

# Data Sheet

## Digital Storage Oscilloscope Model 2530B



The 2530B combines performance and value all in one portable solution. With advanced triggering capabilities, long waveform memory up to 32,000 pts/Ch, and extensive features such as pass/fail limit testing, digital filtering, waveform recorder, and automatic measurements, the 2530B offers powerful tools in a small affordable package.

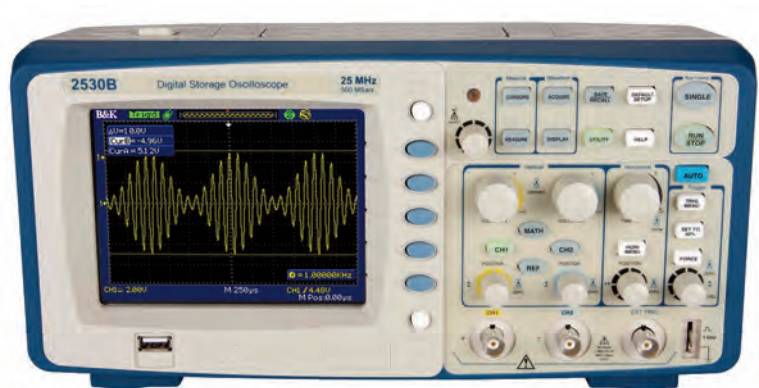
Maximize productivity with the included EasyScope PC software that lets you easily capture, save, and analyze measurement results. All oscilloscope parameters can be controlled via a PC without the need for programming.

Educators will appreciate the ability to disable the Auto button that would automatically setup the scope to display a signal circumventing the need to know how to set up scope parameters. This is key for teaching waveform measurement fundamentals as if it was an analog oscilloscope.

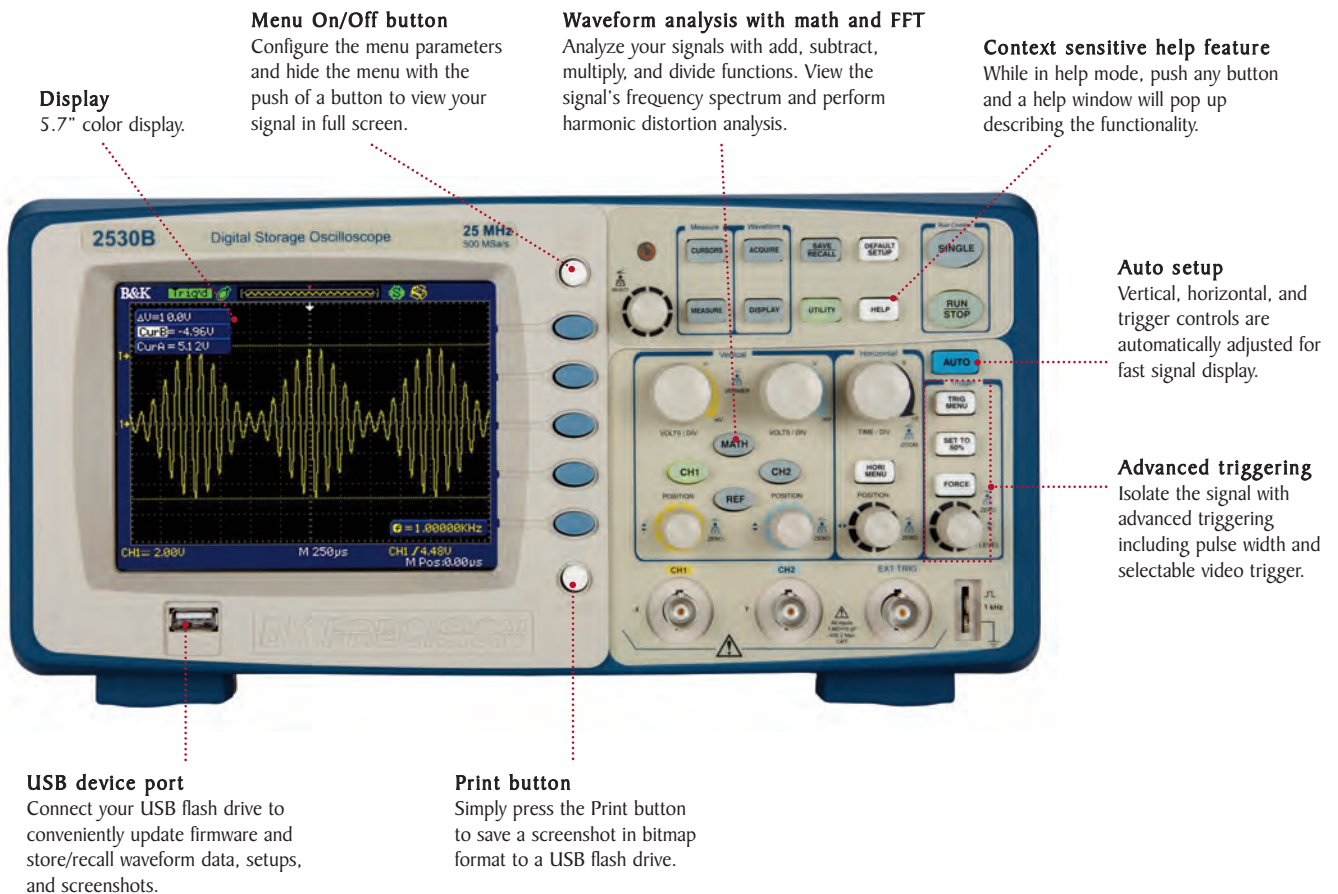
The 2530B is an ideal oscilloscope for applications in education, troubleshooting and debug, service and repair.

### Features and Benefits

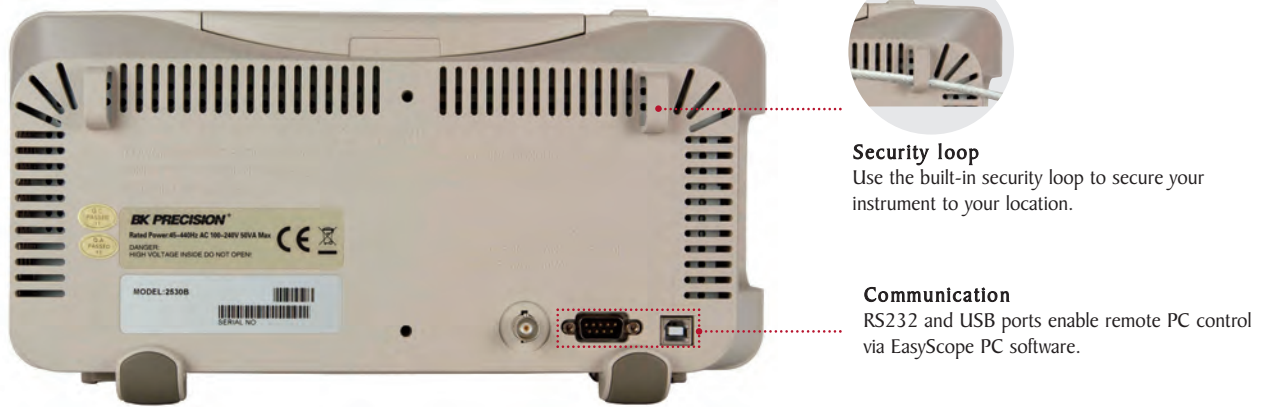
- 25 MHz bandwidth
- 500 MSa/s sample rate
- Bright 5.7" color display
- Long waveform memory up to 32,000 pts/Ch (when time base is 50 ns or 25 ns and maximum data depth mode is enabled)
- For educators - ability to disable the Auto Set button
- Five different math functions – Add, Subtract, Multiply, Divide, and FFT
- Versatile triggering capabilities including pulse width, line-selectable video, slope, and alternating trigger
- 32 automatic measurements
- Advanced tools include digital filter with adjustable limits, pass/fail testing, and waveform recorder mode
- Twelve different language user interfaces and context sensitive help
- USB host connectivity for remote PC control through EasyScope PC software
- USB device port for convenient storing and recalling of waveform data, setups, and screenshots on a USB flash drive



## Front panel features

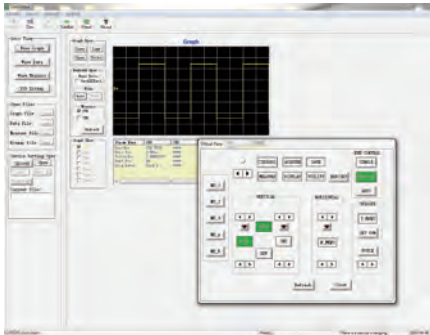


## Rear panel



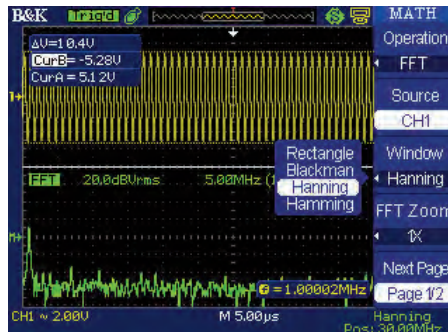
## The tools you need

### PC Connectivity



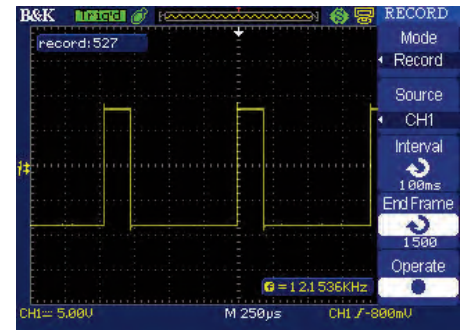
The included EasyScope software provides seamless integration between the oscilloscope and PC. Capture and transfer waveforms, screen images, setups and measurement results to a Windows PC via the USB host port on the back of the instrument. A USB device port on the front allows for quick and easy screen saving.

### Powerful Measurement Functions



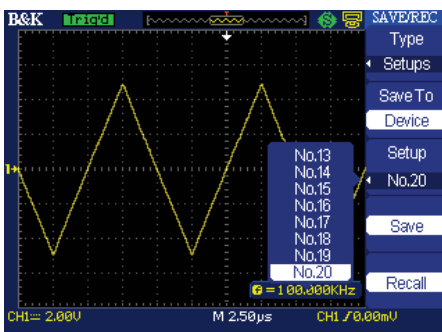
Display and measure the input signal's frequency spectrum. Select one of the 4 FFT windows: Rectangular, Hanning, Hamming, and Blackman. Use cursors to measure the spectral component's magnitude and frequency.

### Waveform Recorder



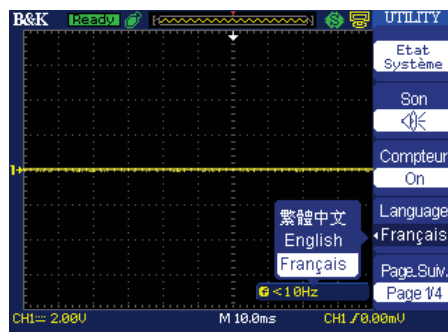
Monitor and analyze long-term signal behavior by recording data continuously over an extensive period of time and playing them back for post acquisition analysis. Data is recorded in a sequence of up to 2500 frames.

### Large Internal Storage



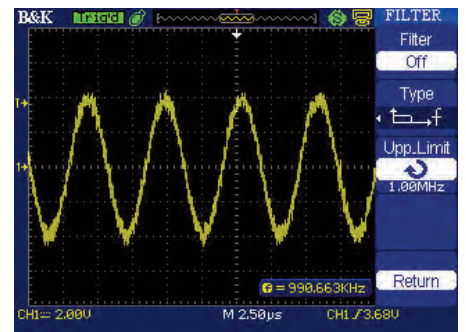
Minimize debug time by saving and recalling setups and waveforms from internal memory. Save and recall up to 20 different oscilloscope setups and 10 different waveforms.

### Multi-Language Interface

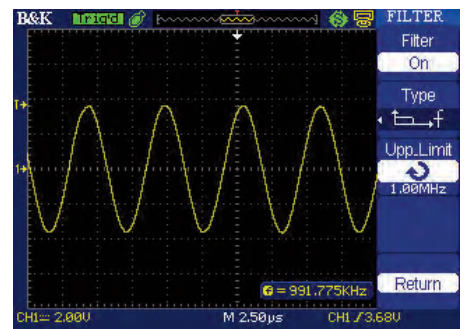


Operate the oscilloscope in a language you understand best with the built-in multi-language interface. Choose from English, Simplified Chinese, Traditional Chinese, Arabic, French, German, Russian, Spanish, Portuguese, Japanese, Korean, and Italian.

### Digital Filtering



Noisy signal



Noisy signal with filter applied

### Pass/Fail Testing



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

# Specifications

Model	2530B
<b>Performance Characteristics</b>	
Bandwidth	25 MHz
Real Time Sampling Rate	Single Channel: 500 MSa/s 2 Channels interleaved: 250 MSa/s (for timebase faster than 250 ns/div)
Channels	2
Rise time	< 14 ns
Record Length	32,000 points when time base is 50 ns or 25 ns at maximum data depth (16,000 points for 50 s - 100 ns time base), 16,000 points for dual channel operation
Vertical Resolution	8 bit
Vertical Sensitivity	2 mV/div -5 V/div(1-2-5 order)
DC Gain Accuracy	< ±3.0%: 10 mV/div to 10 V/div in Fixed Gain Ranges < ±4.0%: 2 mV/div, .5 mV/div and Variable Gain Ranges
Maximum input voltage	400 V (DC+AC pk-pk, 1 MΩ input impedance, X10), CAT I
Position Range	2 mV-100 mV: ±2 V 102 mV - 5 V: ±40 V
Horizontal Scan Range	2.5 ns/DIV - 50 s/DIV Scan mode: 100 ms/DIV - 50 s/DIV (1 - 2.5 - 5 sequence)
Timebase Accuracy	±100 ppm measured over 1 ms interval
Input Coupling	AC, DC, GND
Input Impedance	1 MΩ±2%    16 pF±3 pF
Vertical and Horizontal Zoom	Vertically or horizontally expand or compress a live or stopped waveform
I/O interface	USB device port on front panel supports USB flash drives. USB host port for connection to PC or Printer. RS-232 port for connection to PC.
<b>Acquisition Modes</b>	
Sample	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
Scan Mode	For time base settings 0.1 s/div - 50 s/div
<b>Trigger System</b>	
Trigger Types	Edge, Pulse Width, Video*, Slope, Alternating
Trigger Modes	Auto, Normal, Single
Trigger Coupling	AC, DC, LF reject, HF reject
Trigger Source	CH1, CH2, EXT, EXT/5, AC Line
Pulse Width Trigger	Trigger Modes: (>, <, =) Positive Pulse Width, (>, <, =) Negative Pulse Width
Slope Trigger	(>, <, =) Positive slope, (>, <, =) Negative slope Time: 20 ns - 10 s
*Support signal Formats: PAL/SECAM, NTSC Trigger condition : odd field, even field, all lines, or line number	

<b>Hardware Frequency Counter</b>	
Reading Resolution	6 Bytes
Accuracy	±0.01%
Range	DC Couple, 10 Hz to 25 MHz
Signal Types	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	Amplitude, Average, Base, Burst Width, Cyclic RMS, + Duty Cycle, - Duty Cycle, Fall Time, Frequency, Max, Mean, Min, Rise Overshoot, Fall Overshoot, Rise Preshoot, Fall Preshoot, Peak-Peak, Period, Phase, Rise Time, RMS, Top, + Width, - Width, plus 8 advanced parameters for edge to edge timing measurements
<b>Display System</b>	
Display	5.7 in. Color TFT, 320 x 240 resolution, 64K color
Display Contrast (Typical state)	150:1
Backlight Intensity (Typical state)	300 cd/m <sup>2</sup>
Display Area	8 x 12 div
Display Mode	Dots, Vector
Persistence	Off, 1 sec, 2 sec, 5 sec, Infinite
Menu Display Timer	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 hour, 2 hour, 5 hour
Waveform interpolation	Sin(x)/x, Linear
Display Color Mode	Normal, Invert
Power Requirements	100-240 VAC, CAT II, 50 VA max, 45 Hz to 440 Hz
<b>Environment</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) Not operating: 85% RH, 149 °F (65 °C)
Altitude	Operating: 9,842 ft (3,000 m) Not operating: 50,085 ft (15,266 m)
<b>General</b>	
Dimension (WxHxD)	12 x 6.3 x 5.2 inches (305 x 160 x 133 mm)
Weight	5 lbs. (2.3 kg)
<b>One Year Warranty</b>	
Included accessories: User Manual, 10:1 Probe set (2 pieces), Power cord, USB interface cable, EasyScope Software Installation disk	