common mode measurements with a signal probe (P7500 Series)
- Excellent signal fidelity, with high bandwidth to >20 GHz, excellent step response, low loading, and high CMRR
- Versatility to make differential or single-ended measurements with low cost TriMode accessories
- Tip-Clip™ interchangeable probe tip system to configure your probe with the optimal tip for your application (P7300 Series)
- Differential TDR hand probe for high fidelity impedance measurements of differential transmission lines (P80318)

Applications

- Debug, validation and compliance testing of high speed serial designs
- Communications Systems
- Semiconductor characterization & validation

Passive Probes

Features

- DC to 500 MHz
- Wide range of performance to meet the demands of many applications
- Lightweight, ergonomic designs to fit your needs
- Wide range of probe tips for easier circuit access
- Modularity to provide lower cost of ownership (P613X)
- Compact size accessories to provide compatibility with existing adapters

Applications

- Mixture of high, medium and low frequency general purpose measurements
- Digital design
- Power device characterization
- Power supply design
- UPS systems, power converters
- Electronic ballast
- Mixed signal
- Service, manufacturing

Current Probes

Features

- Easy to use and accurate AC/DC current measurements
- DC up to 2 GHz
- Amplitude measurements from 1 mA to 20,000 A
- Split core and solid core constructions

Applications

- Switching power supplies
- Motor drives
- Disk drive
- Electronic ballasts
- Inverters
- Silicon characterization
- High-frequency analog design

High Voltage Probes

Features

- Wide range of voltage measurements - Up to 40 kV peak (100 ms pulse)
- High voltage measurement capabilities
- Single-ended - referenced to earth ground
- Differential - non-ground referenced and ground referenced
- Bandwidths from DC to 1 GHz

Applications

- Power supplies
- Motor drives
- Electronic ballast
- DC to DC power converters
- Power device design and evaluation
- Switch mode control
- UPS systems

Logic Probes

Features

- 16 channel probe sets for digital channel acquisitions with Tektornix Mixed Signal Oscilloscopes.
- Differential logic probing up to 2.5 GHz for high signal fidelity with low device loading
- Color-coded tips match channels to signal traces on the oscilloscope display
- Variety of connectivity options available for device leads, solder-in, Traces, etc.

Applications

- DDR Memory Electrical Verification
- High Speed Mixed Signal System Debugging
- Multi-channel acquisitions

Digital Multimeter Product Selection

	DMM4050	DMM4040	DMM4020
Resolution	6.5 digit	6.5 digit	5.5 digit
Basic V_{dc} Accuracy	Up to 0.0024%	Up to 0.0035%	Up to 0.015%
Measurements	V ac, V dc, I ac, I dc, Resistance, Continuity, Diode, Frequency, Period, Temperature, Capacitance	V ac, V dc, I ac, I dc, Resistance, Continuity, Diode, Frequency, Period	V ac, V dc, I ac, I dc, Resistance, Continuity, Diode, Frequency
Analysis Modes	Trendplot, Statistics, Histogram	Trendplot, Statistics, Histogram	Limit Compare
Connectivity	Front panel: USB host Rear panel: RS-232, RS-232 to USB adapter included, IEEE-488 and Ethernet	Front panel: USB host Rear panel: RS-232, RS-232 to USB adapter included, IEEE-488 and Ethernet	Rear panel: RS-232, RS-232 to USB adapter included

DMM4050/DMM4040 Series

Applications

- Design and debug of embedded systems
- Automated Test
- Education

www.tektronix.com/dmm4050

Features	Benefits
6.5 digit resolution	Precisely measure volts, ohms and amps with a basic V dc accuracy of up to 0.0024%.
Frequency, period, capacitance*and temperature* measurements	Save cost and bench space by replacing a multifunction DMM, counter, capacitance meter, and temperature meter with one versatile instrument.
Patented split terminal jacks	Make 4-wire resistance measurements with just two leads.
Trendplot™ paperless recorder mode	Plot measurement trends and graphically identify the extent of drift and intermittent events.
Histogram mode	Discover stability or noise problems by viewing results as a histogram.
Statistics mode	View multiple statistical values such as average, min, max and standard deviation to see how your signal is changing.
Dual display	Measure two different parameters of the same signal from one test connection.
Single button for every function	Reduce set up and evaluation time with dedicated front-panel buttons to access frequently used functions and parameters.
USB host port	Conveniently store data and user settings to USB memory devices using the front-panel port.
PC connectivity	Easily connect to a personal computer with multiple interface ports; Use NI LabVIEW SignalExpress™ software to control your DMM, log data, and to simply transfer and document your results.

DMM4020 Series

Applications

- Design and debug of embedded systems
- Automated Test
- Education
- Manufacturing test and quality control

www.tektronix.com/dmm4020

Features	Benefits
5.5 digit resolution	Measure volts, ohms and amps with a basic V dc accuracy of 0.015%.
Frequency measurements	Save cost and bench space by replacing a multifunction DMM and counter with one instrument.
DC leakage current measurements	Make sensitive low current measurements with 1 nA resolution.
Patented split terminal jacks	Make 4-wire resistance measurements with just two leads.
Dual display	Measure two different parameters of the same signal from one test connection.
Limit compare mode	Eliminate mistakes with pass/fail indicators that clearly show if a test passes or fails.
Six setup buttons	Simplify complex measurements by saving the setup to a dedicated, front-panel button. Next time, simply press the appropriate setup button.
Single button for every function	Reduce set up and evaluation time with dedicated front-panel buttons to access frequently used functions and parameters.
PC connectivity	Easily connect to a personal computer using RS-232 or USB; Use NI LabVIEW SignalExpress™ software to control your DMM, log data, and to simply transfer and document your results.

Signal Generators

Mixed/Analog Signal Generators

	AWG5000B Series	AWG7000B Series	AFG3000 Series
Channels (maximum)	4 analog, 28 digital	2 analog	1, 2
Sample Rate (maximum)	1.2 GS/s, Up to 370 MHz	24 GS/s	2.0 GS/s
Frequncy (maximum)	370 MHz	9.6 GHz	240 MHz
Memory Depth (maximum)	32M	64M	128 k
Vertical Resolution (bits)	14	10	14
Output Amplitude[1] (maximum)	4.5	2	20 V p-p
Marker Outputs (maximum)	4	4	1 (trigger out)
Parallel Digital Outputs (maximum)	28[2]	-	-
Integrated Editors	Graphical, Sequence	Graphical, Sequence	Graphical, Text
Built-in Applications	RFXpress®, SerialXpress® & the Open Window-based system supports third-party software		-
	see page 15	see page 15	see page 15

Logic Signal Sources

	DTG5334	DTG5274	DTG5078
Channels (maximum)	16	16	96
Data Rate (maximum)	3.35 Gb/s	2.7 Gb/s	750 Mb/s
Pattern Depth (maximum)	3.35 Gb/s	2.7 Gb/s	750 Mb/s
Timing Resolution Range	200 fs/600 ns[1]	200 fs/600 ns[1]	1 ps/600 ns[1]
Output Amplitude/Resolution (max)	Three modules support from 0.03 to 3.5 Vp-p/5 mV[2]		
Rise/Fall Time	Three modules offer from < 540 ps to < 110 ps[3]		
Auxiliary Inputs	External Clock IN, Phase Lock IN, 10 MHz Ref. IN, Trigger IN, Event IN, Skew Cal IN		
Auxiliary Outputs	DC Outputs, Clock OUT, 10 MHz Red OUT, Sync OUT		
Auxiliary Features	PC/Windows Platform, Jitter Generation, Variable Crossing Points, Duty Cycle, Pulse Generator Mode		

[1] Vp-p into 50 Ohm
[2] Based on data rate settings.
[3] Variable or fixed, depending on module.
[4] Four channel only per pod, delay only.

DTG5000 Series

Features	Benefits
Versatile Platform	Combines Features of Data Generator, Pulse Generator, and DC Source.
Integrated PC	Supports Network Integration and Built-in CD-ROM, LAN, Floppy Drive, USB Ports.
Modular Architecture	Helps to Protect Your Investment and Allows the Instrument to Expand With Your Growing Needs.

Applications

- Semiconductor device functional test and characterization
- Compliance and interopedability testing to emerging standards (PCI-Express, SATA, InfiniBand, XAUI, HDMI/DVI)

www.tektronix.com/dtg5000

AFG3000 Series
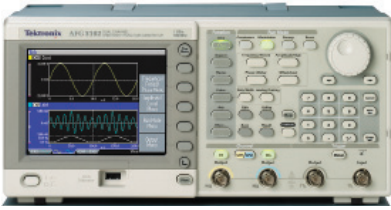
Applications

- Replicate sensor signals or other missing system inputs
- Device stress testing
- Electronic design optimization
- Power semiconductor device test
- I/Q modulator test

www.tektronix.com/afg3000

Features	Benefits
Dual-channel models	Save cost and bench space by replacing two signal generators with one that offers two tightly synchronized or two completely independent signals.
Up to 2 GS/s sample rate	Generate waveforms with fine timing resolution.
Up to 20 Vp-p amplitude into 50 Ω load (AFG3011)	Save cost and set-up time by creating high amplitude signals without using an external power amplifier.
25 shortcut keys	Reduce set up and evaluation time with direct access to frequently used functions and parameters.
Large 5.6" (142 mm) color display	Full confidence in your signal since all relevant settings and waveform graphs can be seen at a single glance. (Monochrome on AFG3021B).
Only 6.6" (168 mm) deep	Free up valuable bench-top space.
ArbExpress™ software	Create and modify waveforms with ease - import waveforms seamlessly from your Tektronix oscilloscope or create them via the equation editor, free hand, point draw or waveform math.

AWG5000B Series
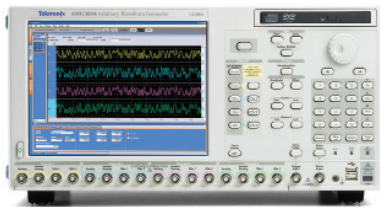
Applications

- I/Q modulator test
- Consumer electronics
- Serial data

www.tektronix.com/awg5000

| Features	Benefits
Multiple output types (Available on AWG5002B/5012B)	Save cost and bench space by replacing multiple instruments with one, flexible signal generator capable of analog, digital and mixed signals.
14-bit vertical resolution	Easily stress test your device by creating ideal, distorted or "real-world" signals with glitches and other signal impairments.
Up to 32 M point record length	Generate multiple, high resolution complex waveforms.
RFXpress® software	Quickly create digitally-modulated IQ and IF signals for both standard and custom applications with support for a wide range of modulation types.
Integrated PC	Seamlessly integrate to your network with LAN and USB ports. Easily save data with a built-in DVD, removable hard drive and USB ports on the front.
Intuitive user-interface	Shorten test time with an easy-to-use interface.

AWG7000B Series

Applications

- Serial data validation and compliance testing
- WiMedia conformance and margin testing
- Radar signal generation
- Disk drive validation and test

www.tektronix.com/awg7000

Features	Benefits
High speed interleaved sampling	Generate more accurate signals with lower jitter, utilizing higher oversampling with up to 24 GS/s on the AWG7122B.
Waveform sequencing	Real-time sequencing creates infinite waveform loops, jumps, and conditional branches for longer pattern length generation suitable for replicating real world behavior of serial transmitters.
Bandwidth expansion filter	Rise time can be decreased by applying a bandwidth expansion filter to address the challenges of fast serial data signal generation.
SerialXpress® software	SerialXpress software enables creation of exact waveforms required for thorough and repeatable design validation, margin/ characterization and conformance testing of high speed serial data receivers.
RFXpress® software	Easily create and edit RF/IF/IQ signals.
Deep memory	Replicate low frequency events such as spread spectrum clocking on high speed serial signals which require long pattern lengths.
Superior RF frequency output	9.6 GHz RF frequency output provides effective bandwidth for test of wide bandwidth RF technologies and support for 2nd/3rd generation serial standards.
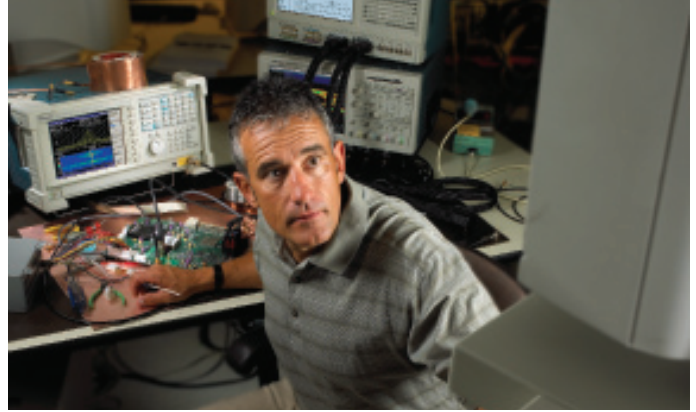
Spectrum Analyzers

Tektronix Real Time Spectrum Analyzers Deliver Confidence to Confront the Most Challenging Microwave and RF Designs

Effectively characterize time-variant signals and solve unexpected problems with DPX™ Live RF spectrum display. Standard on all Real Time Spectrum Analyzers ranging from handheld to high performance benchtop instruments.

- Performance Spectrum Analyzers integrate revolutionary DPX™ Live RF spectrum display with the industry-leading dynamic range and bandwidth combination.

- Mid-Range Spectrum Analyzers deliver performance capabilities, including DPX™ Live RF spectrum display and frequency masked trigger, for complete time-correlated analysis in the frequency, time and modulation domains.

- Handheld Spectrum Analyzers scan the RF environment, reliably classify signals, and locate signals with the industry's only integrated mapping solution.

Tektronix' DPX technology lets you see what others don't. Learn more at www.tektronix.com/rsa

|	RSA6000 Series	RSA3000 Series	H600/SA2600 Series
Frequency Range	9 kHz to 20 GHz	DC to 8 GHz	10 kHz to 6.2 GHz
Capture Bandwidth	Up to 110 MHz	Up to 36 MHz	20 MHz
Minimum Event Duration for 100% Probability of Intercept (POI)	As brief as 10.3 μs	As brief as 20 μs	As brief as 125 μs
SFDR (typical)	Down to -78 dBc	Down to -73 dBc	Down to -70 dBc
DANL (equivalent at 1 Hz RBW)	Down to -170 dBm/Hz	Down to -151 dBm/Hz	Down to -163 dBm/Hz
Phase Noise (typical at 10 kHz offset)	≤ -110 dBc/Hz	≤ -112 dBc/Hz	≤ -95 dBc/Hz
Phase Noise (typical at 1 MHz offset)	≤ -134 dBc/Hz	≤ -135 dBc/Hz	≤ -110 dBc/Hz
DPX Live RF Spectrum Display	> 292,000 Spectrums/s	> 48,000 Spectrums/s	> 10,000 Spectrums/s
	see page 17	see page 17	see page 16

H600/SA2600 Series
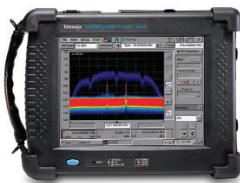
Applications
- Spectrum Monitoring and Surveillance
- Interference Detection
- Signal Hunting
- Signal Identification
- Homeland Security

www.tektronix.com/sa2600

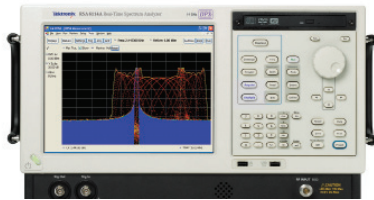| Features	Benefits
DPX® Live RF spectrum display	Discover previously unseen signal behavior. Improve test confidence and find elusive signals missed by conventional spectrum analyzers.
DPX spectrum mask	Capture small signals in the presence of large signals with a user-definable mask drawn in the frequency domain.
Integrated and GPS-enabled mapping	Locate outdoor signals faster with simple integrated tools in a portable, battery-operated package. No external PC required for plotting measurements on a map.
Signal database, classification and IQ data export	Quickly recognize the presence of new unwanted signals by comparing current results against previously saved spectrum surveys. Built-in classification tools enable you to efficiently categorize signals as desirable or undesirable.
Rugged designed for field use	Test longer with extended battery life and industry's only hot swap power system. LAN interface for remote control and unattended monitoring stations for spectrum awareness.

RSA3000 Series
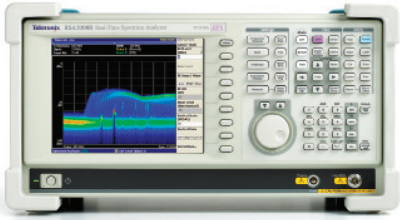
Applications

- Radio/Satellite Communications
- Spectrum Management
- Radar/EW
- RF Debug
- Wireless Communications

www.tektronix.com/RSA3000

| Features	Benefits
DPX® Spectrum Display 100% Probability of Intercept (POI)	Improve test confidence and catch very short duration transients missed by conventional spectrum analyzers. Discover signal behavior previously unseen.
Frequency Mask Trigger 100% POI	Save time by isolating signal faults and efficiently utilizing memory with a unique frequency domain trigger. Isolate hardware and software anomalies with cross domain triggering between multiple instruments.
Seamless data capture into deep memory or external recording system	Observe the entire duration of signal events, like frequency hopping sequences, PLL settling times, turn on transients, and multiple pulses.
Time-correlated data analysis with automatic domain correlation and linked markers	Accelerate troubleshooting and analysis by pinpointing the root cause of problems in multiple domains.
One box multi-function design for spectrum analysis, vector signal analysis, pulse analysis, baseband analysis, signal source analysis, audio distortion analysis, and wireless standard analysis	Simplify test and save test time with multiple measurements on the same captured data. Reduce cost of test with a versatile single instrument that replaces multiple test sets.

RSA6000 Series

Applications

- Radar/EW
- Spectrum Management
- Radio/Satellite Communications
- RF Debug
- EMI Diagnostics

www.tektronix.com/RSA6000

Features	Benefits
DPX® Live RF spectrum display	Discover previously unseen signal behavior. Improve test confidence and catch very short duration transients missed by conventional spectrum analyzers.
Triggering expertise	Save time by isolating signal anomalies that other instruments can't even trigger on. Isolate hard to find hardware and software anomalies with cross domain triggering between multiple instruments.
Seamless data capture	Observe the entire duration of signal events, like frequency hopping sequences, PLL settling times, turn on transients, and multiple pulses.
Multi-domain time correlation	Accelerate troubleshooting and analysis by pinpointing the root cause of problems in multiple domains. Analyze captured data in any/all domains at any time with correlated markers.
Automatic pulse measurement and detection	Simplify test and save test time with multiple measurements on the same captured data. Reduce cost of test with a versatile single instrument that replaces multiple test sets.
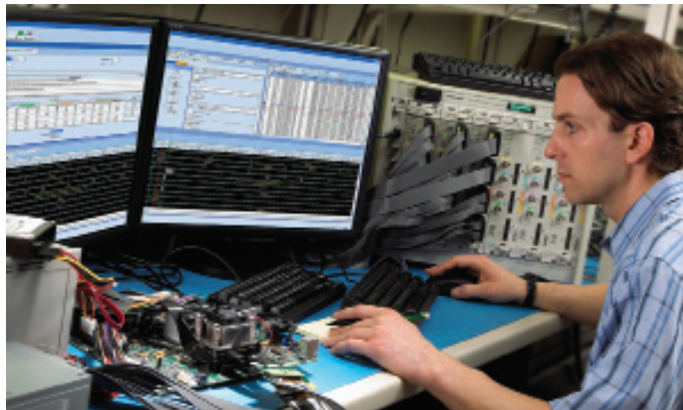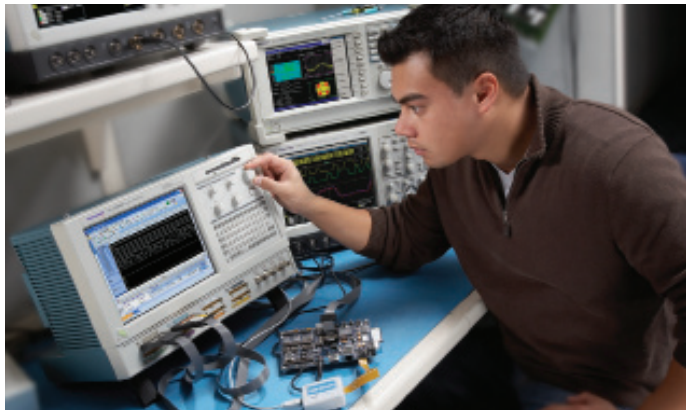
Logic Analyzers

Logic Analyzer Product Selection

With Tektronix Logic Analyzers, you can acquire fast edges with the industry's highest acquisition speed. Support packages tuned to your specific application makes it easier for you to probe, acquire, decode, analyze, and validate the performance of your microprocessor, FPGA or memory design.

	TLA520xB	TLA7Sxx	TLA7ACx	TLA7Bxx
Channels	34, 68, 102, 136	8, 16 per module	68, 102, 136 per module	68, 102, 136 per module
Maximum Channels per Timebase (merge)	136	-	272 in TLA7012, 408 in TLA7016	272 in TLA7012, 408 in TLA7016
Maximum Channels per Mainframe	136	32 in TLA7012, 96 in TLA7016	272 in TLA7012, 816 in TLA7016	272 in TLA7012, 816 in TLA7016
Maximum Channels per System	136	2,176 (with eight in TLA7012s and one TLA708EX) 6,528 (with eight in TLA7016s and one TLA708EX)		
Maximum Independent Buses per System	1	16 (with eight in TLA7012s and one TLA708EX) 48 (with eight in TLA7016s and one TLA708EX)		
State Clock Rate	235 MHz	2.5 Gb/s std; 50 Gb/s opt.	235 MHz std; 450 MHz opt.	750 MHz std; 1.4 GHz opt.
Maximum State Clock Rate	235 MHz	50 Gb/s	800 MHz (half channel mode)	up to 1.4 GHz
Maximum State Data Rate	470 Mb/s	-	1,250 Mb/s	3.0 Gb/s
MagniVuTM Timing (all channels, all the time)	125 ps (8GHz) with 16 Kb depth	-	125 ps (8 GHz) with 16 Kb depth	20 ps (50 GHz)
Simultaneous State and Timing Through Same Probe	yes	no	yes	yes
Analog Measurements Through Same Probe	no	no	optional	yes
Timing	500 ps (2 GHz)/1 ns (1 GHz)/ 2 ns (500 GHz)/(quarter/half/full full channels)	32 M 8b/10b per channel	500 ps (2 GHz)/1 ns (1 GHz)/ 2 ns (500 GHz)/(quarter/half/ full channels)	156.25 ps/312.5 ps/625 ps to 50ns(quarter/half/fullfullchannels)
Analog Outputs (four per module - analog MUX)	no	no	optional	yes
Record Length	8/4/2 Mb to 128/64/32 Mb (quarter/half/full channels timestamp)	-	8/4/2 Mb to 512/256/128 Mb (quarter/half/full channels with timestamp)	4/2 Mb to 256/128 Mb (half/full channels with with timestamp)
Source Synchronous Clocking	yes	no	yes	yes
	see page 19	see page 19	see page 19	see page 19

Logic Analyzer Probes and Interconnect Systems

No test and measurement solution is complete without addressing probing and considering its impact on your system and your measurement time. You can depend on Tektronix probes to protect the integrity of your signal, whether you need simultaneous digital-analog acquisition, an economical compression probe or a high-fidelity general-purpose probe.

www.tektronix.com/logic_analyzers/probes

TLA5000B Series
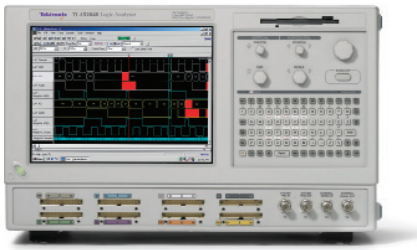
Applications
- FPGA
- Serial data
- Signal integrity

www.tektronix.com/tla5000

Features	Benefits
MagniVu™ acquisition	Avoid missing events completely in either timing or state acquisition mode with higher sampling resolution (up to 20 ps) on all channels.
Flagging the glitch	Remove the need to manually search all channels using exclusive ability to show both the time and channel where the glitch occurred.
T_S/T_H violation triggering	Eliminate the time consuming and complex task of monitoring the circuit's outputs with real-time violation triggering that automatically acquires intermittent setup and hold violations.
Automated measurements	Easily summarize your design's performance with sophisticated measurements such as: frequency, period, pulse width, duty cycle, and edge count.
Drag & drop triggers	Quickly isolate events through simple and intuitive trigger setup. Triggers include: Channel Edge, Channel Value, Bus Value, Multi-Group Value, Glitch, Setup and Hold Violation, or Trigger on Anything.
iView™ display	Gain complete system visibility with time-correlated, integrated analog and digital data on one display.

TLA7000 Series

Applications
- Signal integrity
- Memory
- FPGA
- Serial data
- MIPI

www.tektronix.com/tla7000

| Features	Benefits
MagniVu™ acquisition	Avoid missing events completely in either timing or state acquisition mode with higher sampling resolution (up to 20 ps) on all channels.
iCapture™ multiplexing	Eliminate double probing with simultaneous digital and analog acquisition through a single logic analyzer probe.
iView™ display	Gain complete system visibility with time-correlated, integrated analog and digital data on one display.
iVerify™ analysis	Quickly find signal integrity issues with multi-channel bus analysis using oscilloscope-generated eye diagram.
Automated measurements	Easily summarize your design's performance with sophisticated measurements such as: frequency, period, pulse width, duty cycle, and edge count.
Drag & drop triggers	Quickly isolate events through simple and intuitive trigger setup. Triggers include: Channel Edge, Channel Value, Bus Value, Multi-Group Value, Glitch, Setup and Hold Violation, or Trigger on Anything.

Tektronix Logic Analyzers speed up verification and validate performance on hundreds of different micro packages and memory standards. Learn more at: www.tektronix.com/LA

Software to Expand your Tektronix Instrument Capability

Automate your testing, simplify execution and speed evaluation of your most challenging system designs with these software solutions. For a minimal investment increase your design insight by taking advantage of the latest software, options, and upgrades.

Here is a representative list of the most popular application software packages available. There are over 40 packages from Tektronix. For a more complete list of application software packages for a specific instrument, please consult the product home pages listed at www.tektronix.com/products.

Bench and Performance Oscilloscopes
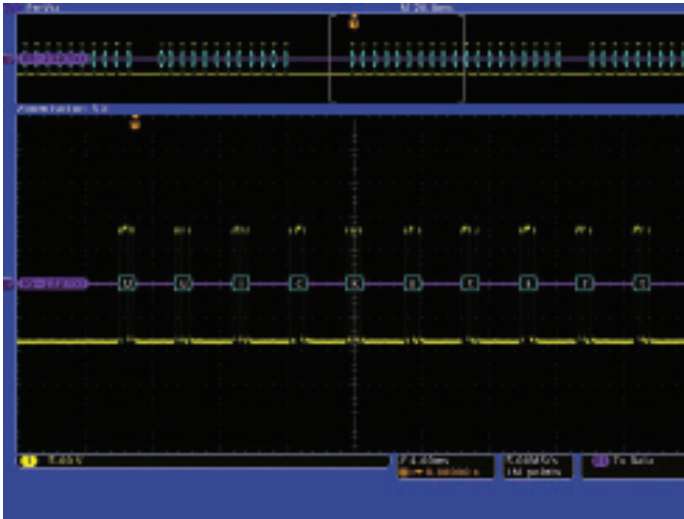
Common Serial Bus Triggering and Analysis

Speed debug of your serial bus with automated trigger, decode and search for common serial standards, such as I^{2}C, SPI, USB, CAN, LIN, FlexRay, RS-232/422/485/UART and I^{2}S/LJ/RJ/TDM.
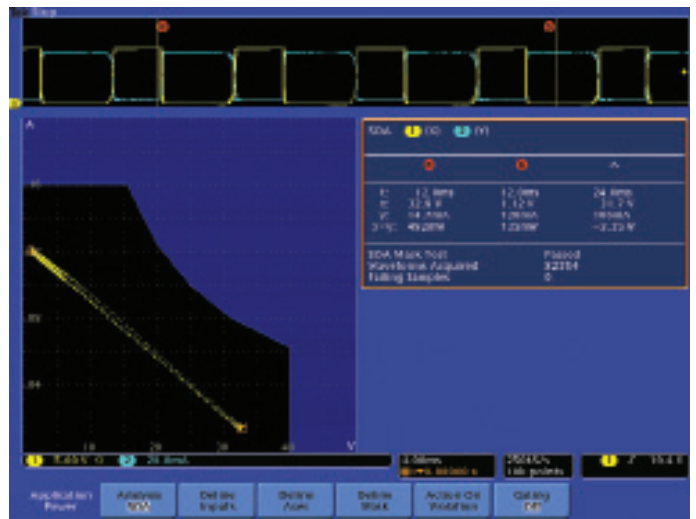
Power Analysis

Improve the efficiency of your switching power supply. Provides automated measurements for analyzing power quality, current harmonics, switching loss, safe operating area, slew rate, modulation, and ripple.

EasierPCConnectivity from Tektronix

Tektronix OpenChoice® Software - The freedom to analyze, document and present your data any way you choose.

OpenChoice® Desktop software solutions deliver simple, seamless integration between the instrument and the PC. OpenChoice® provides you with multiple choices to easily generate, capture, transfer, document and analyze your measurement results, according to your application environment and preference.

www.tektronix.com/openchoice

HDTV and Custom Video Analysis

Simplify debug of video signals. Provides video quickmenu, autoset, hold, line count trigger, video picture mode, vectorscope mode, HDTV format trigger graticules and more.

Performance Oscilloscopes

DPOJET Jitter and Eye Diagram Analysis

Simplify identifying signal integrity concerns, jitter, and their related sources with DPOJET software. DPOJET provides the highest sensitivity and accuracy available for real-time oscilloscopes.

Serial Data Link Analysis

Analyze link performance while modifying transmitter emphasis and receiver settings incorporating feed forward and decision-feedback equalization. Improve accuracy with the ability to de-embed fixture and other channel effects from the measurements.

Advanced Event Search and Mark

Ease the tedious task of examining captured waveform data by highlighting important events, skipping the unimportant ones and enhancing the comprehension of event relationships on your Tektronix oscilloscope. Navigate between events of interest effortlessly to get to the source of your measurement task.

DDR Memory Bus Analysis

Automatically identify DDR1, LPDDR, LPDDR2, DDR2, DDR3 and GDDR3 Reads and Writes to clearly see how analog anomalies are affecting your DDR/Memory. DDRA with DPOJET, combined with DPX® technology, is the fastest way to solve complex memory signaling issues.

http://www.tek.com/products/accessories/application_software

Performance Oscilloscopes

PCI Express Analysis Test Solution

Analyze the performance of your PCI-Express Rev 1.0, 2.0 or 3.0 design with comprehensive test support. Option PCE enables tests that conform to PCI-SIG standards using the powerful DPOJET analysis package. With DPO/DSA70000 Series Oscilloscopes, view critical timing margins for PCI-Express Rev 3.0 signaling.
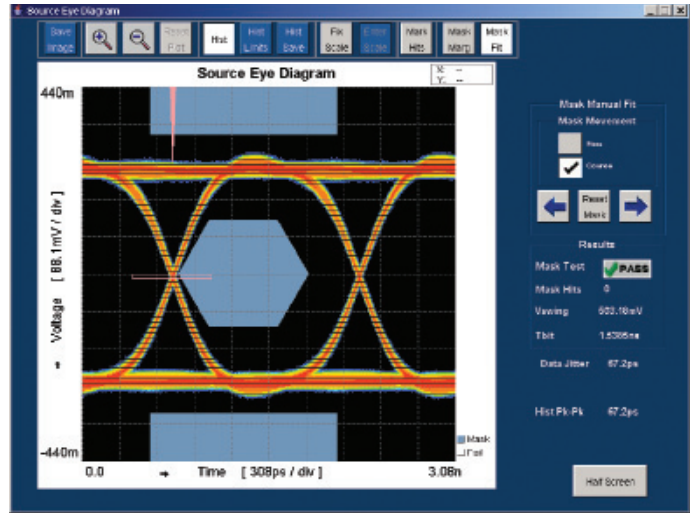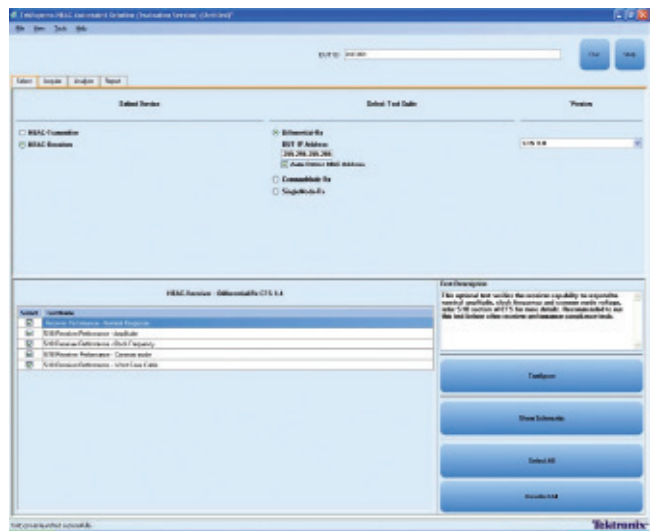
HDMI Compliance Test Solution

Fast, efficient solution for HDMI compliance measurement challenges, no matter if you are working on a Source, Cable, or Sink solution. This application provides all the HDMI compliance test solutions you need to ensure quality and interoperability to both CTS1.3c and the recently released CTS1.4 test specification.
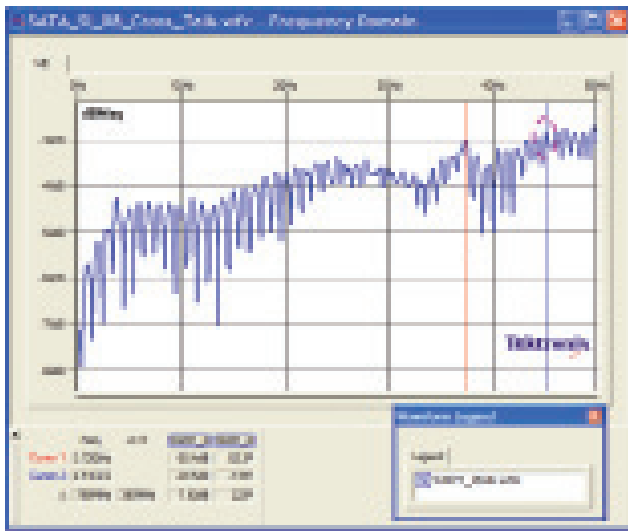
IConnect® MeasureXtractor™ Signal Integrity TDR and S-parameter
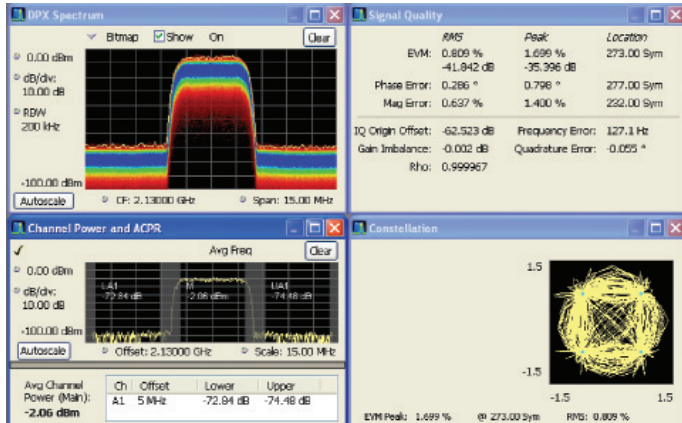
Efficient, easy-to-use, and cost-effective solution for measurement-based performance evaluation of gigabit interconnect links and devices, including signal integrity analysis, impedance, S-parameter and eye diagram tests, and fault isolation.

## TekExpress™ SATA Automated Compliance Test Software

Reduce your compliance test time by approximately 70% with the simple, efficient testing and automation of all required testing suites provided by TekExpress software. Also included is auto-recognition of all required test equipment like Tektronix DSA70000 Oscilloscopes, precise DUT/Host control one-button testing, and complete support for SATA Gen1, Gen2 and SATA 6 Gb/sec defined test suites.

Performance Oscilloscopes

Ethernet Compliance Test Solutions

Receive full PHY layer support for Ethernet variants from 10BASE-T to 10GBASE-T with a comprehensive, integrated Ethernet tool set. Analog verification, device characterization and automated compliance solutions are all included.

Jitter, Noise & BER Analysis Software (80SJNB)

Characterize Jitter, Noise and BER performance of high-speed serial designs from 1 Gb/s to 60 Gb/s data rates; Characterize advanced links using FFE/DFE equalization, and with TWDP and DDPWS measurements; Link budgeting and "What-if" analysis with emulation of a range of channels with just-one transmitter measurement.

USB 3.0 Transmitter Testing

Verify, characterize and debug SuperSpeed USB designs with pass/fail testing for all USB 3.0 Normative and Informative measurements. USB3 with DPOJET provides the fastest method to resolve complex USB signal integrity issues. For compliance tests, TekExpress USB 3.0 provides an automated, simple and efficient way to test USB 3.0 Transmitter hosts and devices consistent with the requirements of the SuperSpeed Universal Serial Bus Electrical Compliance Test Specification.

SignalVu™ Vector Signal Analysis

Easily characterize wideband spectral events and verify designs such as wideband radar, high data rate satellite links or frequency-hopping radios. SignalVu combines the functionality of a vector signal analyzer, a spectrum analyzer and the powerful triggering capabilities of Tektronix oscilloscopes – all in a single package.

Signal Generators

RFXpress® Software for the AWG5000B, AWG7000B (RFX100)

If you are doing RF Designs requiring signal modulation, Tektronix' RFXpress software for the AWG series delivers advanced capabilities to synthesize digitally modulated baseband, IF and RF/microwave signals supporting a wide range of modulation schemes. RFX-press simplifies waveform creation. Special options are available for Radar, OFDM, S-Parameter, and UWB signals specifically.

SerialXpress® Software for the AWG5000B, AWG7000B (SDX100)

Recreate exact waveforms required for thorough and repeatable design validation, margin/characterization and conformance testing with SerialXpress and AWG Series signal generators. SerialXpress' easy to use graphical user interface allows for a combination of test signals and various impairments including Inter Symbol Interferences (ISI), Duty Cycle Distortion (DCD), Spread Spectrum Clocking (SSC), Pre-emphasis and noise.

Spectrum Analyzers RSA6000 Series

Phase Noise and Jitter Measurements for the RSA6000 Series (Option 11)

Make important phase noise measurements faster than any other spectrum analyzer on the market. Identify timing issues with advanced jitter measurement capability like Timing Interval Error (TIE) and other jitter analysis plots.

SignalVu™ Vector Signal Analysis

Easily characterize wideband spectral events and verify designs such as wideband radar, high data rate satellite links or frequency-hopping radios. SignalVu combines the functionality of a vector signal analyzer, a spectrum analyzer and the powerful triggering capabilities of Tektronix oscilloscopes – all in a single package.

Spectrum Analyzers RSA6000 Series

General Modulation Analysis for the RSA6000 Series (Option 21)

Now you can have Digital Signal Analysis on up to 22 different modulation types including QPSK, 128 QAM, and FSK - all loaded on your RSA6000 Series spectrum analyzer. This also includes basic analysis on items such as Symbol Table and Constellation, Eye, Trellis, and Demodulated IQ Diagrams.
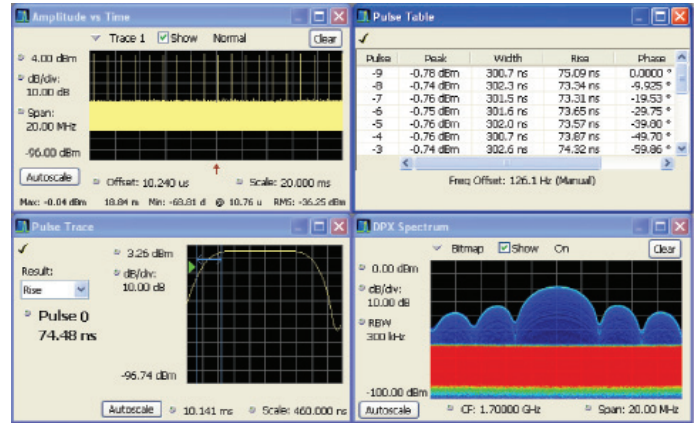
Advanced Signal Analysis for the RSA6000 Series (Option 20)

Characterize pulsed signals within a 110 MHz bandwidth with over 20 automatic pulse width measurements such as Rise Time, Duty Cycle, Pulse Ripple and Droop. Improve your ability to gain insight into important pulsed signals with a pulse table of all results, pulse traces of specific single pulse parameters, and pulse trend information on data for the whole pulse train. Includes vector measurement analysis as well!
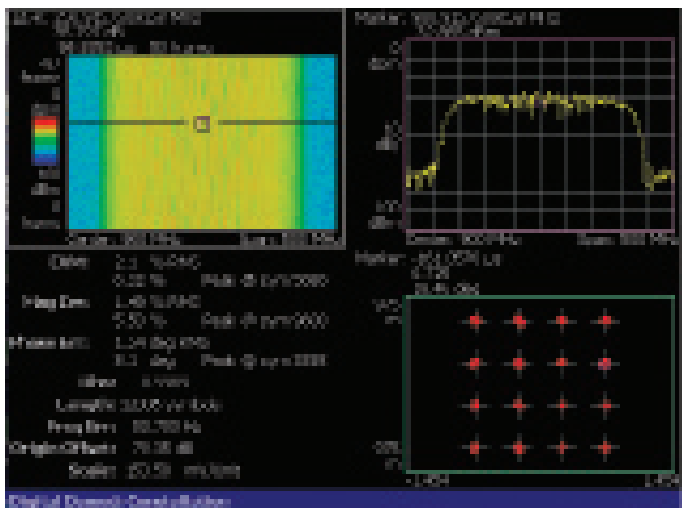
RSAVu Offline Analysis Software

RSAVu software enables offline analysis of data captured from Tektronix Real-Time Spectrum Analyzers (RTSAs) and oscilloscopes. The software offers users the same demodulation and analysis capabilities included in the RSA3408B software option suite. From 3G wireless standards to the latest RFID formats and pulsed-signal analysis, RSAVu is a tool designers can use to analyze signals without having acquisition hardware connected.
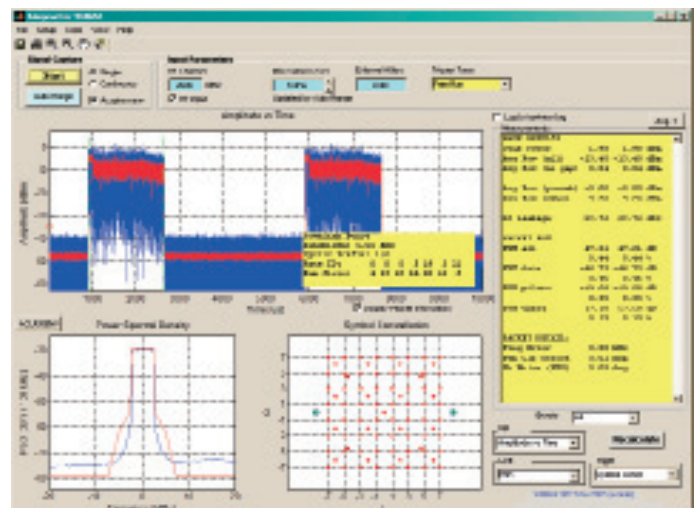
RSA IQMA WiMAX Software

RSA-IQWIMAX offers advanced analysis of WiMAX waveforms captured by the RTSA, including EVM and spectral measurements. For example, RSA-IQWIMAX can easily analyze frequency settling time and phase errors that occur during a burst transmission. Such capabilities significantly help in understanding and debugging RF performance-related issues.

Software
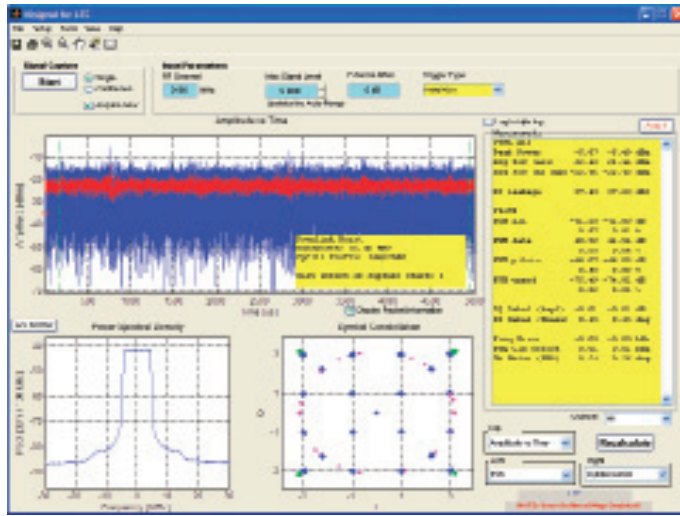
Spectrum Analyzers RSA6000 Series
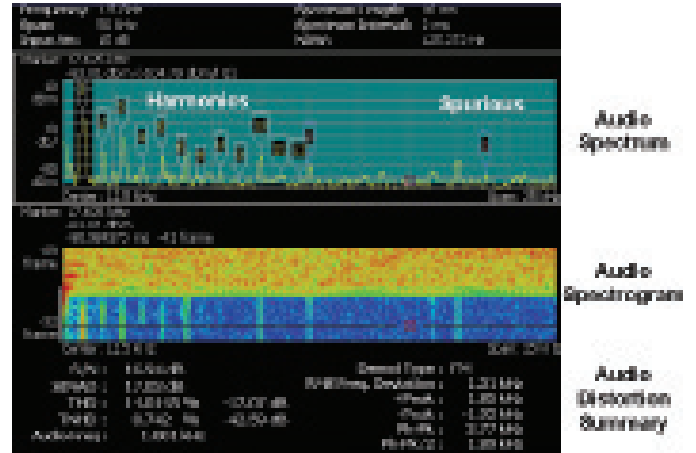
RSALTE LitePoint IQsignal™ LTE

RSALTE offers advanced analysis of LTE waveforms captured by the RSA Series, including EVM and spectral measurements. For example, RSALTE can easily analyze frequency-settling time and phase errors that occur during a burst transmission. Such capabilities significantly help in understanding and debugging RF performance-related issues.

Spectrum Analyzers RSA3000 Series

Audio Distortion Analysis for the RSA3000 Series (Option 10)

For audio engineering, better utilize the RSA3000 Series with analysis that enables you to rapidly characterize audio distortion in radio receivers and transmitters. Perform distortion analysis on AM/FM signals, display Audio Spectrograms, etc.

Spectrum Analyzers RSA3000 Series
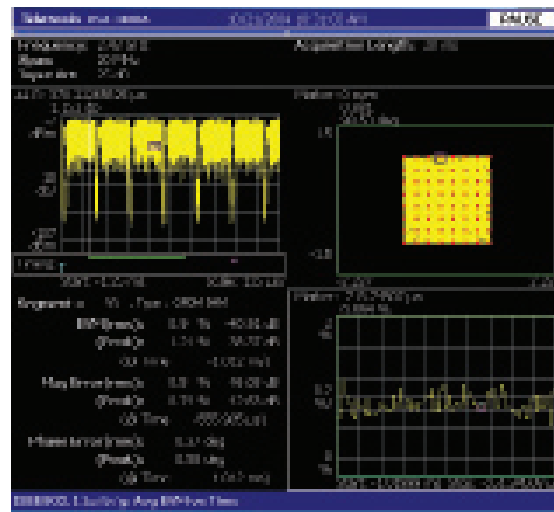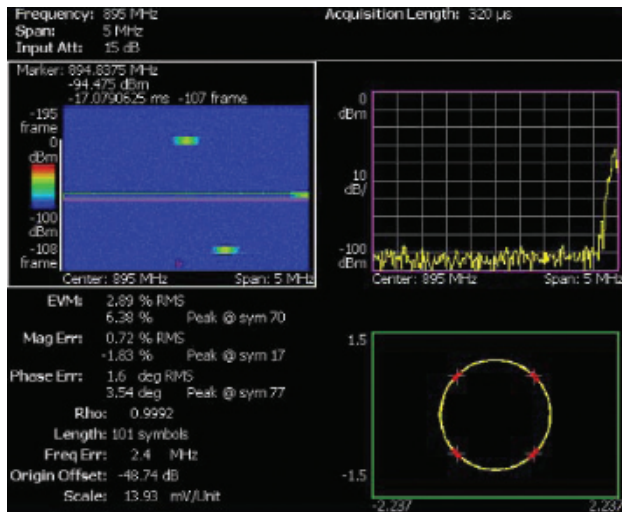
General Demodulation Analysis, RFID and Signal Source Analysis for the RSA3000 Series (Option 21)

Get more efficient use of your RSA3000 Series with Signal Source Analysis that includes Automated Frequency Settling Time Measurements, Comprehensive Phase Noise and a Jitter Measurement Suite. This popular analysis suite includes RFID conformance, and compliance and interoperability tests, all supporting the latest ISO 18000-7 standard.

802.11a/b/g/n Analysis (RSA3408B only) (Option 29)

With integrated support for the a wide variety of WLAN standards, the RSA3000 Series spectrum analyzer can help with the most challenging design and compliance challenges. With DPX™ Live RF spectrum display, patented Frequency Mask Triggering for event isolation, and unique MIMO measurements for link analysis, you gain the insight necessary to ensure your WLAN designs will operate successfully.

SA2600/H600
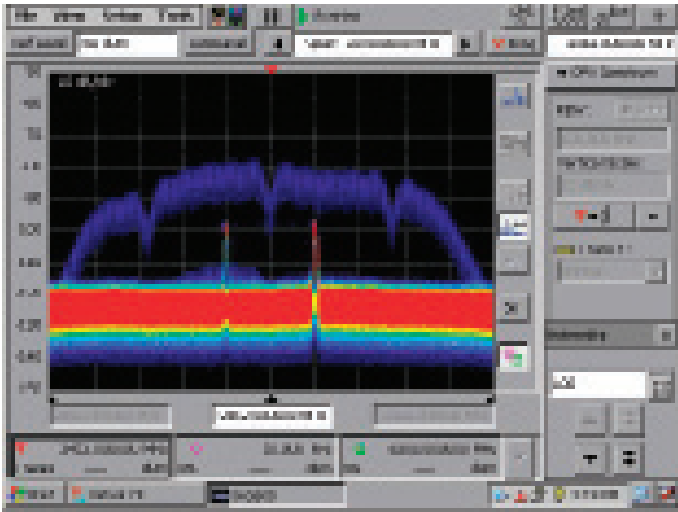
Enhanced DPX™ Live RF for the SA2600 (Option EP1)

Enhances SA2600 Series DPX™ Live RF spectrum display to 10,000 spectrums/s and 125 µs minimum signal duration for 100% Probability of Intercept (POI), typical.
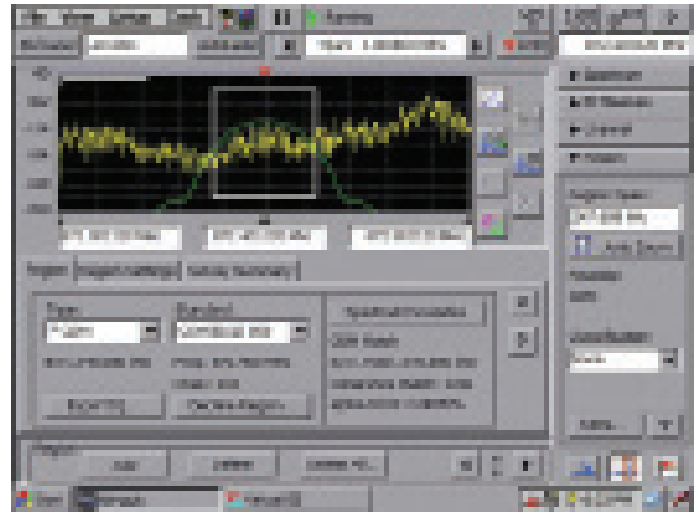
Signal Classification for the SA2600 (Option SC1)

Enhances SA2600 Series by adding signal classification capability.

Video Products

The latest digital video technologies are faster and often more complex than prior generations and require video test equipment capable of greater performance and more extensive analysis. Tektronix mission critical test, measurement and monitoring tools help you preserve signal integrity, reduce production time, reduce operating costs, ensure standards compliance and optimize system performance.

MPEG Analyzer

Features	Benefits
Cross layer error correlation and diagnostic capability	Diagnose problems anywhere in the network environment, whether that be transmission links (RF or IP layer) or content processing (TS layer).
High performance line rate Gigabit Ethernet (GbE) IP connectivity and integrated cross layer analysis	Diagnose of complex timing problems in video over IP and IPTV network equipment.
Wide range of DTV standards are supported	Analyze any Terrestrial, Cable, Satellite or Telco transport.
CaptureVu™ technology	Analyze system events in real time or deferred time to debug CaptureVu™ technology intermittent or complex problems that other analyzers miss.
Innovative program-centric user interface	Brings expert power to the novice user.
Integrated cross layer fault analysis and logging	Reduces time to insight when troubleshooting and Integrated cross layer fault analysis and logging diagnosing problems.
Tclips test streams, multiplexing, H.264 buffer analysis and ES compliance checking	Suite of tools for creation and analysis of transport streams containing next generation video content.

MTS430 Applications

- Codec Design – Hardware Testing
- Encoder and Multiplexer Design
- Testing Set Top Box software

www.tektronix.com/video

Picture Quality Analyzer

Features	Benefits
Objective perceptual measurements based on an accurate human vision system model	■ Ensure measurement results match viewers' subjective ratings. ■ Achieve and verify differentiated picture quality with cost-effective and time-efficient repeatable assessments. ■ Reduce the time and effort needed to detect, diagnose and correct picture quality problems. ■ Optimize video processing algorithm performance. ■ Clearly state the quality acceptance criteria for video products, systems or content. ■ Easily share the conformance measurements and results throughout the organization or with suppliers.
Attention modeling software and attention-weighted picture quality measurements	Unique tools for optimizing video processing algorithms and video distribution systems.
Measurements for artifact detection, artifact-weighted picture quality and classic PSNR	Help isolate and correct quality problems and evaluate quality tradeoffs.

PQA500 Applications

- CODEC Design, Optimization, and Verification
- Conformance Testing, Transmission Equipment, and System Evaluation
- Digital Consumer Product Development and Manufacturing

www.tektronix.com/video

## MPEG RF Signal Generator

RTX130B Applications

- IP and QAM Set Top Box software regression testing
- Simulation of Digital Terrestrial Broadcasting Transmission

www.tektronix.com/video

Features	Benefits
Integrated modulator, up converter and MPEG Generator in a single instrument	Interfaces directly to a STB - saves complexity, reduces capital cost and logistical overhead of multi box solutions.
Common user interface across multiple interface types	Improves time to market for new products through user experience consistency and convenience.
Continuous looping with timing information and continuity updates	Provides reliable seamless playout of stored test streams at the TS layer to ensure robust design quality of products.
Stress test capabilities	Ensure designs are reliable on real world networks by Stress test capabilities simulating varying QoS scenarios.
Support for key emerging IPTV standards	Future proofs investment.
Comprehensive suite of test streams included and optional multiplexer application available	Speeds design validation by providing a complete stream creation and generation toolkit.
Compact portable solution	Engineers can easily take to transmission site and quickly Compact portable solution evaluate network and consumer equipment.

Automated Video Analyzer
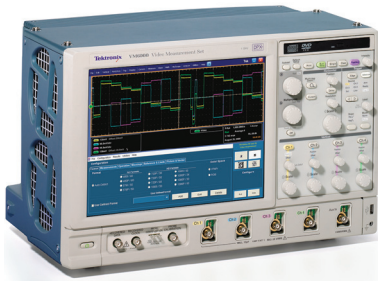
VM6000 Applications

- Automated video testing of digital set-top boxes and video semiconductors

www.tektronix.com/video

| Features	Benefits
Pass-Fail limit testing & summary screen	Fast and efficient review of hundreds of individual parameters can be quickly assessed via an intuitive Red/Green display including numerical results for failed parameters.
Test utilities	Make HDTV video testing faster, more robust, more Test utilities convenient and more accurate.
Automatic report generator	Speeds test documentation including test results, Automatic report generator configuration settings and signal reference data.
Companion test signal packages	Speed and simplify testing of supported formats with opt. SS.
Auto format detect	Simplifies operation and allows multiple formats to be tested Auto format detect automatically in sequence.
LAN connectivity	Access video test reports or data stored on the hard disk via LAN connectivity the network.
Complete oscilloscope functionality	Increased platform flexibility that includes full DPO7104 Complete oscilloscope functionality functionality and specifications.

Multiformat Video Generator

TG700 Applications

- Digital and Analog Broadcast Video Product Development and Manufacturing

www.tektronix.com/video

Features	Benefits
Standard test signals	Provides precise test patterns for testing and verifying color reference, display geometry, frequency response, signal timing, and signal performance.
Complete set of Serial Digital Interface formats	Supports all major SDI formats and frame rates: 270 Mb/s 525/625 SD-SDI, 1.5 Gb/s 720/1080 HD-SDI, dual link HD-SDI, and 3G-SDI. Supports RGB and XYZ color spaces, 10 or 12 bit sampling, and 2K raster size for dual link and 3G interfaces.
Composite and component analog video formats	Supports composite NTSC and PAL formats, including timing pulses, subcarrier and black burst signals. Supports YPbBr and RGB component analog formats for 525/625 SD and 720/1080 HD.
Modular form factor	Flexibility to choose the right set of video output modules for your application, and to easily upgrade your TG700 system in the future.
PC connectivity	Remotely configure and control the TG700 via the LAN interface, and download custom test patterns, logos, and frame pictures.
Automated test sequences	Use Tcl scripts and SCPI commands for program control of the TG700, simplifying tasks such as automated regression testing.

Technology/Application Solutions

Technology and Application Solutions

Keep up-to-date on the latest technologies and applications with Tektronix at: www.tektronix.com/applications
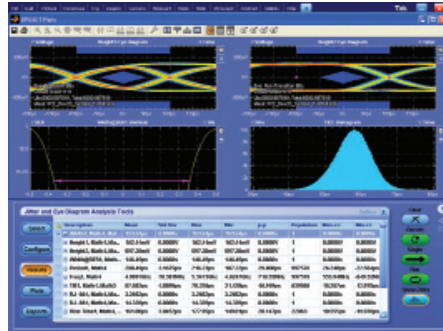
Serial Data

Embedded Systems

RF/Microwave

Digital Video

Other Applications

www.tektronix.com/applications

PCI Express®

PCI Express Design Challenges Need Fast, Accurate Answers

PCI Express 3.0 testing requires dual-port acquisition and 1 million unit interval analysis. Tektronix oscilloscopes provide full sample rate and deep memory on all channels required for compliance testing. The DPO70000B features channel emulation, equalization and up to 20 GHz Bandwidth which enables 5th harmonic measurements on 3rd generation data rates to 8 Gb/s.

Recommended Products:

Oscilloscopes and Application Software:

- DSA70000B Series Real Time Oscilloscopes
- DPOJET Jitter and Eye Analysis software
- DSA8200 Sampling Oscilloscope with 80E08 module
- IConnect® S-parameters and Z-Line software 80SSPAR

Probing:

- P7300SMA Series SMA Differential Probing System
- P7300 and P7500 Series TriMode Differential Probes
- P80318 TDR hand Probes

Logic Analyzers:

- TLA7000 Series
- TLA7Sxx Serial Analyzer module
- TLA SW version 5.1 or higher and protocol disassembly software

Signal Generators:

- AWG7000 Series
- AFG3000 Series

Spectrum Analyzers:

- RSA6000 Series

For more information visit:
www.tektronix.com/pci_express

Serial ATA

Powerful Serial ATA Automated Compliance Toolset Saves Time and Effort

Serial ATA test requirements are some of the most complex among current serial data standards. With a full toolset for characterization you will know how much margin your design really has. Tektronix' one-button solution for device state control and test automation allows you to focus your attention on other priorities.

Recommended Products:

Oscilloscopes and Application Software:

- DSA70000B Series Real Time Oscilloscopes
- TekExpress SATA Compliance Automation software
- DPOJET Jitter and Eye Analysis software
- DSA8200 Series Sampling Oscilloscope
- TDR and S-Parameter software 80SSPAR

Signal Generators:

- AWG7000 Series Arbitrary Waveform Generators

For more information visit:
www.tektronix.com/serial_data

Technology/Application Solutions
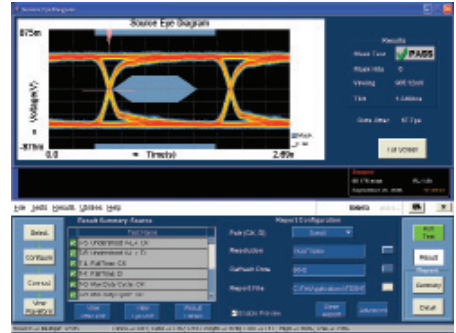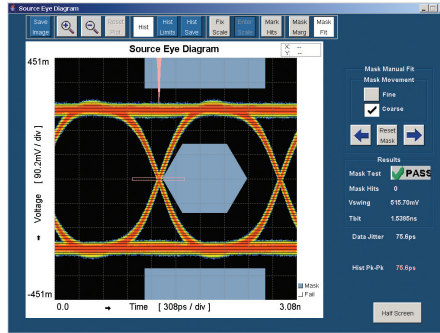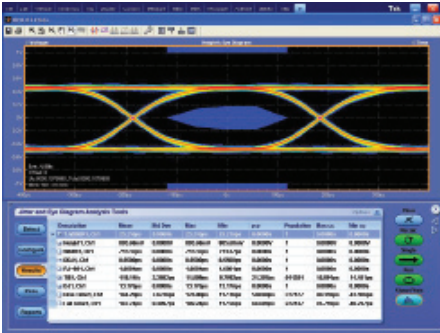
DisplayPort®

Powerful, Efficient Solution for DisplayPort Compliance Measurement Challenges

DisplayPort compliance testing for CTS v.1.1a requires timing/jitter measurements for Source validation, impedance tests for cables and confirming clock recovery with low bit error rates on Sink tests. Simplify your DisplayPort tests for CTS v.1.1a with Tektronix automated toolset for Source, Sink and Cable. Tektronix' suite of oscilloscopes, signal sources and signal analysis tools enable you to resolve design challenges quickly and efficiently.

Recommended Products:

Source Testing:
- DPO/DSA70000B Series Real Time Oscilloscopes
- TekExpress DisplayPort Compliance Automation software
- DPOJET Jitter and Eye Diagram Analysis Tool
- P7380SMA Probes
- TPA-P and TPA-R Test Fixtures

Sink Testing:
- AWG7122B Arbitrary Waveform Generator
- DSA70000B Series Real Time Oscilloscopes
- Automated DisplayPort Sink Test software Opt. DSPT
- DPOJET Jitter and Eye Diagram Analysis Tool
- TPA-P and TPA-R Test Fixtures
- Attenuators

Cable Testing (Passive & Active):
- DSA8200 Sampling Oscilloscope
- TDR Module 80A04
- Pattern Sync Module 80A06
- TDR and S-Parameter software 80SSPAR
- Jitter Analysis software 80SJNB
- TPA-P and TPA-R Test Fixtures

For more information visit:
www.tektronix.com/displayport

HDMI

Complete HDMI Compliance Test Solution for CTS V1.4

Tektronix' comprehensive automated sink, source and cable test solution addresses all requirements of the latest revision of the HDMI test specification CTS V1.4 and DVI specification. Four channel testing capability enables faster and more reliable testing with the results easily generated in a consolidated HTML report.

Recommended Products:

Oscilloscopes and Application Software:
- DSA70000B Series Real Time Oscilloscope with TDSHT3 Compliance Test software
- DSA8200 Sampling Oscilloscope
- TDR and S-Parameter software 80SSPAR
- Pattern Sync Module 80A06
- Jitter Analysis software 80SJNB

Probing:
- P7313SMA Differential Probe

Signal Generators:
- AWG7122B Arbitrary Waveform Generator
- DTG5334 with DTGM30

Test Fixtures:
- TPA-P and TPA-R

For more information visit:
www.tektronix.com/hdmi

Memory

Better Memory Designs, In Less Time, with The Right Tools.

Engineers integrating DDR devices into their designs face many challenges, like separating read/write bursts and debugging protocol violations.

The sophisticated triggering and software analysis packages available on the DPO Series Oscilloscopes and integrated DDR support in the Tektronix TLA Logic Analyzers enable designers to quickly validate and debug DDR designs.

Shrinking package size and type have also created enormous access challenges. Tektronix probing and fixture solutions simplify DDR testing with minimal system loading.

Recommended Products:

Logic Analyzers:
- TLA7000 Series
- TLA7BB4 Logic Analyzer Module

Oscilloscopes:
- MSO70000 and DPO/DSA70000B Series Real Time Oscilloscope
- DDR Analysis Option (Opt. DDRA)
- DPOJET Jitter and Eye Diagram Analysis Tool

Probing & Fixtures:
- P7500 TriMode™ Differential Probes
- P6780 Differential Logic Probes
- NEX-DDR3MP78BSCorNEX-DDR3MP78BSCSK Chip Interposers for Oscilloscopes

For more information visit:
www.tektronix.com/memory

Technology/Application Solutions
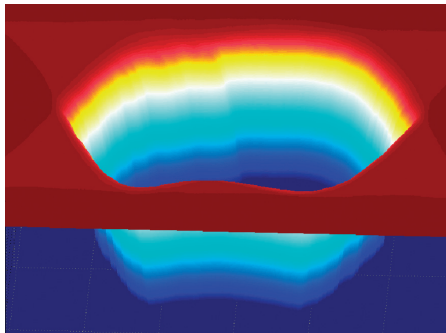
Jitter/Noise Analysis

Solving Jitter Debug and Analysis Challenges Made Easy

Tektronix offers jitter measurement solutions for signals ranging from low-speed digital to ultra-high speed serial data. Real-time oscilloscopes provide electrical measurement and debug capability to support standards up to 10 Gb/s.

For electrical standards above 10 Gb/s, and optical standards above 2.5 Gb/s, Tektronix offers the DSA8200 Series sampling oscilloscope with optical and electrical capabilities for 40 Gigabit OC-768 and beyond.

For solving jitter problems on low level and low noise signals, or for measuring the very small amounts of jitter often found on clocks, Tektronix offers Real Time Spectrum Analyzers (RTSA) that enable engineers to measure and characterize jitter over a wide dynamic range.

Recommended Products:

Oscilloscopes and Application Software:

- DSA70000B Series Real-time Oscilloscopes
- DPOJET Jitter and Eye Diagram and Analysis Tools
- DSA8200 Sampling Oscilloscopes
- 80SJNB Jitter, Noise and BER Analysis software
- IConnect® and MeasureXtractor™ Signal Integrity TDR and S-parameter software

Probing:

- P7313/P7313SMA Differential Probes
- P7500 TriMode Probes

Real-Time Spectrum Analyzers:

- RSA3000 Series

For more information visit:
www.tektronix.com/jitter
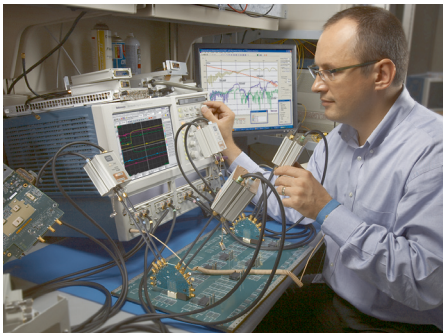
Signal Integrity, Time Domain Reflectometry (TDR) and S-parameter Measurements

Signal integrity measurements are a critical step in the process of developing digital systems. The task of isolating and eliminating signal integrity problems anywhere in the system is challenging. You need solutions with the bandwidth and time-saving features to properly address high-speed signal deviations, including digitizing oscilloscopes, logic analyzers, real-time spectrum analyzers, time-domain reflectometry solutions, signal generators, high-fidelity probes, and analysis software. Learn about these solutions that let you quickly locate and trace faults back to their source, eliminating schedule delays and reliability issues.

Recommended Products:

Oscilloscopes and Application Software:

- DSA8200 Sampling Oscilloscope
- IConnect® advanced and MeasureXtractor™ Signal Integrity TDR and S-parameter software
- 80SJNB Jitter, Noise and BER Analysis software

Probing:

- P8018 Single Ended/P80318 Differential TDR Probes

For more information visit:
www.tektronix.com/signal_integrity

Receiver Testing

Overcoming RX Testing Challenges Using an Arbitrary Waveform Generator

As a designer specializing in receiver test, you seek easy signal generation of very complex serial data signals. Tektronix offers a solution that delivers the ultimate in signal and impairment generation.

- SIMPLE: Single-instrument solution for high-speed-serial-data signal and impairment generation up to 8 Gb/s.
- FLEXIBLE: Ability to generate very complex signals including an unlimited combination of jitter profiles, ISI, SSC, Out-of-band signals, embedded channel/fixture effects and more.
- REPEATABLE: File-based solution enabling sharing and repeatable receiver tests under the same conditions.

Recommended Products:

Signal Generators:

- AWG7000/AWG5000 Series Arbitrary Waveform Generator
- RFXpress® software for RF/IF/IQ waveform creation and editing
- SerialXpress® software for high speed serial data signal creation and editing
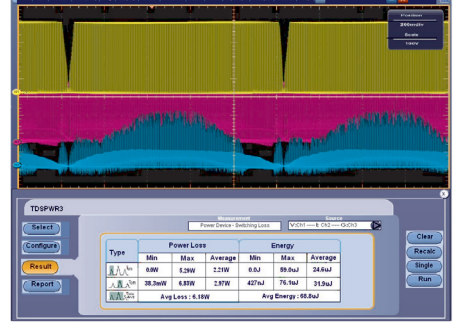
Oscilloscopes and Application software:

- DSA70000B Series Real-time Oscilloscopes
- DPOJET Jitter and Eye Diagram and Analysis Tools

Probing:

- P7313/P7313SMA Differential Probes
- P7500 TriMode Probes

For more information visit:
www.tektronix.com/receiver_test

Technology/Application Solutions

I²C, SPI, USB, RS-232, CAN, LIN, FlexRay, I²S

Comprehensive Solutions for Fast Debug of Serial Buses

Serial buses are pervasive in today's embedded systems. Now, troubleshooting a system level problem often requires decoding a complex serial data signal. Tektronix offers integrated serial triggering, protocol decoding and comprehensive analysis capabilities to help you speed the debug of your design.

Recommended Products:

Oscilloscopes and Application Software:

- MSO/DPO2000, MSO/DPO3000 or MSO/DPO4000 Series
  - DPO4AUTOMAX - Extended Automotive Serial Triggering and Analysis Module (CAN, LIN, FlexRay)[1]
  - DPO4USB - USB Serial Triggering and Analysis Module (Low-speed, Full-speed and High-speed USB 2.0)[1]
  - DPO2AUTO, DPO3AUTO, and DPO4AUTO - Automotive Serial Triggering and Analysis Module (CAN, LIN)
  - DPO2EMBD, DPO3EMBD, and DPO4EMBD - Embedded Serial Triggering and Analysis Module (I²C, SPI)
  - DPO2COMP, DPO3COMP and DPO4COMP - Computer Serial Triggering and Analysis Module (RS-232/422/485/UART)
  - DPO3AUDIO and DPO4AUDIO - Audio Serial Triggering and Analysis Module (I²S/LJ/RJ/TDM)[2]
- DPO7000 Series Real Time Oscilloscope
  - DPOJET Jitter and Eye Diagram Analysis - Advanced
  - DPOJET Jitter and Eye Diagram Analysis - Essentials
  - TDSVNM CAN and LIN Timing and Protocol Decode software
  - PDI-R - I²C Protocol Decode software
  - PDS-R - SPI Protocol Decode software
  - PDF-R - FlexRay Protocol Decode software
  - PDU-R - RS-232/UART Protocol Decode software

Probing:

- P6139A Passive Probes
- TDP0500 and TDP1000 Series Differential Probes

Logic Analyzers:

- TLA5000B Series
- TLA7000 Series
- Microprocessor/Bus Support

Signal Generators:

- AFG3000 Series Arbitrary Function Generator
- AWG5000B Series Arbitrary Waveform Generator

For more information visit:
www.tektronix.com/serialdebug

[1] MSO/DPO4000 Series Only
[2] MSO/DPO4000 and MSO/DPO3000 Series Only

Power Measurement and Analysis

Transform Your Tektronix Oscilloscope Into an Ideal Tool for Power Analysis

Today's power supplies are driving to a level of efficiency never seen before, requiring design engineers to perform numerous specialized power measurements that are time-consuming and complex. Tektronix offers an array of power measurement solutions to help you achieve fast, accurate and repeatable results for your specific application.

Recommended Products:

Oscilloscopes and Application Software:

- TPS2000 Series
  - TPS2PWR1 Power Measurement and Analysis software
- MSO/DPO3000 Series
  - DPO3PWR Power Analysis Module
- MSO/DPO4000 Series
  - DPO4PWR Power Analysis Module
- TDS5000B Series
  - TDSPWR3 Power Measurement and Analysis software
- DPO7000, MSO70000 and DPO70000B Series
  - DPOPWR Power Measurement and Analysis software

Probing:

- TCP0030 / TCP0150 AC/DC Current Probes
- TCP202 Current Probe
- TCPA300/400 Series Current Probes and Amplifiers
- P5100 Passive High Voltage Probes
- P5200/P5205/P5210 High Voltage Differential Probes
- TDP0500/TDP1000 High Voltage Differential Probes
- P6250/P6251 High Voltage Differential Probes

Signal Generators:

- AFG3000 Series Arbitrary Function Generator

For more information visit:
www.tektronix.com/power

Technology/Application Solutions

FPGA Validation

Tools to Optimize Real-Time FPGA Debug

Field Programmable Gate Arrays (FPGAs) continue to grow in performance and flexibility. However, increasing gate counts, advanced logic programming, and increasing signal frequencies with tighter timing margins make debug and design verification a challenging process when implementing an FPGA-based design.

Tektronix mixed signal oscilloscopes (MSOs) and logic analyzers with FPGAView™ enable you to correlate internal FPGA signal activity to board-level signals and instantly move probe points within Altera and Xilinx FPGAs without the need to recompile your design.

Recommended Products:

Logic Analyzers:
- TLA5000B Series
- TLA7000 Series

Mixed Signal Oscilloscopes:
- MSO2000 Series
- MSO3000 Series
- MSO4000 Series

Application Software:
- FPGAView™ software

For more information visit:
www.tektronix.com/fpga

Microprocessor Validation

System-Level Troubleshooting for Fast Design Verification and Test of Microcontrollers and Microprocessors

The number and types of microprocessors and microcontrollers enable powerful embedded system performance but can make design verification and debugging a test challenge. The growing combination of signal processing variables increases the number of communication paths in the design, adding to system complexity. Tektronix instruments provide a better system view of mixed signal performance, enabling you to speed up the design verification and test of microcontrollers and microprocessors in your embedded system.

Recommended Products:

Logic Analyzers:
- TLA5000B Series
- TLA7000 Series
- P6400 & P6800/P6900 Series Probes
- Microprocessor/Bus Support

Oscilloscopes:
- MSO/DPO2000 Series
- MSO/DPO3000 Series
- MSO/DPO4000 Series
- MSO70000 Series
- DPO7000 Series
- DPO70000B Series

Probing:
- TDP0500/TDP1000/TDP1500/TDP3500 High Voltage Differential Probes
- TAP1500/TAP2500/TAP3500 Active Probes

Signal Generators:
- AFG3000 Series Arbitrary/Function Generator
- AWG5000B Series Arbitrary Waveform Generator
- AWG7000B Series Arbitrary Waveform Generator

Application Software:
- DPOJET Jitter and Timing Analysis software
- iLink™ Logic Analyzer/Oscilloscope Integration Package

For more information visit:
www.tektronix.com/microprocessor

Technology/Application Solutions
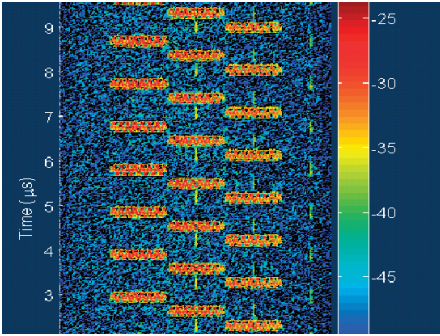
WiMedia UWB

Faster, Easier, and More Affordable Ultra-Wideband Designs

WiMedia UWB technologies will revolutionize high-speed personal area networks, but the test requirements are some of the most complex in the wireless industry. Our industry-leading signal generation and analysis hardware platforms and software solutions will improve time-to-market for your reliable UWB designs.
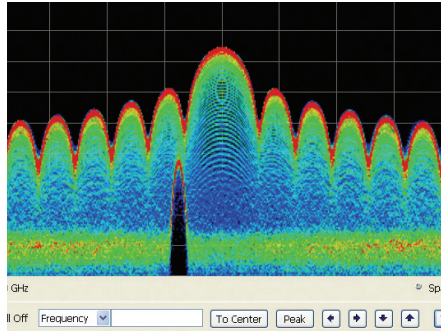
Recommended Products:

Receiver Testing:

- AWG7000 Series Arbitrary Waveform Generator with RFXpress® software

Transmitter Testing:

- DPO/DSA70000B Series Oscilloscope with UWB software

For more information visit:
www.tektronix.com/wimedia

Radar/EW

Performance, Precision and Insight for Your Radar/Electronic Warfare Design

With today's rapid advances in radar/electronic warfare technology, developing and manufacturing highly specialized and innovative electronic products requires leading-edge technology and tools. Our innovative test equipment reduces uncertainty during the design process and delivers confidence in the integrity of increasingly complex designs.

Recommended Products:

Receiver/Stimulus Test:

- AWG5000 Series Arbitrary Waveform Generator with RFXpress® software
- AWG7000 Series Arbitrary Waveform Generator with RFXpress® software

Transmitter Analysis:

- RSA6100 Series Spectrum Analyzer
- RSA3000 Series Spectrum Analyzer
- DPO/DSA70000B Series Oscilloscope with SignalVu™ software
- DPO7000 Series Oscilloscope with SignalVu™ software
- Ultra-wideband Analysis software

For more information visit:
www.tektronix.com/radar
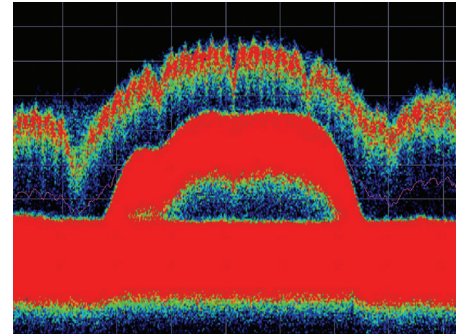
Spectrum Management

Accuracy and Insight All Across the Spectrum

Solve today's demanding signal detection and exploitation challenges with world-class instrumentation for detection, identification, mapping, and hunting down signals or sources of interference. DPX™ Live RF spectrum display will change the way you search and discover elusive signals.

Recommended Products:

Spectrum Management:

- H600/SA2600 Series Handheld Spectrum Analyzer
- RSA3000 Series Spectrum Analyzer
- RSA6000 Series Spectrum Analyzer

For more information visit:
www.tektronix.com/surveillance

Your Tektronix Service Advantage

You can trust Tektronix to offer unequalled engineering expertise and a customer-centric approach to ensure the optimal performance of your Tektronix products and maximize the lifetime value of your Tektronix investment.

Summary of Service Plans

Repair Service Extended Coverage	Calibration Service Coverage	Multi-Vendor Calibration Services	High Availability Service Plan
■ Save money with multi-year coverage ■ Priority service ■ Covers equipment, parts, labor and transportation ■ Applicable software, safety and reliability updates	■ Accredited calibration ■ Traceable calibration ■ Functional verification ■ Applicable software, safety and reliability updates ■ Calibration records retention	■ Single point of contact for all of your calibration needs ■ Simplify your operations and reduce administrative costs ■ On-site delivery for convenience and reduced downtime	■ Identically configured dedicated spare products ■ Flexible contract duration and payment terms ■ Priority access to technical support

■ **Tektronix Factory Experts**

Access to the engineering expertise that designed and built your products to ensure they are in peak performance. Over 20 man years of training per support engineer.

■ **Comprehensive and Thorough Treatment**

Software updates, safety and reliability modifications, and cosmetic enhancements are included if applicable. Products are returned to you in a "like new" condition. Worldwide support is available through the Tektronix network.

■ **Efficiency and Convenience**

Team of professionals focused on getting your instruments back to you as soon as possible to keep your downtime to a minimum and your service management easy.

■ **Flexible Repair and Calibration Service**

Choice of cost effective, flexible options and service packages to meet your needs.

For further details visit:
www.tektronix.com/service

Single Source Provider

A partner to trust for all your calibration needs

- Single point of contact for all calibration needs
- Over 95,000 products from more than 7100 manufacturers covered
- Certified and accredited calibration facilities and personnel

- On-site service at your facility
- Plans customized to your requirements
- Fixed price levels - no budget surprises

Performance

Calibration is the cornerstone of measurement confidence. A Single Source Provider (SSP) plan ensures the highest measurement quality for your Tektronix instruments, which receive the most thorough calibration in the industry. Hundreds of individual tests probe deeply into the instrument's behavior, adjusting it to a "factory-new" performance level, guaranteed.

In partnership with qualified regional business partners, Tektronix provides uncompromised calibration services—and measurement confidence—for all of your electrical, mechanical and process control instrumentation.

Compliance

Your instruments must be calibrated to globally accepted standards so that measurements results which impact your end-product's quality can be trusted. An SSP plan ensures that calibrations are performed under ISO accreditation and in compliance with metrology Standards such as the following:

- ISO/IEC 17025:2005
- ANSI/NCSL Z540.1-1994(R2002)
- ISO 9001

Tektronix SSP plans address more than 95,000 model types. Tektronix manages the technicians, tools, and procedures used in your calibrations, and is the primary point of contact with full responsibility for the calibration compliance of all your equipment.

Convenience

Tektronix SSP plan calibrations are performed on-site at your facility, scheduled at your convenience. On-site calibration procedures use mobile instruments that meet the same standards as depot-based tools. If you have multiple facilities with SSP plan contracts, every site will benefit from consistent policies, procedures, and…results.

Tektronix SSP plans can address at least 95% of your entire instrument inventory. You get a single point of contact for scheduling, tracking, and resolving unforeseen issues. The accountability rests with Tektronix.

Cost Effectiveness

Each SSP plan is customized to meet your technical, logistical, and budget needs. When you opt for an SSP plan, Tektronix representatives will meet with you to review equipment lists and arrange scheduling and access to facilities. The price of these services is competitive with that of third parties who cannot match Tektronix' breadth and depth of product knowledge.

On-site SSP plan services ensure the highest performance for all your measurement capital equipment, while reducing downtime and eliminating administrative headaches. A Tektronix SSP plan enables you to easily manage the total cost of calibration services, allowing increased productivity and a higher return on your investment.

Your Tektronix Service Advantage

Keeping a lab full of measurement instruments calibrated is a complex, demanding job. You've always been able to rely on Tektronix' proven expertise for calibration of the Tektronix products you own. Now Tektronix can deliver on-site calibration services for all of your measurement equipment, irrespective of product brand or origin, with a Single Source Provider (SSP) plan designed just for your needs. Tektronix can be your single point of contact for all calibration schedules, events, and issues.

If you own a qualifying inventory of Tektronix and non-Tektronix instruments needing routine calibration, a Tektronix SSP plan can be a big advantage. You can select a convenient plan suited to your administrative and technical needs. You'll receive world-class calibration services managed by a leader in measurement and calibration technology. And you will get years of peak performance and value out of your instruments. That is your Tektronix service advantage.

Qualified Calibration Service Partners

Tektronix has allied with qualified regional business partners, each an established and accredited leader in independent calibration services, to assist with the delivery of its SSP plans.

For details, contact Tektronix at:

Inside the U.S.:

1-800-833-9200
Press Option 2 (Service)
then, Option 4 (Service Contracts)

Outside the U.S.:

Contact your regional Tektronix Sales & Service Center via www.tektronix.com/contact

Also available:

Video Test and Measurement Catalog
Key product highlights and specifications for the entire suite of Tektronix video and broadcast test solutions.

To download a copy, please visit: www.tektronix.com/catalog

For Further Information
Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit **www.tektronix.com**

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