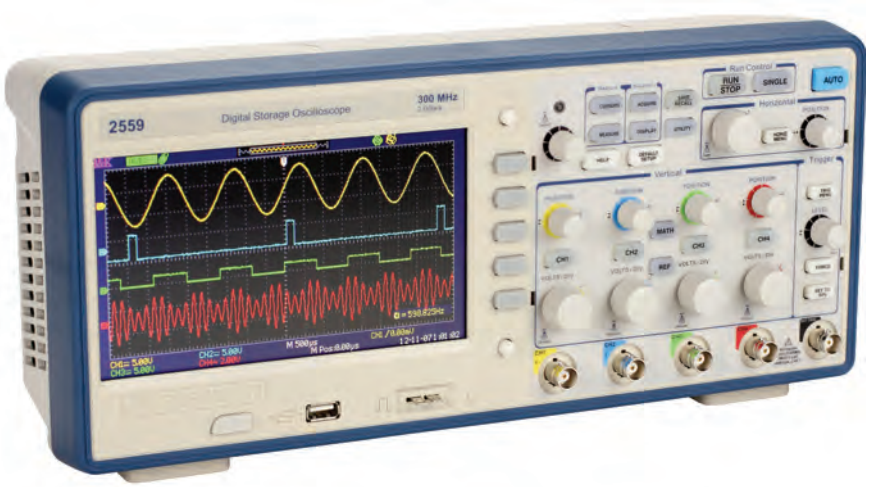
Data Sheet

Digital Storage Oscilloscopes

2550 Series



The 2550 series digital storage oscilloscopes provide high performance and value in 2-channel and 4-channel configurations. With bandwidth from 70 MHz to 300 MHz and 2 GSa/s sample rates, these oscilloscopes offer 24 kpts/Ch waveform memory, 32 automatic measurements, and advanced triggering capabilities including math functions. Engineered to allow you to see more of your signal under test, the 2550 series' widescreen 7" TFT display offers a significantly larger viewing area than typical economy oscilloscopes (5.7").

Maximize productivity with PC connectivity via LAN and USB. The downloadable PC software lets you easily capture, save, and analyze measurement results. All oscilloscope parameters can be controlled via a PC without the need for programming.

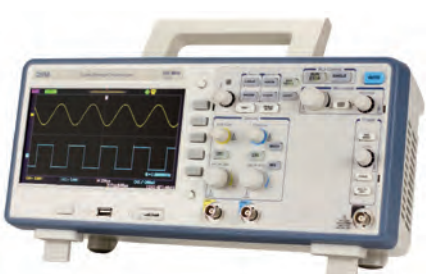
Additionally, these oscilloscopes can be integrated with AWGs using B&K Precision's waveform editing software, WaveXpress. WaveXpress allows users to easily modify waveforms downloaded from the scope and can also be used for analysis of deep memory acquisitions.

Educators who want to teach waveform measurement fundamentals can benefit from the ability to disable the Auto set button, a function that automatically sets up the scope to display a signal.

The 2550 series oscilloscopes are ideal for applications in design and debug, service and repair, and education.

Features & Benefits

- Bandwidth up to 300 MHz
- 2 GSa/s sample rate
- 4-channel acquisition (on select models)
- Large 7" widescreen color display
- FFT including four additional math functions - Add, Subtract, Multiply, and Divide
- 32 automatic measurements
- 50 Ω input coupling (200 MHz and 300 MHz models)
- Standard LAN (supports SCPI) and USB device port (USBTMC compliant)
- Front and rear panel USB host port for saving and recalling waveform setups, data, and screenshots on a USB flash drive
- Software provided for remote PC control
- Advanced tools include digital filters with adjustable limits, pass/fail testing and waveform recorder mode
- Multi-language user interface and context sensitive help



Model	2552	2553	2554	2555	2556	2557	2558	2559
Bandwidth	70 MHz		100 MHz		200 MHz		300 MHz	
Channels	2	4	2	4	2	4	2	4

WaveXpress™ Compatible

For more information, visit www.bkprecision.com/WaveXpress

B&K PRECISION ELECTRONIC TEST INSTRUMENTS

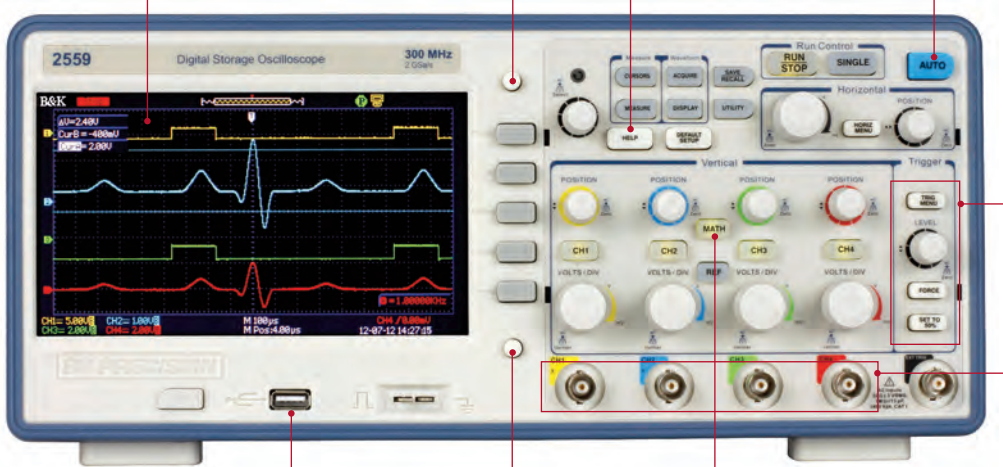
Front panel

Widescreen display
The 7" widescreen color display lets you see more of your signal.

Menu On/Off button
Configure the menu parameters and hide the menu with the push of a button to view your signal in full screen.

Context sensitive help
A pop up window will display the functionality of a control while help mode is active.

Auto setup
Vertical, horizontal, and trigger controls are automatically adjusted for fast signal display.



Advanced triggering
Isolate the signal with advanced triggering including pulse width and selectable video trigger.

Intuitive channel operation
All channels in the 2550 series are clearly indicated by their own color, labeled on the input, knobs, and display.

USB host port
Connect your USB flash drive to conveniently store and recall waveform data, setups, and screenshots.

Print button
Simply press the Print button to save a screenshot in bitmap format to a USB flash drive.

Waveform analysis with math and FFT
Analyze your signals with add, subtract, multiply, and divide functions. View the signal's frequency spectrum and perform harmonic distortion analysis.

Rear panel

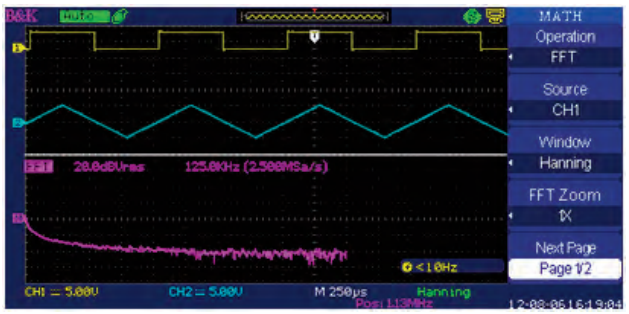
USB host port
Additional USB port on rear for data storage to a USB flash drive.

Kensington security slot
Helps to secure your oscilloscope and prevent theft.

Communication
LAN and USB ports enable remote control from a PC.

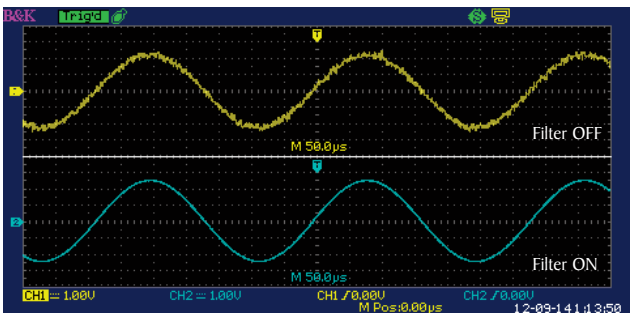
The tools you need

Powerful measurement functions



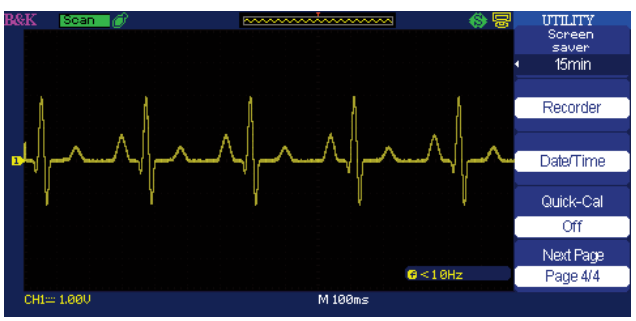
Display and measure the input signal's frequency spectrum. Select one of the 4 FFT windows: Rectangular, Hanning, Hamming, and Blackman. Use cursors to measure the spectral component's magnitude and frequency.

Digital filtering



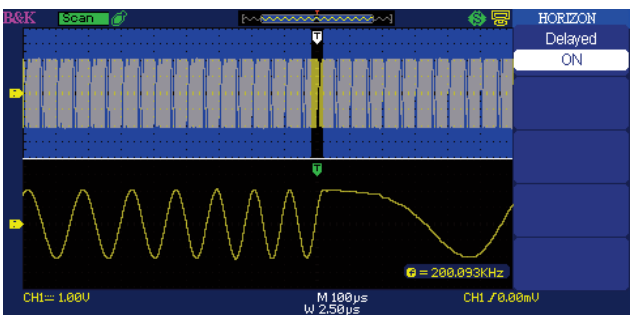
Filter out unwanted signal components such as various types of noise with built-in digital filters. Choose from Low-Pass, High-Pass, Band-Pass, and Band-Stop filters.

Waveform recorder



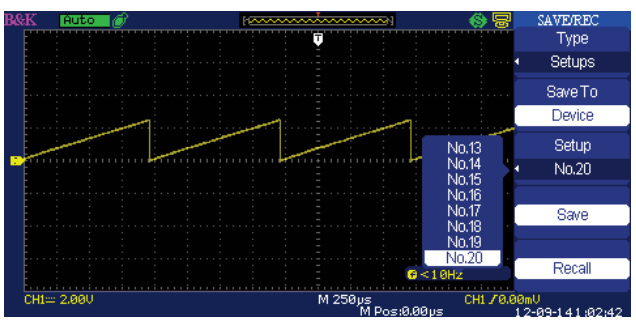
Monitor and analyze long-term signal behavior by recording data continuously over an extensive period of time and playing it back for post acquisition analysis. Data is recorded in a sequence of up to 2500 frames.

Delayed sweep/zoom



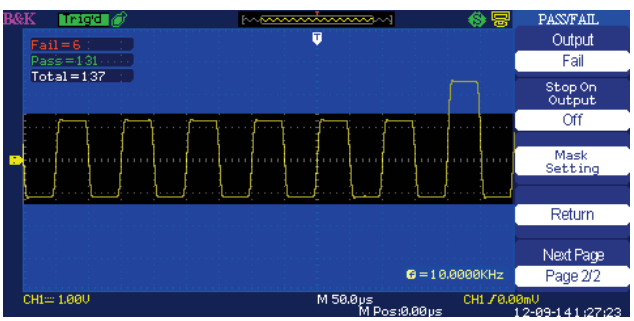
Use the oscilloscope's delayed sweep feature to zoom in a particular area of a signal in real time while viewing the entire captured waveform simultaneously.

Large internal storage



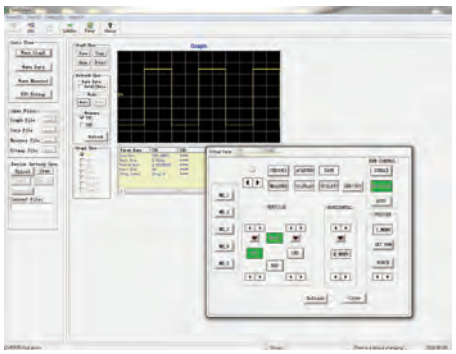
Minimize debug time by saving and recalling setups and waveforms from internal memory. Save and recall up to 20 different oscilloscope setups and 20 different waveforms.

Pass/Fail testing



Generate user-defined pass/fail limits to quickly identify go/no go test results.

PC connectivity



PC software is provided (free download at B&K Precision's website at www.bkprecision.com) for seamless integration between the oscilloscope and PC. Capture and transfer waveforms, screen images, setups and measurement results to a Windows PC via the USB device port on the back of the instrument. A USB host port on the front and rear allows for quick and easy screen saving.

High bandwidth passive oscilloscope probes

PR150B

PR250B & PR500B

Avoid limiting the bandwidth of your measurement system. All 2550 series models come standard with high bandwidth, slimline passive probes (one per channel) to help you get the most out of your scope.

Features

- Slim, stylish body
- Snap-locking sprung hook
- Easily replaceable tip
- Large accessory set
- Meets IEC 61010-031 CATII
- RoHS compliant

Model	Included Probes
2552	two 150 MHz bandwidth, x1/x10 probes (model PR150B)
2553	four 150 MHz bandwidth, x1/x10 probes (model PR150B)
2554	two 150 MHz bandwidth, x1/x10 probes (model PR150B)
2555	four 150 MHz bandwidth, x1/x10 probes (model PR150B)
2556	two 250 MHz bandwidth, x10 probes (model PR250B)
2557	four 250 MHz bandwidth, x10 probes (model PR250B)
2558	two 500 MHz bandwidth, x10 probes (model PR500B)
2559	four 500 MHz bandwidth, x10 probes (model PR500B)

Specifications	2552	2553	2554	2555	2556	2557	2558	2559
Performance Characteristics								
Bandwidth	70 MHz		100 MHz		200 MHz		300 MHz	
Real Time Sampling Rate	2 GSa/s (half-channel interleaved)(1), 1 GSa/s (per channel)							
Channels	2	4	2	4	2	4	2	4
Rise Time	< 5 ns		< 3.5 ns		< 1.8 ns		< 1.2 ns	
Ch to Ch Isolation (Both channels in same V/div setting)	>100:1 at 35 MHz		>100:1 at 50 MHz		>100:1 at 100 MHz		>100:1 at 150 MHz	
Max Memory Depth	24 kpts (half-channel interleaved)(1)(2), 12 kpts (per channel)							
Vertical Resolution	8 bit							
Vertical Sensitivity	2 mV/div -10 V/div (1-2-5 order)							
DC Gain Accuracy	< ±3.0%: 5 mV/div to 5 V/div in fixed gain ranges < ±4.0%: 2 mV/div in variable gain ranges							
Maximum Input Voltage	400 V (DC+AC pk-pk, 1 MΩ input impedance, X10), CAT I, 5 Vrms (50 Ω input impedance)							
Position Range	2 mV–100 mV: ±800 mV 102 mV – 5 V: ±40 V							
Bandwidth Limit	20 MHz ±40% (Note: BW limited below 20 MHz when using probe in X1)							
Horizontal Scan Range	5 ns/div – 50 s/div		2.5 ns/div – 50 s/div				1 ns/div – 50 s/div	
Timebase Accuracy	±100 ppm measured over 1 ms interval							
Input Coupling	AC, DC, GND							
Input Impedance	1 MΩ ± 2% || 13 pF ± 3 pF				1 MΩ ± 2% || 13 pF ± 3 pF, 50 Ω ± 2%			
Vertical and Horizontal Zoom	Vertically or horizontally expand or compress a live or stopped waveform							
I/O Interface								
USB	Front and rear USB host ports support USB flash drives, USBTMC compliant USB device port for connecting to PC							
LAN	Supports SCPI commands for remote control							
Pass/Fail	Pass/Fail output							
Acquisition Modes								
Sampling	Display sample data only							
Peak Detect	Capture the maximum and minimum values of a signal							
Average	Waveform averaged, selectable from 4, 16, 32, 64, 128, 256							
Trigger System								
Trigger Types	Edge, Pulse Width, Video*, Slope, Alternative *Support signal Formats: PAL/SECAM, NTSC Trigger condition: odd field, even field, all lines, or line number							
Trigger Modes	Auto, Normal, Single							
Trigger Coupling	AC, DC, LF reject, HF reject							
Trigger Source	CH1, CH2, CH3, CH4, EXT, EXT/5, AC Line							
Pulse Width Trigger	Trigger Modes: Positive Pulse (>, <, =), Negative Pulse (>, <, =)							
Slope Trigger	Positive slope (>, <, =), Negative slope (>, <, =) Time: 20 ns-10 s							
Alternate Trigger	CH1 trigger type: Edge, Pulse, Video, Slope CH2 trigger type: Edge, Pulse, Video, Slope CH3 trigger type: Edge, Pulse, Video, Slope CH4 trigger type: Edge, Pulse, Video, Slope							

Notes:
(1) On 4-Ch models, Ch1 and Ch2 are interleaved, and Ch3 and Ch4 are interleaved. Half channel operation means that only Ch1 or Ch2 and/or only Ch3 or Ch4 is active.
(2) When timebase is 25 ns or faster and maximum data depth mode is enabled.

Specifications	2552	2553	2554	2555	2556	2557	2558	2559
Hardware Frequency Counter								
Reading Resolution	6 digits							
Accuracy	± 0.01%							
Range	DC couple, 10 Hz to MAX bandwidth							
Signal Types	Satisfying all trigger signals (except pulse width trigger and video trigger)							
Waveform Math and Measure								
Math Operation	Add, Subtract, Multiply, Divide, FFT							
FFT	Window mode: Hanning, Hamming, Blackman, Rectangular Sampling points: 1024							
Measure	Vpp, Vmax, Vmin, Vamp, Vtop, Vbase, Vavg, Mean, Crms, Vrms, ROV, FOV, RPRE, FPRE, FREQ, Period, Rise Time, Fall Time, BWid, + Wid, - Wid, + Duty, - Duty, Phase, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF							
Cursors								
Types	Voltage, Time							
Measurements	ΔV, ΔT, 1/ΔT (frequency)							
Display System								
Display	7 in. Color TFT, 480 x 234 resolution, 64K color							
Display Contrast (Typical state)	150:1							
BacklightIintensity (Typical state)	300 nit							
Wave Display Range	8 x 18 div							
Wave Display Mode	Dots, Vector							
Persistence	Off, 1 sec, 2 sec, 5 sec, Infinite							
Menu Display	2 sec, 5 sec, 10 sec, 20 sec, Infinite							
Screen-Saver	Off, 1 min, 2 min, 5 min, 10 min, 15 min, 30 min, 1 hr, 2 hr, 5 hr							
Waveform Interpolation	Sin(x)/x, Linear							
Color Mode	Normal, Invert							
Environmental and Safety								
Temperature	Operating: 50° F to 104 °F (10 °C to +40 °C) Not operating: -4 °F to 140 °F (-20 °C to +60 °C)							
Humidity	Operating: 85%RH, 104 °F (40 °C), 24 hours Not operating: 85%RH, 149 °F (65 °C), 24 hours							
Altitude	Operating: 9,842.5 ft (3,000 m) Not operating: 50,085.3 ft (15,266 m)							
Electromagnetic Compatibility	EMC Directive 2004/108/EC, EN61326:2006							
Safety	Low voltage directive 2006/95/EC, EN61010-1:2001							
General								
Power Requirements	100-240 VAC, CAT II, 50 VA max, 45 Hz to 440 Hz							
Dimensions (W x H x D)	14.1" x 6.14" x 4.65" (358 x 156 x 118 mm)							
Weight	2-channel models: Approx. 9.5 lbs (4.3 kg) 4-channel models: Approx. 9.9 lbs (4.5 kg)							
								Three-Year Warranty
Supplied Accessories	User manual, passive probes (one per channel), power cord, certificate of calibration, USB (Type A to B) communication cable							