OSCILLOSCOPES

RIGOL OSCILLOSCOPE

DIGITAL STORAGE

50MHZ, 100MHZ
DUAL CHANNEL WITH LOGIC ANALYZER MODULE
MODELS DS1052 / DS1102

- True mixed signal oscilloscope with 16 channels of digital acquisition
- 5.7” 64K TFT color, vivid display
- 1GS/s Ms/s real-time sample
- Built-in USB host to support USB flash memory, USB printers and direct system upgrades
- Advanced trigger modes includes edge, video, slope, alternate, pulse width, pattern
- 1M of memory (512K points dual channels)
- Power: 100-240V / 50VA max

Part No.   Description                  Price
01DS1102E  100MHz Scope               399.00
01DS1052LCD 50MHz Scope w/Logic Analyzer 649.00
01DS1102LCD 100MHz Scope w/Logic Analyzer 719.00

RIGOL

DIGITAL OSCILLOSCOPES

60MH / 100MHZ / 300MHZ
MODELS: DS1062CA / DS1102CA / DS1302CA

- 5.7”, 64K TFT color, vivid display
- 2 GSa/s max. real time sample rate
- Up to 2000 wfrms/s refresh rate
- Versatile Trigger Modes: Edge, video, pulse width, slope and alternate
- Built-in USB host to support USB flash memory
- Built-in help system
- Vertical Sensitivity: 2mV/div to 10V/div
- Max. Input Voltage: 300V (DC and AC peak)
- Cursor Measurements: Manual, track and auto measurement modes
- Math: Add, subtract, multiply, FET and invert
- Power: 100-240V / 50VA max.
- Dimensions & Weight: 303 x 154 x 133mm, 5 lbs.

Part No.   Description                  Price
01DS1062ACH 60MHz Oscilloscope          $745.00
01DS1102ACH 100MHz Oscilloscope         945.00
01DS1302ACH 300MHz Oscilloscope         1,495.00

Call Toll Free: 1 (800) 972-2225 • In NJ: (732) 381-8020 • Fax: (732) 381-1006 (732) 381-1572

DIGITAL STORAGE SCOPES

GDS1000-U SERIES & GDS1000A-U SERIES

The INSTEK 1000-U and 1000A-U series DSO’s are the most economic scopes to date while at the same time offer higher bandwidths, better sampling rates and advanced features such as GO-NO-GO testing, FFT and Data Logging capability. Freewave software included (download). All models are two channel scopes.

1000-U series:
- 50MHz, 70MHz and 100MHz models
- 250MSa/s real time sampling rate.
- 25GSa/s equivalent-time
- 4K record length
- USB port for PC connection
- Go-No-Go, Data Logging & FFT
- 19 automatic measurements
- 5.7” color TFT LCD display
- Peak detect as fast as lOns
- Save/Recall 15 front panel settings & waveforms

Part No.   Description                  Each
01GDS1052U Model 1052U 50MHz            $299.00
01GDS1072U Model 1072U 70MHz            359.00
01GDS1102U Model 1102U 100MHz           399.00
01OSA1072AU Model 1072AU 70MHz          419.00
01OSA1102AU Model 1102AU 100MHz         529.95
01OSA1152AU Model 1152AU 150MHz         839.00

1000A-U series:
- 70MHz, 100MHz, 150MHz models
- 1GSa/s real time sampling rate.
- 25GSa/s equivalent-time record length
- 2mV- IOV vertical scale
- USB host and device interface supported
- Go-No-Go, Data Logging and ZOOM FFT
- Up to 27 automatic measurements
- 5.7” TFT LCD display

Part No.   Description                  Each
01GDS1052U Model 1052U 50MHz            $299.00
01GDS1072U Model 1072U 70MHz            359.00
01GDS1102U Model 1102U 100MHz           399.00
01OSA1072AU Model 1072AU 70MHz          419.00
01OSA1102AU Model 1102AU 100MHz         529.95
01OSA1152AU Model 1152AU 150MHz         839.00
OSCILLOSCOPES

BK PRECISION

2 CHANNEL, DUAL TRACE ANALOG OSCILLOSCOPES
Model 2120C - 30 Mhz

Model 2121C - 30 Mhz with built-in Frequency Counter

Model 2125C - 30 Mhz with Component Tester

Model 2160C - 60 Mhz with Component Tester

Features:
- 8 x 10 cm CRT. Models 2125C & 2160C equipped with variable scale illumination, and built-in COMPONENT TESTER
- Model 2121C features built-in 50 MHz FREQUENCY COUNTER
- Dual trace all models for displaying two waveforms simultaneously, selectable single trace if desired. Alternate or chop sweep selectable at all sweep rates
- 5 mV/div sensitivity full bandwidth. High sensitivity 1mV/div and 2 mV/div using PULL x5 gain control
- Sweep features: Calibrated time measurements. 23 ranges. X10 sweep magnification for close examination of waveforms
- Dual time base features Models 2125C & 2160C

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>01BK2120C</td>
<td>30 MHz analog scope</td>
<td>619.00</td>
</tr>
<tr>
<td>01BK2121C</td>
<td>30 MHz analog scope with frequency counter</td>
<td>659.00</td>
</tr>
<tr>
<td>01BK2125C</td>
<td>30 MHz analog scope with component tester</td>
<td>675.00</td>
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<tr>
<td>01BK2160C</td>
<td>60 MHz analog scope with component tester</td>
<td>1,119.00</td>
</tr>
</tbody>
</table>

VIZATEK

20MHZ OSCILLOSCOPE

- 20 MHz
- Dual or single channel
- High sensitivity 1 mV/Div
- Z axis input
- 10 times sweep magnification
- Reliable, light electronic encoder
- ALT triggering, triggering level lock, auto sync. functions
- Optional Frequency Counter added at extra cost

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>01OSM2620FG</td>
<td>20 MHz with Freq. Counter</td>
<td>340.00</td>
</tr>
</tbody>
</table>

GW INSTEK

30 MHZ OSCILLOSCOPE WITH FREQUENCY COUNTER
MODEL GOS-630FC

- 30 MHz analog 2 channel scope
- Internal 5 digit counter for easy frequency measurements
- High vertical sensitivity up to 1 mV/Div for capturing small signals
- LCD readout display shows vertical/horizontal settings and input signal frequency
- Auto time-base function to auto select appropriate horizontal time base
- Buzzer alarm alerts users when vert/hor setting reaches max or min
- High performance scope with features rarely available within this class

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>01GOS630FC</td>
<td>30 MHz analog scope with frequency counter</td>
<td>445.00</td>
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</tbody>
</table>

GW INSTEK

20MHZ OSCILLOSCOPE
MODEL GOS-620

Bandwidth to meet many school lab requirements, and priced to stretch budgets. This high quality scope is the economy version of the GOS-622G, offering many of the same features. Probes and manual are included (with all our bench model scopes).

- 20 MHz, dual channel
- High sensitivity 1 mV/Div
- Channel 1 output 20 mV/Div
- TV synchronization
- Z axis input
- ALT triggering function
- X5 magnification DC ~ 7 MHz
- Horizontal sweep 0.2 µs ~ 0.5 s/Div
- AC trigger coupling
- XY bandwidth DC ~ 500 KHz

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
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<tbody>
<tr>
<td>01OS620</td>
<td>20 MHZ OSCILLOSCOPE WITH FREQUENCY COUNTER</td>
<td>420.00</td>
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</tbody>
</table>

GW INSTEK

20MHZ OSCILLOSCOPE
MODEL 622G

- 20 MHz dual channel
- High sensitivity, 1 mV/Div
- CH1 output
- TV synchronization
- Z axis input
- ALT triggering function
- Hold Off function
- Trigger level lock function

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>01OS622G</td>
<td>20 MHZ OSCILLOSCOPE</td>
<td>450.00</td>
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</tbody>
</table>

GW INSTEK

20 MHZ OSCILLOSCOPE W/FUNCTION GENERATOR
MODEL GOS-620FG

- Built-in 1 MHz Function Generator
- 20 MHz, Dual Channel
- High sensitivity 1 mV/Div
- TV Synchronization
- Z axis input
- ALT Triggering Function
- CH1 output
- Economic Choice for High Quality
- Dimensions and Weight – 12” x 6” x 19”; 20 lbs.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>01OS620FG</td>
<td>20 MHZ OSCILLOSCOPE W/FUNCTION GENERATOR</td>
<td>530.00</td>
</tr>
</tbody>
</table>
The 2532B Digital Storage Oscilloscope delivers essential features and reliable performance at a price you can afford. Analog style knobs and controls combined with a smart Auto set function make this oscilloscope easy to use. The instrument comes with PC software that lets you easily capture, analyze, and document waveforms and measurement results.

- 40 MHz bandwidth, 500 MSa/s sample rate
- 5.7” color display
- One touch automatic setup for ease of use (Auto)
- Long waveform memory up to 32,000 point record length for each channel
- 32 automatic measurements
- FFT plus four additional math functions
- Extensive trigger capabilities including pulse width and line-selectable video trigger
- Save/recall setup and waveform data
- Transfer waveform data, screen shots, and measurement results to a Windows PC via USB port. Analyze measurement results “off-line” or in real-time.

Part No. 01BK2532B • Price: $545.00

GW INSTEK

OSCILLOSCOPE TRAINING KIT

MODEL GDB03

The GDB-03 training kit is designed to work with the INSTEK GDS2xxxA series oscilloscopes and the INSTEK GDS3xxx series oscilloscopes. It enables the user to learn both the basic and the advanced functions of these Digital Storage Oscilloscopes (DSO’s). Following the training procedures of this training kit, you will quickly understand basic operations. Many advanced operations and unique features of these scopes are also covered. (3) types of bus signals, (9) basic and (18) advanced scope training signals are provided.

Part No. Description Price
01GDB03 Oscilloscope training kit for INSTEK for 2xxx and 3xxx series scopes $305.00

OWON DIGITAL STORAGE OSCILLOSCOPE

30MHZ/60MHZ/100MHZ
2 CHANNEL WITH LAN & VGA PORTS

- 8 inch TF 65K Color LCD with 800x600 pixel resolution
- USB, LAN & VGA interface
- Includes 2 probes, power cable, USB cable & CD with software
- Dimensions: 14” x 3” x 7”;
  wt: 5 lbs

Part No. Description Price
01SDS5032E 30 MHz DSO, 250Ms/s with 10K points memory on each channel. $295
01SDS6026 60 MHz DSO, 500Ms/s with 10M points memory $380
01SDS7102 100 MHz DSO, 1Gs/s with 10M points memory $490

GW INSTEK

OSCILLOSCOPES

DIGITAL SCOPES WITH BUILT IN ARB GENERATOR OPTION

MODEL 2540B - 60MHZ DSO
MODEL 2542B - 100MHZ DSO

MODEL 2540B-GEN - 60MHZ WITH 20MHZ BUILT-IN ARB GENERATOR
MODEL 2542B-GEN - 100MHZ WITH 40MHZ BUILT-IN ARB GENERATOR

Features:
- Dual Channel, PC Software, front panel USB port
- Educators: Ability to disable, auto-set button
- FFT + (3) additional math functions
- 28 automatic measurements
- Digital filtering, waveform recorder, pass/fail limit testing
- Arb models feature AM/FM, FSK, PSK, PWM, save up to 10 user-defined waveforms. Sweep and Burst mode.

Part No. Description Price
01BK2540B 5 1/2 Digit Dual Display Bench DMM $779.00
01BK2542B GPIB Version 899.00
01BK2540B-GEN 60 MHz DSO with 20MHz Arb Generator 1,195.00
01BK2542B-GEN 100 MHz DSO with 40MHz Arb Generator 1,395.00

Call Toll Free: 1 (800) 972-2225 • In NJ: (732) 381-8020 • Fax: (732) 381-1006 (732) 381-1572

103
**OSCILLOSCOPES**

**RSR**— **4 – IN – 1 INSTRUMENT**

**LAB BENCH SET-UP**

**MODEL RSR 4-IN-1**

**CONTAINS ALL FOLLOWING BENCH TYPE INSTRUMENTS:**

- Sweep Function Generator
- Triple Output Power Supply
- Digital Multimeter
- Oscilloscope

- Save time AND MONEY by ordering the 4-IN-1
- All quality, best selling models included
- Simplify your ordering process
- Analog and Digital Storage Scope versions available
- Customized packages available for ten or more units (add or substitute other models). Call for custom package quote (10 + required)

**DETAILS ON INSTRUMENTS:**

**Sweep Function Generator** – Model FG-32.
Best value, top seller. 3MHz with digital display. Six waveform functions (sine, triangle, square, ramp, pulse). Internal/External frequency counter function

**Triple Output Power Supply** – Model PHSY3002-3.
Best value, top seller. DC outputs are variable 0 – 30VDC @ 0 ~ 2 amps (two outputs), and a fixed 5V @ 3 amp.

**Digital Multimeter** – Model DM9803R.
Best value, top seller. Bench DMM with large, 3 3⁄4 LCD display with backlight and 42 segment bar graph. RS232 computer interface included with software and cable. DC, AC, Resistance, Capacitance, Frequency functions. AC or DC (battery) operation possible.

**Oscilloscope** – Model GOS-620 (included with 01RSRANA4).
Best value and top seller in its class. 20MHz, dual channel analog scope. High sensitivity with ALT trigger function

**Oscilloscope** – GW Instek Model GDS1052U (included with 01RSRDIG4).
50MHz, 2 channel digital scope

**PRICE LIST**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>01RSRANA4</td>
<td>Four-In-One Bench Set-up w/20MHz Analog Scope</td>
<td>$750.00</td>
</tr>
<tr>
<td>01RSRDIG4</td>
<td>Four-In-One Bench Set-up w/50MHz Digital Scope</td>
<td>$735.00</td>
</tr>
</tbody>
</table>

**DIGITAL OSCILLOSCOPE**

**SMALL PORTABLE 1 CHANNEL 1MHZ / 10 MHZ**

Models: DSO 062, DSO 082

**Features**

- 1MHz bandwidth (5 Ms/s sampling rate)- Model-DSO 062
- 10 MHz Bandwidth (50Ms/s sampling rate) - Model-DSO 082
- 100 mv/div. to 5V/div. sensitivity - Model-DSO 062
- 10mv/div. to 5V/div. sensitivity - Model-DSO 082
- 50mv peak to peak max. input
- DC/AC coupling
- Probe and adaptor included
- Save / recall up to 4 captures
- FFT with selectable points (Model-DSO 082)
- Size: 5” x 2.7” x 1.2”; Wt: 5 oz. (DS082)
- Size: 4.3” x 2.6” x 1” Wt: 4.5 oz. (DS062)

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>01DS062</td>
<td>DSO62 - 1MHz Oscilloscope</td>
<td>69.95</td>
</tr>
<tr>
<td>01DS082</td>
<td>DSO82 - 10MHz Oscilloscope</td>
<td>125.00</td>
</tr>
</tbody>
</table>
ELECTRONIX EXPRESS / RSR
• 900 Hart Street, Rahway, NJ 07065
Call Toll Free: 1 (800) 972-2225 • In NJ: (732) 381-8020 • Fax: (732) 381-1006

DIGITAL STORAGE OSCILLOSCOPES
70 MHZ / 100 MHZ / 200 MHZ / 300 MHZ / 2 CH. / 4 CH.
The 2550 Series digital storage oscilloscopes deliver 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. TFT display offers a significantly larger viewing area than typical economy oscilloscopes.

STANDARD FEATURES:
• Bandwidth up to 300 MHz
• 2 GSa/s sample rate
• 4-channel acquisition (2553, 2555, 2557, 2559)
• Large 7" widescreen color display
• 32 automatic measurements
• FFT plus four additional math functions
• Built-in context sensitive help system
• PC software that lets you remotely control the oscilloscope and capture, save, and analyze waveform data
• Front and rear panel USB host port for convenient storing and recalling of waveform data, setups, and screenshots on a USB flash drive
• Standard LAN (supports SCPI) and USB device port (USBTMC compliant) for remote PC control

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
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<tbody>
<tr>
<td>01BK2552</td>
<td>70 MHZ, 2ch. Oscilloscope</td>
<td>$1,015.00</td>
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<tr>
<td>01BK2553</td>
<td>70 MHZ, 4ch. Oscilloscope</td>
<td>1,385.00</td>
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<tr>
<td>01BK2554</td>
<td>100 MHZ, 2ch. Oscilloscope</td>
<td>1,170.00</td>
</tr>
<tr>
<td>01BK2555</td>
<td>100 MHZ, 4ch. Oscilloscope</td>
<td>1,615.00</td>
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<tr>
<td>01BK2556</td>
<td>200 MHZ, 2ch. Oscilloscope</td>
<td>1,515.00</td>
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<td>01BK2557</td>
<td>200 MHZ, 4ch. Oscilloscope</td>
<td>2,015.00</td>
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<tr>
<td>01BK2558</td>
<td>300 MHZ, 2ch. Oscilloscope</td>
<td>1,995.00</td>
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<tr>
<td>01BK2559</td>
<td>300 MHZ, 4ch. Oscilloscope</td>
<td>2,495.00</td>
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ACCESSORIES
<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>01BKPR150B</td>
<td>150 MHz Passive Oscilloscope Probe</td>
<td>54.00</td>
</tr>
<tr>
<td>01BKPR250B</td>
<td>250 MHz Passive Oscilloscope Probe</td>
<td>64.00</td>
</tr>
<tr>
<td>01BKPR500B</td>
<td>500 MHZ Passive Oscilloscope Probe</td>
<td>104.00</td>
</tr>
<tr>
<td>01BKPR2000B</td>
<td>200 MHz High Voltage Oscilloscope Probe</td>
<td>109.00</td>
</tr>
<tr>
<td>01BKC510</td>
<td>General Purpose Function Generator Kit</td>
<td>169.00</td>
</tr>
<tr>
<td>01BKC540</td>
<td>General Purpose Oscilloscope Adapter Kit</td>
<td>365.00</td>
</tr>
<tr>
<td>01BKPR-60</td>
<td>Active Differential Probe (25 MHz)</td>
<td>369.00</td>
</tr>
</tbody>
</table>

The 2550 Series digital storage oscilloscopes deliver 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. TFT display offers a significantly larger viewing area than typical economy oscilloscopes.

[Digital Storage Oscilloscopes](#)

Two plug-in compartments in the back of these instruments offer the economical flexibility to either add an optional 8 or 16 channel logic analyzer module, or a 5MHz function generator module, or both. These optional modules may be added and field-installed at any time. Using VPO advanced signal processing, this scope series is capable of examining signals and capturing glitches without missing any detail. VPO enables the display of signals to be distinguished based on their recurring frequencies. Many additional advanced features including segment memory function, search function and more.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
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<tr>
<td>01GDS2072A</td>
<td>70 MHz 2 Channel</td>
<td>$836.00</td>
</tr>
<tr>
<td>01GDS2074A</td>
<td>70 MHz 4 Channel</td>
<td>1,434.00</td>
</tr>
<tr>
<td>01GDS2102A</td>
<td>100 MHz 2 Channel</td>
<td>1,143.00</td>
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<tr>
<td>01GDS2104A</td>
<td>100 MHz 4 Channel</td>
<td>1,694.00</td>
</tr>
<tr>
<td>01GDS2202A</td>
<td>200 MHz 2 Channel</td>
<td>1,626.00</td>
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<tr>
<td>01GDS2204A</td>
<td>200 MHz 4 Channel</td>
<td>1,962.00</td>
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<tr>
<td>01GDS2302A</td>
<td>300 MHz 2 Channel</td>
<td>2,385.00</td>
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<tr>
<td>01GDS2304A</td>
<td>300 MHz 4 Channel</td>
<td>2,877.00</td>
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<tr>
<td>01DS28LA</td>
<td>8 Channel Logic Analyzer Module</td>
<td>570.00</td>
</tr>
<tr>
<td>01DS216LA</td>
<td>16 Channel Logic Analyzer Module</td>
<td>830.00</td>
</tr>
<tr>
<td>01DSCFGN</td>
<td>Function Generator Module</td>
<td>245.00</td>
</tr>
<tr>
<td>01DS2LAN</td>
<td>LAN</td>
<td>280.00</td>
</tr>
<tr>
<td>01DS2GPIB</td>
<td>GPIB Interface</td>
<td>400.00</td>
</tr>
</tbody>
</table>
LOGIC ANALYZERS / OSCILLOSCOPES

PERSONAL SCOPE

**MODEL HPS50**

Designed By electronics enthusiasts
For electronics enthusiasts! Powerful, compact and USB connectivity. The large keyboard and bright LCD makes this unit a breeze to use.

- 40MHz sampling rate
- 12MHz analog bandwidth
- 0.1mV sensitivity
- 5mV to 20V/div in 12 steps
- 50ns to 1hour/div time base in 34 steps
- Ultra fast full auto set up option
- Adjustable trigger level
- X and Y position signal shift
- DVM readout
- audio power calculation (rms and peak) in 2, 4, 8, 16 & 32 ohm
- dBm, dBV, DC, rms ...measurements
- Signal markers for Volt and Time
- Frequency readout (through markers)
- Recorder function (roll mode)
- Signal storage (2 memories)
- High resolution LCD 192x112 pixels
- LCD backlight
- Galvanically separated USB output for PC
- Data or bitmap download to PC

Part No. 01VHPS50 • Price: $295.00

HAND HELD DMM/SCOPE

WITH TRUE RMS, AUTORANGING

**MODEL SCOPE PLUS 440**

Versatile, combination unit, featuring a 1 MHz hand-held oscilloscope plus a wide range of both standard and special DMM functions. Unit comes complete with rubber holster and stand, NiCad battery and charger/ adaptor, test leads and 38 page manual.

1 MHZ OSCILLOSCOPE

Glitch Capture (25 ms/s), continuous autoset, real time display, cursor measurements, flexible triggering, roll mode, optional RS-232 output.

TRUE RMS DMM

- **Voltage** – 1,000VDC, 5 Ranges;
  750VAC, 4 Ranges, True RMS
- **Current** – 10A AC/DC, 6 Ranges
- **Resistance** – 40M, 6 Ranges
- **Capacitance** – 400µF, 6 Ranges
- **Frequency** – 2 MHz, 5 Ranges
- **Diode test, continuity buzzer, component test, logic test, REL function, peak hold, min/max record, compare mode, trend, joystick function selector, auto-ranging, built-in true RMS, 4,000 count display, backlight, on board help text switch

Applications: View industrial signals, capture noise spikes and glitches, monitor power quality, audio/video, digital circuitry, communications.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>1-4 Price</th>
<th>5+ Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>01OSDM440</td>
<td>Model 440 DMM/Scope</td>
<td>$355.00</td>
<td>$345.00</td>
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<tr>
<td>01A900</td>
<td>Soft Carrying Case</td>
<td>21.95</td>
<td>20.90</td>
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<tr>
<td>01A402</td>
<td>Software &amp; Cable For Scope Plus</td>
<td>59.95</td>
<td>56.95</td>
</tr>
</tbody>
</table>

LOGIC ANALYZER PORTABLE

**FEATURES:**
- A portable small-sized analyzer
- Easy to use; makes debugging convenient
- Provides a PC-LINK interface to observe and print waveforms using your PC
- 5.6" color TFT display

**SPECIFICATIONS**
- 250MHz timing and 100MHz state analysis (LA2025)
- 500MHz timing and 200MHz state analysis (LA2050)
- Saved Waveform: 512K x 32 (LA2025)
- Saved Waveform: 1M x 32 (LA2050)
- Memory: 2M (LA2025), 4M (LA2050)
- Skew: Typically less than 2.0 ns, maximum: 3.0 ns
- Speed of scanning: 5s/div – 14 ns/div
- Trigger channel: 32CH (8CHx4)
- DPI: 1 bit
- Trigger signal: 5ns
- Various ways to collect data: Single, Run, Autostore
- Size: 12.2 x 2.8 x 5.9 (inches)
- Weight: 5 lbs.
- Power: 90–240 VAC, 50–60 Hz
- **Package contents:** Unit; data pods (4); lead sets (4), test probe (36); AC cord; USB cable; CD and manual

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>01LA2025</td>
<td>$1,850.00</td>
</tr>
<tr>
<td>01LA2050</td>
<td>2,695.00</td>
</tr>
</tbody>
</table>

HANDHELD DIGITAL SCOPE METER

**MODELS S2401 (1MHZ) AND S2405 (5MHZ)**

With built-in autoranging true RMS DMM

- Dual channel and auto calibration
- **Oscilloscope PE Bandwidth:**
  DC to 1MHz (S2401)
  DC to 5MHz (S2405)
- **Sampling Time:**
  Dual CH Mode: 25Ms/s
  Single CH Mode: 50Ms/s
- **Automatic setting for horizontal and vertical division**
- **Roll and single shot mode**
- **Excellent internal noise reduction**
- **Real time update**
- **16 shot waveform and setup memories**
- **Max voltage between input and gound:** DC or AC 600V/peak
- **USB interfaces for transferring measurement data and waveform**
- **DMM Features:** DC V: 5V – 1000V
  AC V: 3V – 750V
- **Resistance:** 5K ohm – 5M Ohm
- **Continuity buzzer [Frequency (full auto range) 10MHz is for S2405 only]**
- **Power Requirement:** Ni-MH batteries 4.8V (1.2V x 4 cell)
- **Dimensions/Weight:** 90 (W) x 195 (H) x 40 (D) mm / 1 lb.

<table>
<thead>
<tr>
<th>Part No</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>01OSS2401</td>
<td>1MHz Digital Scope Meter</td>
<td>$399.00</td>
</tr>
<tr>
<td>01OSS2405</td>
<td>5MHz Digital Scope Meter</td>
<td>439.00</td>
</tr>
</tbody>
</table>
GW Instek 20MHz, Dual Channel
HANDHELD DIGITAL SCOPE AND DMM

MODEL GDS-122

Equipped with a 3.8” color LCD, this is a powerful handheld DSO and DMM combined. The color display helps to clearly show 2 different channel waveforms simultaneously. With 100 MS/s real-time sampling rate and Dual Waveform Math (DWM) function it provides users with fast analyzing capability. 6K memory (per channel) gives this model impressively accurate data-capture to satisfy diverse industrial requirements. It also serves as a 3 1/2 digit, 4,000 count DMM with auto or manual range options. Among many other features are a self calibration function and free PC software.

- 20MHz, dual channel Digital Storage Scope
- 100MS/s real-time sampling
- 6K memory points per channel
- Dual Waveform Math (DWM)
- 5 automatic measurements, cursors, USB and RS232 interface
- 6 hours running time on battery, charger included
- Multimeter functions: voltage, current, resistance, continuity, diode, capacitance, true RMS
- Isolated inputs between scope and multimeter

Part No. 01GDS122 • Price: $799.00

PORTABLE HANDHELD OSCILLOSCOPE

DSO NANO V3 / USB

The DSO Nano V3 is a pocket-size compatible 32bit digital storage oscilloscope. Based on ARM -M3, it’s equipped with 320*240 color display, SD card, USB port and recharging function. It’s compact, simple to operate; meets the basic demands of school lab, electronic troubleshooting, etc

Features:
- Portable and lightweight
- Color display
- Waveform storage and playback
- 6 triggering modes
- 200Khz Analog Bandwidth
- Built-in Signal Generator
- Display: 2.8” color TFT LCD
- Vertical Sensitivity: 10mv/Div~10V/Div (x1 probe) 0.5V/Div~10V/Div (x10 probe)
- Input Resistance: >500KO
- Max. Input Voltage: 80Vpp(x1 probe)400Vpp(x10 probe)
- Triggering Mode: Auto, Normal Single, None
- Auto Measurement: Frequency, cycle, duty, Vpp, Vram, Vavg, DC voltage; Vertical Precise Measurement Cursor; Horizontal Precise Measurement Cursor; Rising/Falling Edge Trigger; Triggering Cursor; Triggering Sensitivity Cursor; Hold/Run
- Inbuilt Test Signal: 10Hz-1MHz (1-2-5 stepping)
- PC Connection Interface: Connection through USB
- Recharging Method: Through USB interface
- Dimensions: 105mm x 53mm x8mm

Part No. 01DSONANO • Price $99.50

HANDHELD DIGITAL SCOPE AND DMM

60 MHz BW / 2 CHANNELS

- 60 MHz bandwidth with 2 channels
- 150Ms/s real-time sampling rate
- 5 Gsa/s equivalent-time sampling rate
- Large 5.7” TFT color display
- 6000-count DMM resolution
- USB host/device 2.0 interface
- Memory: 32K single channel, 16K at dual
- Multi-language support
- Battery power operation
- Vertical: Rise time <5.8ns
- Cursors / Measurements: Vpp, Vmax, Vmin, Vrms, Vbase, Vmid, preshoot, overshoot
- Time Measurement: Freq., period, rise, fall, width, duty cycle.
- Dimension: 245x163x52mm; 3 lbs

Part No 01DSMM1 • Price: $650.00

OWON HANDHELD OSCILLOSCOPE

20 MHZ SINGLE/DUAL CHANNEL

This is a handheld electrical test device that combines a 20MHz, handheld digital oscilloscope for viewing electrical signals with a manual- and auto-ranging digital multimeter for measuring AC and DC voltage to 400V, AC and DC current to 10 amp, resistance to 40 MO, and capacitance to 100 µF. The oscilloscope has a maximum real-time sample rate of 100 MS/s and a record length of 6,000 points per channel for acquiring detailed waveforms. Its four math functions—add, subtract, multiply, and divide—plus FFT (fast Fourier transform) and 20 automatic measurements such as period, frequency, and peak-to-peak enable an in-depth analysis of waveforms. Up to four waveforms can be stored in the internal memory. The multimeter has two ranging modes: manual, which allows the user to select the operating range and auto, which automatically selects the appropriate operating range. The delta relative function allows a measurement to be set as a reference value and displays subsequent measurements as a positive or negative deviation from that value, and the data-hold function freezes a reading on the display to aid documentation. A continuity buzzer confirms that the circuit conducts electricity, and a diode check detects whether a circuit’s diodes are working properly. Additional specifications include a rise time of 17.5 ns and various triggering features. The unit has a 3.5” color TFT (thin film transistor)

Maximum real-time sampling rate 100 Ms/s & 6,000 points

Part No. Description Price
01HDS1021M 20 MHz; single channel $295
01HDS1022M-N 20 MHz; 2 channel $435

Call Toll Free: 1 (800) 972-2225 • In NJ: (732) 381-8020 • Fax: (732) 381-1006 (732) 381-1572
### OSCILLOSCOPES

#### velleman POCKET SCOPE HANDHELD

**MODEL HPS140I**

**FEATURES:**
- 40 Mega samples/sec in real time
- Bandwidth up to 10 MHz
- Full auto range option
- Sensitivity down to 0.1 mV
- Signal markers for amplitude and time
- Memory Hold function
- Direct audio power measurement
- USB battery charger included
- X10 measuring probe included
- Optional: Carrying Bag BAGPS

**SPECIFICATIONS:**
- Bandwidth: up to 10 MHz (-3dB or -4dB at selected ranges)
- Input range: 1 mV to 20 V/division in 14 steps
- Input coupling: DC, AC and GND
- Real-time sample rate up to 40 MS/s
- AD resolution: 8 bits
- Time base: 250 ns to 1 h per division
- Auto set-up function (or manual)
- Probe x10 readout option
- Readouts: DC, AC, DC, True RMS, dBm, Vpp, Min-Max, ±2.5%
- Audio power measurement from 2 to 32 ohms
- Hold & store function
- Time and Voltage markers readout
- Max. 100 Vp AC+DC
- White LED backlight
- Operations on NiMH rechargeable battery pack (included)
- Operations up to 6 hours on one charge*
- Charging power supply: 9Vdc/200mA
- For use on CLASS II pollution degree II installations
- Dimensions: 74 x 114 x 29 mm / 2.9 x 4.5 x 1.14"
- Weight: 200g, (7oz)

**Part No. Description**  
01OSHPS140I Pocket Scope Hand Held $169.00

#### velleman ADVANCED PERSONAL SCOPE

**MODEL APS230 - 30 MHz, DUAL CHANNEL**

The Advanced Personal Scope comes complete with two sets of probes, software CD, cable to connect to PC and battery pack. A fast charge is possible, and you may use the scope during charging.

- 2 – input channels. 30 MHz bandwidth. 240 MS/s per channel sampling
- 8 bit vertical resolution. 300 μV min sensitivity
- 1 mV – 20 V/div volts per div. 25 ns – 1 h/div time base
- AC/DC input coupling. RS232 communication with PC
- Dimensions: 9.1” x 5.9” x 2”. 30 oz
- Battery pack included. Fast charge possible
- High contrast LCD with white backlight
- Full auto set-up for volt/div and time/div
- Recorder roll mode up to 170h per screen, trigger mode (run, normal, once, roll), adjustable trigger level and slope
- Peak measurements: max, min, peak to peak
- Measurements: ms, dB (rel), dBV, dBm, dBG. Direct audio power measurements
- Complete with probes, software, cable, battery pack

**Part No. Price**  
01OSAPS230 $495.00

#### velleman POCKET, HANDHELD SCOPE

**MODEL PPS10**

Joystick control for true handheld operation. Set all functions using your thumb. With interface for PC connectivity, it has 10MS/s sampling rate, and 2MHz bandwidth with 0.1 mV sensitivity.

- Measurements: dBm, dBV, DC, rms...
- Trigger mode: run, normal, once, roll, slope +/-
- X and Y position signal shift
- Audio power calculation (rms and peak)
- Signal markers for Volt and Time
- Frequency readout (through markers)
- Recorder function (roll mode)
- Signal storage (2 memories)
- Full auto set up
- LCD: 128 x 64 pixels / high-contrast
- DVM read-out with x10 option
- Time base: 200 ns to 1 hour/div in 32 steps
- 5V to 20 V/div in 12 steps
- 0.1 mV sensitivity
- 10 Ms/s sampling rate
- Up to 2 MHz analogue bandwidth
- Joystick operation
- Optical isolated RS232 output for PC
- Weight: 0.87 lbs.
- 5 – 1.5V AAA battery or Nicd / NiMH (not included)
- Includes internal battery charging circuit
- 9V adapter/300mA optional (not included)

**Part No. Price**  
01PPS10 $165.00

#### velleman OSCILLOSCOPE TRAINING KIT

Learn how to get the most out of your digital oscilloscope. The board generates a number of safe ‘real-world’ signals, which we will use to perform measurements. Get familiarized with AC, DC and frequency measurements, sine and square waves, power supply ripple, full and half wave rectifiers, oscillators etc...

Learn what terms such as V/div, Time/div, trigger level, auto-setup etc... mean. All experiments featured in this project are performed with the Velleman HPS140 Handheld Pocket Scope. Most experiments can be done with any digital storage scope. Some experiments can be performed with an analog scope.

**Features:**
- Signals:
- Alternating current (AC)
- Adjustable AC
- Full-and half wave rectified AC
- Smoothed direct current (DC)
- Ripple
- Astable oscillator
- Assembled and tested, no soldering required

**Specifications:**
- Power supply: 9...12 VAC / min.100mA (adapter not incl.)
- Dimensions: 116x74x24 mm / 4.6x2.9x0.9"
- Optional: 9VAC /500mA adapter PS905AC

**Part No. Price**  
32VKEDU06 $29.50
## Oscilloscope: 40 MHz / 100 MHz

- USB-powered 2 channel digital storage scopes.
- Real-time sampling – 100MS/s and 250MS/s
- Buffer size 10K ~ 28K.
- Measurements: Vp-p, Vmax, Vmin, Vmean, Vamp, Vhigh, Vlow, positive/negative overshoot, cycle mean, cycle rms, period, frequency pulse width, rise time (10% ~ 90%), fall time (10% ~ 90%), positive negative duty cycle.

### Part No. Description Price
01DSO2090 40 MHz BW $199.00
01OSDSO2250 100 MHz BW $319.00

## Velleman PC Oscilloscope / Function Generator

### Model PCSGU250

A complete USB-powered lab-in-a-box feature-packed PcLab2000-LT software for two channel oscilloscope, spectrum analyser, recorder, function generator and bode plotter. With the generator, you can create your own waveforms using the integrated signal wave editor. For automated measurements, it is even possible to generate wave sequences, using file or computer RS232 input.

- **Oscilloscope:**
  - BW: DC to 12MHz
  - auto set-up function and X10 option
  - pre-trigger function
  - readouts: True RMS, dBV, dBm, p to p, Duty cycle, Frequency
  - Sampling frequency: Up to 25MHz
- **Function Generator**
  - Crystal-based stability
  - Standard waveforms: sine, square and triangle
  - Predefined library waveforms included: sine(x)/x, DCV, sweep
- **Spectrum Analyzer:**
  - Linear or logarithmic timescale
  - Operating principle: FFT (Fast Fourier Transform)
  - FFT input channel: CH1 or CH2
  - Zoom function
- **Bode Plotter:**
  - Automated sync between oscilloscope and generator
  - Logarithmic scale option
  - Volt or dB display scale
  - Phase plot option
- **Transient Recorder**
  - System Requirements
    - IBM compatible PC
    - Windows™ 2000, XP, Vista

### Part No. 01PCSGU250 Price: $195.00

## Velleman 2-Channel USB PC Oscilloscope, 60MHz

### Model PCSU1000

The PCSU1000 digital storage oscilloscope uses the power of your PC to visualize electrical signals. Its high sensitive display resolution, down to 0.15mV, combined with a high bandwidth and sampling frequency up to 1GHz give this unit all the power you need. The USB connection makes this PC based instrument a snap to set-up, no external power required! In-the-field measurements, using a lap-top, have never been this easy. Comes in a stylish vertical space saving design. Powerful software will fulfill all your needs, but for those who like a challenge; a DLL is supplied, which allows you to create your own application.

- **Inputs:** 2 channels, 1 external trigger input
- **Input impedance:** 1Mohm // 30pF
- **Bandwidth:** DC to 60 MHz “3dB
- **Max. input voltage:** 30V (AC + DC)
- **Input coupling:** DC, AC and GND
- **Supply from USB port (500mA)
- **Minimum system requirements:**
  - IBM compatible PC
  - Needs Win98SE or higher
  - SVGA display card (min. 800x600, 1024x768 recommended)
  - Mouse
  - USB port 1.1 or 2.0 compatible
  - CD Rom player

### Includes:

- **USB PC oscilloscope**
- **2 x 60MHz scope probe**
- **USB cable**
- **Software on CD**
- **Getting started manual**
- **Translations on CD**

### Part No. 01OSPSCSU1000 Price: $379.00

## Velleman USB PC Oscilloscope with Signal Generator

### Features

- **Function generator:**
  - Crystal-based stability
  - Standard waveforms: sine, square and triangle predefined library wave forms 1 included: sine(x)/x, sweep...
- **Oscilloscope:**
  - auto set-up function and X10 option
  - pre-trigger function readouts: True RMS, dBV, dBm, p to p, Duty cycle, Frequency
  - Sampling frequency: Up to 25MHz
- **Spectrum analyser:**
  - Linear or logarithmic timescale
  - Operating principle: FFT (Fast Fourier Transform)
- **Bode Plotter:**
  - Automated sync between oscilloscope and generator
  - Logarithmic scale option
  - Volt or dB display scale
  - Phase plot option
- **Transient Recorder**
  - System Requirements
    - IBM compatible PC
    - Windows™ 2000, XP, Vista

### Part No. 01PCSU200 Price: $149.00

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Call Toll Free: 1 (800) 972-2225 • In NJ: (732) 381-8020 • Fax: (732) 381-1006 (732) 381-1572

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OSCILLOSCOPES

HANDHELD DIGITAL SCOPE AND DMM
60 MHZ BW / 2 CHANNELS

- 60 MHz bandwidth with 2 channels
- 150Msa/s real-time sampling rate
- 5 Gsa/s equivalent-time sampling rate
- Large 5.7" TFT color display
- 6000-count DMM resolution
- USB host/device 2.0 interface
- Memory: 32K single channel, 16K at dual
- Multi-language support
- Battery power operation
- Vertical: Rise time <5.8ns
- Cursors / Measurements: Vpp, Vmax, Vmin, Vrms, Vbase, Vmid, preshoot, overshoot
- Time Measurement: Freq., period, rise, fall, width, duty cycle.
- Dimension: 245x163x52mm; 3 lbs

Part No 01DSMM1 • Price: $650.00

FLUKE HANDHELD DIGITAL STORAGE OSCILLOSCOPE SCOPE METER®
40 MHZ WITH DMM

The compact ScopeMeter 120 Series is the rugged solution for industrial troubleshooting and installation applications. It’s a truly integrated test tool, with oscilloscope, multimeter and “paperless recorder in one affordable, easy-to-use instrument. Find fast answers to problems in machinery, instrumentation, control and power systems.

- Dual-input 40 MHz or 20 MHz digital oscilloscope
- Two 5,000 counts true-RMS digital multimeters
- Automatic measurements
- A dual-input TrendPlot™ recorder
- Connect-and-View™ trigger simplicity for hands-off operation
- Shielded test leads for oscilloscope, voltage, resistance and continuity measurements
- 10:1 Voltage Probe included with Fluke 124 and 125 for high frequency measurements
- Up to 7 hours battery operation
- 600 V CAT III safety certified
- Optically-isolated interface for PC connection
- Rugged, compact case
- Fluke 125 gives bus health and power measurements

Detailed Specs Available Upon Request

Part No. Description Price
01FK124 40MHz Scopemeter® $1,715.00
01FK124S 40MHz Scopemeter® w/Software, Case & RS232 Cable 2,095.00

FLUKE SCOPEMETER® OSCILLOSCOPES MODELS 190-062, 062/S, 190-202, 202/S

As the first two and four-channel portable scopes safety rated CAT III 1000V / CAT IV 600V, the new Fluke ScopeMeter® 190 Series II combines an unprecedented level of performance, ruggedness, and portability. You can choose from 60MHz, 100MHz or 200MHz bandwidth models, both with real-time sampling rates up to 2.5 GS/s and 400 ps resolution to capture noise and other disturbances. Both models feature deep memory—up to 10,000 samples per channel—so you can examine very small parts of the waveform in detail. And both are IP-51 rated to withstand dust, drips, humidity, and wide temperature variations. Fluke ScopeMeter test tools are handheld battery operated, designed to meet the demands of field service professionals.

Part No. Description Price
01FLK190-062 Fluke 190-062 ScopeMeter® (60MHz) $2,895
01FLK190-062/S Fluke 190-062 ScopeMeter® (60-MHz) 3,385
01FLK190-202 Fluke 190-202 ScopeMeter® (200MHz) 3,690
01FLK190-202/S Fluke 190-202 ScopeMeter® (200MHz) 4,295

FLUKE HANDHELD DIGITAL STORAGE OSCILLOSCOPE SCOPE METER®

- 1.25GS/sec repetitive sampling rate
- Connect-and-View™ hands-off operation
- Dual channel TrendPlot™ for “cause & result” troubleshooting
- Single test leads for all measurements – waveform display, multiple meter readings, capacitance, resistance and continuity
- Optical-to-RS232 interface port, 600V isolation
- 2-channel, True RMS, 5000 count DMM

This 20MHz digital storage scope is the ideal choice for technicians troubleshooting industrial machinery, instrumentation, control and power systems including: AC/DC motor drives, sensors and actuators, power lines, transformers and converters, and analog and digital control loops. The patented Connect-and-View hands-off operation saves time in fault finding by providing a stable, reliable, and repeatable display of signals without touching a button. Works for even the most complex signals including motor drives and video. Dual channel TrendPlot tracks intermittents by recording readings from minutes to days with time and date stamped minimum and maximum readouts. The built-in dual channel DMM measures VDC. True RMS VAC, AC/DC current, resistance, frequency, capacitance, temperature, continuity, diode, duty cycle, pulse width, phase A to B, crest factor, dBV and dBm.

Detailed Specs Available Upon Request

Part No. Description Price
01FK123 20MHz Scopemeter® $1,395.00
01FK123S 20MHz Scopemeter® w/Software, Case & RS232 Cable 1,850.00