TBS1000B(-EDU) Oscilloscopes
Presented by TestEquity LLC
Tektronix Scopes: The #1 Tool for Education and Entry-level Applications

- For years the TDS1000 and TDS2000 have been the most popular scopes in education and entry-level, general-purpose applications, with an installed base of over 600,000 units.

- To refresh the portfolio Tektronix launched the new generation TBS1000 value oscilloscopes:
  - TBS1000 2 CH models launched in October 2012
  - TBS1000 4 CH models launched in July 2013

Tektronix TBS1000B / Tbs1000B-EDU oscilloscopes address value-conscious, customers who are constantly looking for instruments with more performance and new features… offered at attractive prices.
Introducing *Two New Oscilloscopes*…

**NEW**

*TBS1000B-EDU*

The world’s first dedicated teaching oscilloscope

**NEW**

*TBS1000B*

The best value, all-around oscilloscope available
**TBS1000B Series Oscilloscopes**

Unprecedented Value, Performance and Functionality

NEW TBS1000B/-EDU models replace existing 2-Channel TBS1000 models

<table>
<thead>
<tr>
<th>Performance</th>
<th>Ease-of-Use</th>
<th>Value</th>
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</thead>
</table>
| • 50, 70, 100, 150 and 200 MHz bandwidth models  
• 2 analog channels  
• Best-in-class, always-on sampling rate up to 2 GS/s, independent of how many channels are being viewed  
• Standard dual-channel frequency counter  
• 3% DC gain accuracy, 10 mV/dv through 5 V/div | • User interface based on the industry leading Tektronix MSO/DPO oscilloscopes  
• Lightweight, compact design  
• 34 automated measurement types  
• USB connectivity and OpenChoice Desktop PC Software | • Prices starting at $520 (US MSRP)  
• Commercial and Education variants with unique features that satisfy different requirements.  
• 5 year warranty |
TBS1000B-EDU & TBS1000B 2-channel Instruments
Each Series' Models Offer Impressive Performance Specifications and Features

- **TBS1000B-EDU**
  - Education customers
  - Basic EE Teaching Labs in Academia
  - Corporate Education

  “The world’s first dedicated teaching oscilloscope making oscilloscope-based teaching and learning more effective than ever before.”

- **TBS1000B**
  - Commercial customers
  - Value-minded R&D Engineers
  - Manufacturing Technicians
  - Repair/Service Engineers

  “The best-value general purpose oscilloscope for every-day use. One of these scopes belongs on every engineer’s bench.”
First oscilloscope with integrated courseware capability
- Lab content can be loaded directly onto the oscilloscope
- Students can review lab content, perform step-by-step instructions, record lab results and create lab reports, all on the scope

First oscilloscope with a web-based content eco-system
- A courseware web page has been created to promote sharing of lab content
- Users can search, download, upload and comment on lab material

First oscilloscope with “Auto-set Enable/disable” functionality
- Insures that students take the time to learn an oscilloscope’s basic operation

Starting price - $520
TBS1000B-EDU Series

Key Challenges Faced by Educators & Students

- Educators need to:
  - Create new lab experiments and share information with students
  - Prepare and organize laboratory exercises that support a variety of courses and topics
  - Adapt and customize existing laboratory exercises to address new technologies
  - Minimize the cost of printing lab manuals

- Students Need:
  - Easily accessible reference material to reinforce theories examined in lab experiments
  - Clear instructions on procedures and set-ups when performing lab exercises
  - An easy way to record results and create lab reports from the data
New Courseware Feature Solves Those Problems

**Courseware Eco-System**

- **Course Editor SW**
- **Courseware Webpage**
- **Courseware Enabled Oscilloscope**

### The courseware eco-system assists professors
- Engineering professors can quickly create or update lab exercises and distribute the material to students using the oscilloscope
- Up to 8 courses, each with multiple labs, can be uploaded onto the scope
- A Tektronix courseware web page has been created to offer a global platform where academicians can share lab experiments and ideas

### The courseware eco-system assists students
- Students can review, perform and document lab experiments right on the scope
- Provides easily accessed, step-by-step instructions for lab experiments and progress can be documented right on the scope
- Creates HTML lab reports which simplifies the submission and review process and supports a paperless laboratory
TBS1000B-EDU Series
PC Courseware Editor Tool

PC Courseware Editor Tool

- A program with a familiar Windows interface makes it easy to create or update lab material
- Enables the exporting of lab material to a USB drive for transfer to the oscilloscope
- Includes a feature for adding instructor profiles to labs
- Bundles multiple labs to create a course
- Bundles up to 8 courses to create a package for uploading into a TBS1000B-EDU oscilloscope
Courseware Feature on the Oscilloscope

Courseware on the TBS1000-EDU

- Import courseware material created with the PC application by using a USB drive
- Press the front panel “Course” button to access the Course and Lab options

Lab Details

- The Overview section is used to provide an explanation of the lab material, supporting theory and required equipment
Lab Details (con’t)

- The **Procedure** section is used to provide step by step instructions on how to proceed through the lab

- The **Data Collection** option opens the oscilloscope screen where results can be saved in the form of screen images that can be associated with a specific step in the procedure

- The **Reports** option will automatically create an HTML report document and a folder with all of the captured screen images
  - Student can now easily turn in “soft copy” lab reports
Courseware Web Page

- Is a repository of lab content posted by Tektronix and educators around the world
- Users can search for courseware material by type, language, keyword or author
- Courseware materials can be downloaded and used as-is or modified
- Users can also upload courseware content to share with peers in the educational community
- Users will also be able to comment on material they’ve downloaded
### TBS1000B-EDU Series

**Courseware Content Ecosystem**

- **PC Courseware Editor Tool**
  - Create and Edit Lab Content
  - Export to a TBS1000B-EDU via USB flash drive.
  - Share information with colleagues

- **TBS1000B-EDU Instrument**
  - Review, perform and document lab work directly on the oscilloscope.

- **Tektronix Courseware Web Page**
  - Download existing lab content or upload your own to share with peers around the world
The Autoset function can be enabled/disabled via a password.

Disabling the Autoset can help students learn an oscilloscope's operation instead of allowing them to take shortcuts.

Passwords can easily be updated and changed.
TBS1000B Series
Extensive Monitoring and Analysis Tools

- **New** efficiency-enhancing features:
  - Enhanced Limit Test
    - Specify a tolerance band or specific high/low limits around signals of interest
  - TrendPlot™
    - Allows users to see measurement trends over long periods of time
    - No lost data - the display automatically adjusts the time and amplitude scales
  - Data Logging
    - Allows users to store triggered waveforms onto a USB memory stick
    - See changes in waveforms over long periods of time

- **Starting price - $550**
**TBS1000B Series**

**Extensive Monitoring and Analysis Tools**

- **New TrendPlot™ Function**
  - Offers a method of displaying measurement changes over long periods of time
  - TBS1000B supports plotting two measurement readings simultaneously

- **Enhanced Limit Test Capability**
  - Monitor active signals against a predefined template
  - Create templates based on one or two reference waveforms, providing more flexibility in defining pass/fail criteria
Built in Data Logging

- Set up the oscilloscope to save user-specified triggered waveforms with time stamps to a USB device.
- The source can be any input channel or math waveform.
- Monitor waveforms for pre-determined time periods of up to 24 hours or choose the “Infinite” option for continuous monitoring.
- If the USB device fills up, the oscilloscope will send a prompt to insert another USB memory device to continue saving waveforms.
TBS1000B & TBS1000B-EDU Common Features

Improved Performance

- **Highest** sampling accuracy of 2GS/s always-on: only entry-level oscilloscope that offers advertised sampling rate on both channels simultaneously (not just for 1 active channel).

- **Highest** number of automated measurements: 34 automated measurement types to maximize measurement efficiency.

- **Only** scope with dual-channel frequency counter displaying frequency measurements on two channels simultaneously.

- **New** DPO2k-style UI Design and Zoom Feature
  - Dedicated Magnifier button on the front panel
  - Up to 10X Zoom
  - Convenient control using the multi-purpose knob

- **New** TPP0051 50MHz probes
  - Low cost & durable
New 7” WVGA high-resolution Display & Updated User Interface
Dual Frequency Counters & Improved FFT Analysis

- **Dual Channel Frequency Counter**
  - *World’s first* 2CH hardware based frequency counter on an oscilloscope
  - Independent trigger level settings for each channel
  - Easy-to-read, large character display

- **Improved FFT Visualization**
  - Dual windows to simultaneously view the frequency and time domain waveforms
  - Dedicated front panel FFT button for easy access
34 Automated Measurements & Snapshot Feature

- With 34 automated measurements, this scope offers the most measurements in its class
- Cursor measurement option is available for all measurement types
- Convenient snapshot feature for displaying all measurements results
### TBS1000B & TBS1000B-EDU Common Features

#### TBS1000B/-EDU Series

<table>
<thead>
<tr>
<th>Models</th>
<th>Education model</th>
<th>TBS1052B-EDU</th>
<th>TBS1072B-EDU</th>
<th>TBS1102B-EDU</th>
<th>TBS1152B-EDU</th>
<th>TBS1202B-EDU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial model</td>
<td>TBS1052B</td>
<td>TBS1072B</td>
<td>TBS1102B</td>
<td>TBS1152B</td>
<td>TBS1202B</td>
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<tr>
<td>Bandwidth(MHz)</td>
<td>50</td>
<td>70</td>
<td>100</td>
<td>150</td>
<td><strong>200</strong></td>
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<tr>
<td>Sample rate</td>
<td><strong>1 GS/S p.ch</strong></td>
<td><strong>2 GS/s p.ch</strong></td>
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<tr>
<td>Channel Count</td>
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<tr>
<td>Accuracy</td>
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<td>3%, 2mV</td>
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<td>Record Length</td>
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<td>2.5k p.ch</td>
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<tr>
<td>UI Features</td>
<td>DPO-like Look &amp; Feel, Zoom Function</td>
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<tr>
<td>Display</td>
<td>7 inch WVGA</td>
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<tr>
<td>Waveform Math</td>
<td>- , +, x, <strong>improved FFT</strong></td>
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<tr>
<td>Trigger</td>
<td>Edge, Video, Pulse</td>
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<tr>
<td># of Measurements</td>
<td></td>
<td><strong>34</strong></td>
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<tr>
<td>Connectivity</td>
<td>USB-D, USB-H, PC-SW, API</td>
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<tr>
<td>Special Apps</td>
<td>Education model</td>
<td>Frequency Counter, Courseware Integration</td>
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<tr>
<td></td>
<td>Commercial model</td>
<td><strong>Frequency Counter, Trend Plot, Enhanced Pass/Fail, Data Logging</strong></td>
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<tr>
<td>Probe</td>
<td>TPP0051</td>
<td>TPP0101</td>
<td>TPP0201</td>
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<tr>
<td>Warranty</td>
<td></td>
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<td>5year</td>
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</tbody>
</table>

*Note – Feature improvements over the TBS1000 series are highlighted in Red*
# TBS1000B & TBS1000B-EDU Common Features

## Ordering Information

<table>
<thead>
<tr>
<th>Oscilloscope Models</th>
<th>US MSRP</th>
</tr>
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<tbody>
<tr>
<td>TBS1052B 50MHz, 2 Channel, 1GS/s sample rate, w/o courseware</td>
<td>$550</td>
</tr>
<tr>
<td>TBS1052B-EDU 50MHz, 2 Channel, 1GS/s sample rate, with courseware</td>
<td>$520</td>
</tr>
<tr>
<td>TBS1072B 70MHz, 2 Channel, 1GS/s sample rate, w/o courseware</td>
<td>$890</td>
</tr>
<tr>
<td>TBS1072B-EDU 70MHz, 2 Channel, 1GS/s sample rate, with courseware</td>
<td>$790</td>
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<tr>
<td>TBS1102B 100MHz, 2 Channel, 2GS/s sample rate, w/o courseware</td>
<td>$1,190</td>
</tr>
<tr>
<td>TBS1102B-EDU 100MHz, 2 Channel, 2GS/s sample rate, with courseware</td>
<td>$1,090</td>
</tr>
<tr>
<td>TBS1152B 150MHz, 2 Channel, 2GS/s sample rate, w/o courseware</td>
<td>$1,490</td>
</tr>
<tr>
<td>TBS1152B-EDU 150MHz, 2 Channel, 2GS/s sample rate, with courseware</td>
<td>$1,390</td>
</tr>
<tr>
<td>TBS1202B 200MHz, 2 Channel, 2GS/s sample rate, w/o courseware</td>
<td>$1,790</td>
</tr>
<tr>
<td>TBS1202B-EDU 200MHz, 2 Channel, 2GS/s sample rate, with courseware</td>
<td>$1,690</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Options &amp; Accessories</th>
<th>US MSRP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opt. P2220 Change the two 10X standard probes to two P2220 1X/10X probes</td>
<td>$100</td>
</tr>
<tr>
<td>Opt. D1 Service Option: Calibration Data Report</td>
<td>$10</td>
</tr>
<tr>
<td>TEK-USB-488 GPIB to USB converter</td>
<td>$779</td>
</tr>
<tr>
<td>AC2100 Soft Carrying Case for Instrument</td>
<td>$131</td>
</tr>
<tr>
<td>HCTEK4321 Hard Plastic Carrying Case for Instrument (requires AC2100)</td>
<td>$804</td>
</tr>
<tr>
<td>RM2000B Rackmount Kit</td>
<td>$389</td>
</tr>
</tbody>
</table>

*Note: MSRP may change over time, please check TEK.COM for the latest prices.*
TBS1000B & TBS1000B-EDU  Common Features

Additional Accessories

- **Passive probes**
  - TPP0201 standard for 200MHz and 150MHz model
  - TPP0101 standard for 100MHz and 70MHz model
  - New TPP0501 standard 50MHz models & offered at significantly lower after-market prices
  - 1X/10X probe option

- **Free Software & Support material**
  - Included on the Product CD and downloadable from tek.com
  - OpenChoice Software(released by firmware update)
  - Courseware Editor
  - LabView Driver
  - IVI-C Driver
  - PC Courseware Editor Tool
  - Example Courseware labs
  - ABC’s of Probes & XYZ’s of Oscilloscopes application notes
  - Link to courseware landing page

- **Warranty**
  - Standard 5 year warranty for all models
TBS1000B-EDU/TBS1000B Series Oscilloscopes

**TBS1000B-EDU**

*The world’s first dedicated teaching oscilloscope*

**TBS1000B**

*The best value, all-around oscilloscope available*
The TBS1000B(-EDU) oscilloscopes use a Santoprene rubberized material that provides increased stability.

The TBS1000B(-EDU) models are three times more stable than TBS1000.