

## 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.

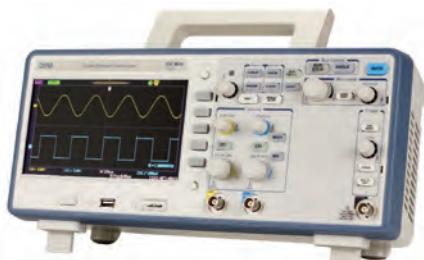
Additionally, these oscilloscopes can be integrated with AWGs using B&K Precision's waveform editing software, WaveXpress. WaveXpress allows users to easily modify waveforms downloaded from the scope and can also be used for analysis of deep memory acquisitions.

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



Technical data subject to change  
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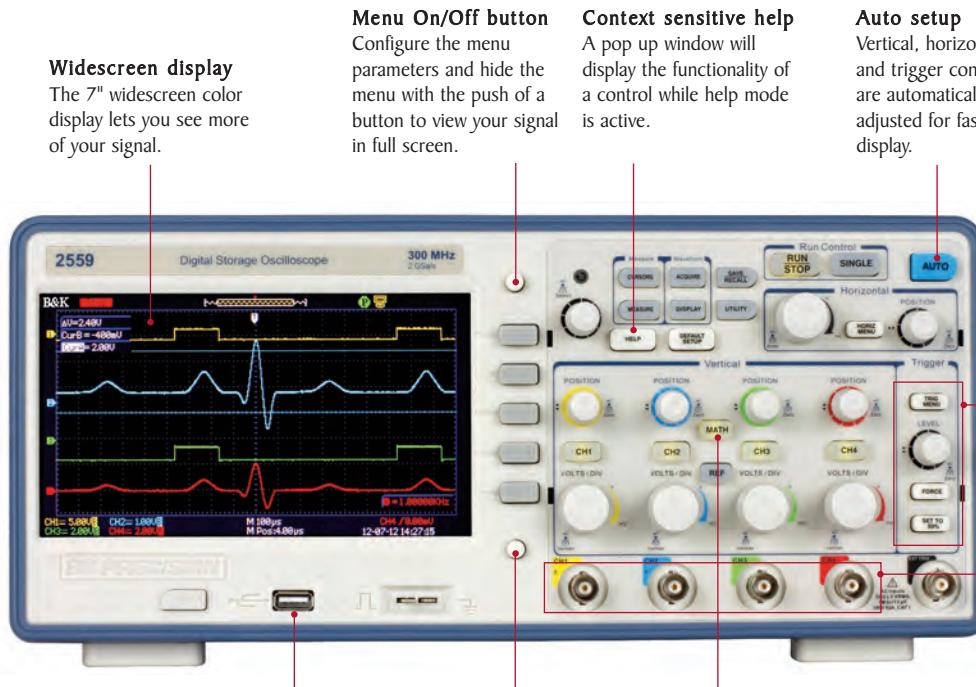
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## Front panel



### 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.

### 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.

### Intuitive channel operation

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

## Rear panel



### Kensington security slot

Helps to secure your oscilloscope and prevent theft.

### Communication

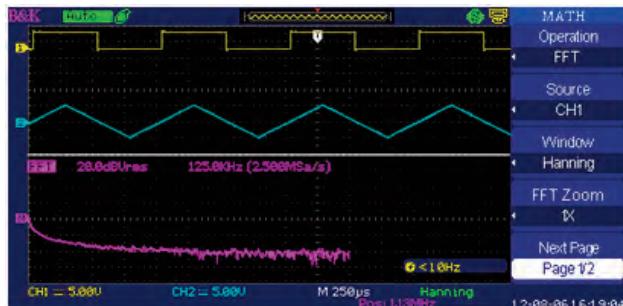
LAN and USB ports enable remote control from a PC.

### USB host port

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

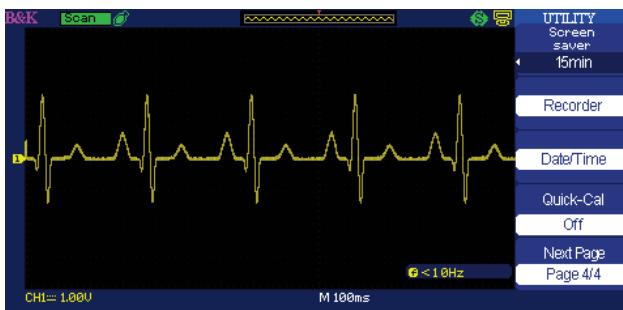
## The tools you need

### Powerful measurement functions



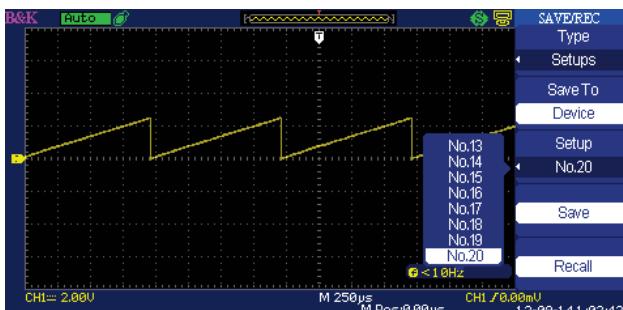
Display and measure the input signal's frequency spectrum. Select one of the 4 FFT windows: Rectangular, Hanning, Hamming, and Blackman. Use cursors to measure the spectral component's magnitude and frequency.

### Waveform recorder



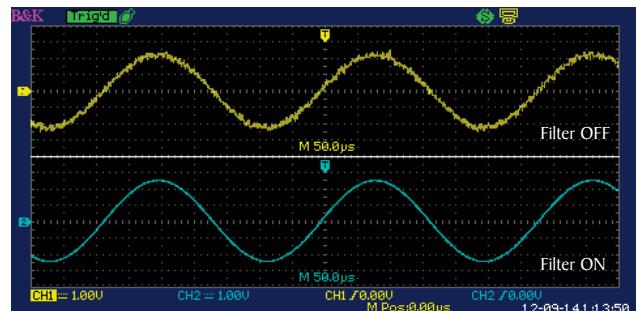
Monitor and analyze long-term signal behavior by recording data continuously over an extensive period of time and playing it back for post acquisition analysis. Data is recorded in a sequence of up to 2500 frames.

### Large internal storage



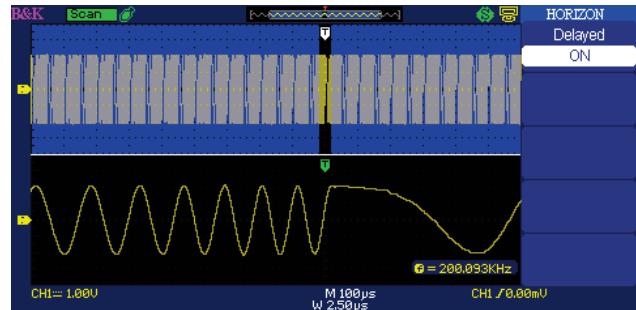
Minimize debug time by saving and recalling setups and waveforms from internal memory. Save and recall up to 20 different oscilloscope setups and 20 different waveforms.

### Digital filtering



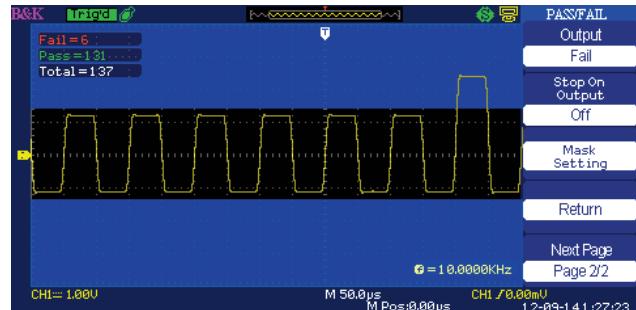
Filter out unwanted signal components such as various types of noise with built-in digital filters. Choose from Low-Pass, High-Pass, Band-Pass, and Band-Stop filters.

### 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.

### 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](http://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)

## Digital Storage Oscilloscopes

### 2550 Series

Specifications	2552	2553	2554	2555	2556	2557	2558	2559
<b>Performance Characteristics</b>								
Bandwidth	70 MHz		100 MHz		200 MHz		300 MHz	
Real Time Sampling Rate			2 GSa/s (half-channel interleaved) <sup>(1)</sup> , 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) <sup>(1)(2)</sup> , 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	I MΩ ± 2%    13 pF ± 3 pF		I MΩ ± 2%    13 pF ± 3 pF 50 Ω ± 2%					
Vertical and Horizontal Zoom			Vertically or horizontally expand or compress a live or stopped waveform					
<b>I/O Interface</b>								
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					
<b>Acquisition Modes</b>								
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					
<b>Trigger System</b>								
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/S, 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.

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2550 Series

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<b>Hardware Frequency Counter</b>								
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)			
<b>Waveform Math and Measure</b>								
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, RPREF, FPRE, FREQ, Period, Rise Time, Fall Time, BWid, + Wid, - Wid, + Duty, - Duty, Phase, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF			
<b>Cursors</b>								
Types					Voltage, Time			
Measurements					ΔV, ΔT, 1/ΔT (frequency)			
<b>Display System</b>								
Display					7 in. Color TFT, 480 x 234 resolution, 64K color			
Display Contrast (Typical state)					150:1			
Backlightintensity (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			
<b>Environmental and Safety</b>								
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			
<b>General</b>								
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)			
<b>Three-Year Warranty</b>								
Supplied Accessories					User manual, passive probes (one per channel), power cord, certificate of calibration, USB (Type A to B) communication cable			