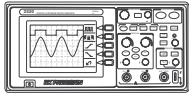


NEW! Digital Storage Oscilloscope

The 2530 delivers essential features and reliable performance at a price you can afford. Analog style knobs and controls combined with autoset functions make this oscilloscope easy to use. Advanced triggering, automatic measurements and FFT functions provide you with many options to debug your circuits. Additionally, the instrument comes with PC Software that lets you easily capture, save and analyze waveforms and measurement results. The 2530 is an ideal education and training tool and also well suited for applications in service and repair.



Features:

- One touch automatic setup for ease of use (Auto)
- 25MHz bandwidth, 250MSa/s sample rate
- 4,000 point record length for each channel
- Capture, save and analyze waveform data with the included EasyScope Application Software
- Cursors with readouts
- Eleven automatic measurements
- FFT standard plus 4 additional math functions
- Extensive Trigger capabilities including Pulse Width and line-selectable Video trigger
- Save/Recall setup and waveform data

BK2530-ND Digital Storage Oscilloscope 25MHz..... \$499.00

Function Generators

FEATURES AND SPECIFICATIONS:

Waveforms: Sine, Square, Triangle, Ramp, Pulse, Variable DC Offset and Duty Cycle. **Sweep LIN & LOG:** 100:1 **Frequency Counter Accuracy:** Time Base ±1 count **General Power:** 120 ~ 230VAC +10% 50/60Hz Internal jumper selectable **Accessories:** BNC to Alligator Cable, Instruction Manual **2 Year Warranty**



Model 4040A

Model 4007DDS: Versatile sweep function generators utilize an advanced direct digital synthesis (DDS) design. 0.1MHz ~ 7MHz frequency range (sine and square only). Lin or Log sweep function. Adjustable duty cycle. Adjustable DC offset.

Model 4013DDS: Versatile sweep function generators utilize an advanced direct digital synthesis (DDS) design. 0.1MHz ~ 12MHz Frequency Ranges (sine and square only) Lin and Log sweep function. Adjustable Duty Cycle. Adjustable DC offset

Model 4001A: Function Generator in 6 Ranges from 0.5Hz ~ 4MHz Range. Coarse and Fine Tuning.

Model 4010A: 7 Ranges from 0.2Hz ~ 2MHz Range. Coarse Tuning.

Model 4011A: Function Generator, 4 Digit LED Digital Display (4 digit Display Resolution), 7 Ranges from 0.5Hz ~ 5MHz Range. Variable Duty Cycle and DC Offset. Coarse and Fine Tuning.

Model 4012A: Sweep/Function Generator. Coarse and fine tuning, 4 digit LED display. Variable duty cycle, DC offset. Linear or log sweep.

Model 4017A: 5 Digit LED Digital Display (5 digit Display Resolution), 8 Ranges from 0.1Hz ~ 10MHz Range. Coarse and Fine Tuning. Extended Sweep/Modulation Input: 0 ~ 10V.

Model 4017B: Square and Ramp waveforms. Frequency resolution down to 0.01Hz. RS-232 Interface. 0 to 100% duty cycle. Variable DC offset.

Model 4040A: Sweep/Function Generator with Frequency Counter, 5 Digit LED Display (5 digit Display Resolution) 8 Ranges from 0.2Hz ~ 20MHz Range. AM and FM Modulation. Burst Operation. 30MHz External Frequency Counter. Selectable Linear or Log Sweep. Extended Sweep/Modulation Input: 0 ~ 10V. Coarse and Fine Tuning.

Model 4084: Model 4084 is a high performance laboratory grade synthesized function generator. Direct digital synthesis (DDS) techniques are used to create stable, accurate output signals for all 27 built-in standard and complex (arbitrary) waveforms.

Model 4045: Sine, Square, Triangle, Arbitrary, Ramp and Pulse waveforms. Modulation in both AM and FM. Lin or Log Sweep Function. Adjustable Duty Cycle. Adjustable DC Offset. RS-232C Interface. Frequency Range: 0.1MHz ~ 20MHz

BK4007DDS-ND DDS Sweep Function Generator 7MHz.....	\$399.00
BK4013DDS-ND DDS Sweep Function Generator 12MHz.....	\$499.00
BK4001A-ND 4MHz Sweep/Function Generator.....	\$205.00
BK4010A-ND 2MHz Function Generator.....	\$259.00
BK4011A-ND 5MHz Function Generator with Digital Display.....	\$325.00
BK4012A-ND 5MHz Function Generator.....	\$359.86
BK4017A-ND 10MHz Sweep/Function Generator with Digital Display.....	\$409.00
BK4017B-ND 10MHz DDS Sweep Function Generator 10MHz available on Sine.....	\$499.00
BK4040A-ND 20MHz Sweep/Function Generator with Frequency Counter and Digital Display.....	\$619.00
BK4084-ND 20MHz Programmable DDS Function Generator.....	\$925.00
BK4045-ND 20MHz DDS Sweep Function Generator with Arbitrary (Capabilities).....	\$995.00
LC-40B-ND Carrying Case (1 Year Warranty) (For 4010A, 4011A, 4017A and 4040A).....	\$93.60

Function and Arbitrary Waveform Generator

Model 4084AWG: The Model 4084AWG is a laboratory grade synthesized function generator with arbitrary capability. Direct synthesis (DDS) techniques are used to create stable, accurate output signals for all 27 built-in standard and complex (arbitrary) waveforms as well as custom arbitrary waveforms. The 4084AWG produces high purity, low distortion sine waves and square waves up to 20 MHz and provides extensive analog modulation capabilities including AM, FM, FSK, PSK, pulse modulation, burst mode and linear/logarithmic sweep combined with multiple trigger modes. The included intuitive Windows Software lets users create and edit custom arbitrary waveforms and download them with a single click to the instruments non volatile memory. Unmatched affordability and high performance make the 4084AWG a perfect fit for many applications in Electronic Test and Design, Sensor Simulation and Education and Training. **Features:** • Clean and stable output of very small signals down to the 1mV ~ 10mV range (50C) • Support of internal and external modulation sources as well as internal, external and gated trigger sources • Create arbitrary waveforms with 10 bit vertical resolution, 16K memory depth and a sample rate of 200MHz • Fully programmable via the standard RS232 interface using SCPI compatible commands • 100MHz Universal Counter with frequency measurement and totalize function



Model 4084AWG

BK4084AWG-ND Arbitrary/Function Generator..... \$1295.00

Frequency Counter



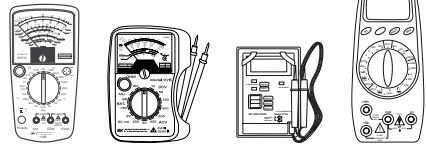
Model 1856D

Model 1856D: 3.5GHz Multifunction Counter (Frequency, Period, Totalize) Benchtop with .56 inch high 9-Digit LED Display. **Frequency:** 0.1Hz ~ 3.5GHz **Period Characteristics:** Range: 10ns ~ 10s **Input Characteristics:** Impedance: 50 Ω ±5% **Totalize Start/Stop Input:** Logic Levels: Standard TTL Levels **Time Base Characteristics:** Standard Type: TCO **Frequency:** 10MHz **Stability:** ±1ppm ±10% line voltage variation **Temperature Stability:** ±5ppm 0°C ~ 50°C **Dimensions:** 9.4 x 3.5 x 10.6" **Power:** 115VAC ±10% 50/60Hz **Accessories Included:** Instruction Manual

BK1856D-ND 3.5GHz Benchtop Multifunction Counter..... \$515.00

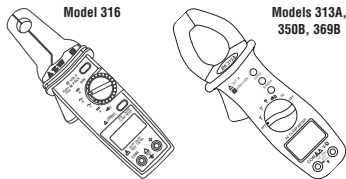
Multimeters

Pocket/Analog Multimeters



Model 114B Analog Multimeter.....	\$40.00
BK117B-ND Pocket Size Analog Multimeter.....	\$20.95
BK2700-ND Pocket DMM.....	\$36.00
BK2408-ND Mini-pro Multimeter.....	\$46.50
LC-24-ND Carrying Case for 2408 (1 Year Warranty).....	\$15.60

Clamp-on Multimeters



	Models			
	313A	316	350B	369B
AC Current	600A	100A	1000A	1000A
DC Current	600A	100A	—	1000A
AC Voltage	600V	600V	750V	750V
DC Voltage	600V	600V	1000V	1000V
Resistance	1KΩ	10KΩ	30MΩ	40MΩ
Frequency	—	—	—	—
Capacitance	—	—	—	—
True RMS	—	—	—	—
Continuity	—	—	—	—
Diode	—	—	—	—
Data Hold	—	—	—	—
Max./Min.	—	—	—	—

BK313A-ND 600A.....	\$154.00
BK316-ND 10/80/100A.....	\$164.00
BK350B-ND 32/320/1000A.....	\$160.00
BK369B-ND 400/1000A.....	\$195.00
LC-33-ND Carrying Case (1 Year Warranty).....	\$26.99

Bench DMM True RMS

Model 2831D:

4-1/2 LED Digit Display Bench with 0.05% Basic Accuracy • Measures diode, frequency and continuity in addition to basic current, voltage and resistance **Specifications:** **DC Voltage:** 1200V max range, best accuracy +0.05% +5D **AC Voltage:** 1000V range max, best accuracy +0.75% +10D **AC/DC Current:** 20A max, best accuracy +0.75% +5D **Resistance:** 20MΩ max, best accuracy +0.2% +5D **Frequency:** 200KHz max, best accuracy +1.0% +5D • **Dimensions:** 9.4 x 3.5 x 10.5"



Model 5492

Model 5491A: **50,000 Count Digit Dual Display Bench Multimeter** • True RMS • Resistance measurements up to 50M Ω • Measures frequency to 500KHz • dBm measurement • RS232 Interface

Model 5492:

5-1/2 Digit Dual Display Bench DMM with 0.012% Basic Accuracy • Selectable Count Resolutions of 120,000, 40,000 and 4,000 count • Selectable 2 Wire and 4 Wire Resistance • Measures Frequency to 1MHz with 0.01Hz Best Resolution • RS-232 Interface **Includes:** One set of TL 36 Test Leads and AC 01 caps for TL 36 • Optional GPIB

BK2831D-ND	\$278.10
BK5491A-ND	\$454.45
BK5492-ND	\$715.00
LC-40B-ND Carrying Case (1 Year Warranty).....	\$93.60

Dual Display 51,000 Count DMM

Models 2890A and 2880B are Dual Display 51,000 Count DMMs with exceptional accuracy and functionality. Both offer superb performance with many features that are useful for trouble shooting electronic and electrical circuits or to test and evaluate circuits in a field service application.



Features: • True RMSACV and ACA • 5 Digit LCD for both the primary and secondary displays • 21 Segment analog bar graph • Automatic polarity indicator • 0.025% Basic DCV accuracy (0.03% for 2880B) • Resistance measurements up to 500MΩ • Conductance measurements up to 50nS with 0.01nS resolution • Capacitance measurement • Frequency with ACV measurement • Data Hold • dBm Measurement • Conforms to IEC-1010-1 600V CAT IV and 1000V CAT III • CE Approved

Model 2890A: • AC+DC True RMS • Back lit LCD • Frequency counter up to 20MHz • Square Wave output with 28 frequency ranges and adjustable duty cycle

Model 2880B: • Easy to understand interface • IEC rated inputs

BK2890A-ND	\$309.00
BK2880B-ND	\$249.00

3 1/2 Digit Ruggedized DMM

The Survivor™ High Energy Fused Ruggedized DMM. 3-1/2 digit 20.32mm high contrast LCD display.

Audible Continuity: 20 Amp range

Sampling: 2.5 times/sec. (nominal), Heavy Duty 1500VDC, 1000VAC rating. Water resistant case.

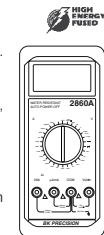
Power Requirements: Single 9V battery

Auto Power Off: approx. 30 minute

Dimensions: 6.9 x 3.5 x 1.5"

Accessories Supplied: Battery, test leads, instruction manual, rubber boot.

5 Year Warranty



BK2860A-ND	\$102.00
LC-29B-ND Carrying Case (1 Year Warranty).....	\$19.71

Tool Kit® Multimeters

Display: 3-1/2 digit, high-contrast 0.7" (17.78mm) LCD, 1999 counts.

Sampling: 3 times/sec. (nominal), 0.5%DCV accuracy.

Operating Temperature: 0°C ~ 50°C, 0% to 70% RH.

Power Requirements: 9V battery

Accessories Supplied: Battery, drop resistant case, test leads, and instruction manual.

1 Year Warranty

Model 2707A:

DMM, component tester, frequency counter, and logic probe. **Voltage Range:** 200mV to 1000VDC; 200mV to 750VAC frequency counter **Current Range:** 200µA to 10A **Resistance:** 0.1Ω to 200MΩ **Capacitance:** to 20µF **Frequency:** 2KHz to 5MHz **Logic Probe Function:** (TTL) **Transistor Gain Measure:** (hFE) **Dimensions:** 5.9 x 3.1 x 1.3"

Model 2706A:

DMM, component tester, and temperature meter. **Voltage Range:** 200mV to 1000VDC; 200mV to 750VAC **Current Range:** 200µA to 10A **Resistance:** 0.1Ω to 20MΩ **Capacitance:** to 20µF **Frequency:** 10Hz to 15MHz **Transistor Gain Measure:** (hFE) **Temperature:** 0°C ~ 750°C Thermocouple probe included **Dimensions:** 5.9 x 3.1 x 1.3"

Model 2704B:

DMM, component tester. **Voltage Range:** 200mV to 1000VDC; 200mV to 750VAC **Current Range:** 200µA to 10A **Frequency:** 2KHz to 15MHz **Resistance:** 0.1Ω to 20MΩ **Capacitance:** to 20µF **Transistor Gain Measure:** (hFE) **Dimensions:** 5.9 x 3.1 x 1.3"

Model 2703B:

DMM **Voltage Range:** 200mV to 1000VDC; 200mV to 750VAC **Current Range:** 200µA to 10A **Resistance:** 0.1Ω to 20MΩ **Dimensions:** 5.9 x 3.1 x 1.3"

BK2707A-ND.....
 \$91.00 || **BK2706A-ND**..... | \$81.00 |
BK2704B-ND.....	\$60.00
BK2703B-ND.....	\$40.00
LC-29B-ND Carrying Case (1 Year Warranty).....	\$19.71



Model 2704B

Multimeters (Cont.)

Test Bench® Multimeters

High quality, ruggedized, multi-function DMMs in a drop resistant case. Resistance and frequency measurement. Diode check. Auto power off. All current ranges fused. **Power Requirements:** Single 9V battery **Dimensions:** 7.8 x 3.5 x 1.5"

Accessories Supplied: 9V battery, test leads, instruction manual, rubber boot.

3 Year Warranty

Model 388B:

3-3/4 Digit LCD Display (4000 count). **DC Volts:** 400mV ~ 1000V **AC Volts:** 400mV ~ 750V **DC/AC Current:** 400µA ~ 10A **Resistance:** 400Ω ~ 40MΩ **Diode Test:** at 1mA, 3.2VDC max. type **Capacitance:** 4nF ~ 40µF **Frequency:** 4kHz ~ 4MHz. Logic level measure (TTL) Transistor gain (hFE) and peak hold.



Model 390A:

3-3/4 Digit LCD Display (4000 count). **Analog Bar Graph:** 41 Segments **DC Volts:** 400mV ~ 1000V **AC Volts:** 400mV ~ 750V **DC/AC Current:** 400µA ~ 10A **Resistance:** 400Ω ~ 40MΩ **Diode Test:** at 1.2mA, 3.0VDC max. type **Capacitance:** 4nF ~ 40mF **Frequency:** 4kHz ~ 40MHz **Temperature Range:** -50°C ~ 1300°C (1°C resolution). Auto/manual ranging. Relative mode. Minimum/Maximum hold. Data hold. Memory. RS-232. Audible continuity. Thermocouple Probe included.

Model 389A:

3-3/4 Digit LCD Display (4000 count). **Analog Bar Graph:** 41 Segments **DC Volts:** 400mV ~ 1000V **AC Volts:** 400mV ~ 750V **DC/AC Current:** 400µA ~ 10A **Resistance:** 400Ω ~ 40MΩ **Diode Test:** at 1mA, 3.2VDC max. type **Capacitance:** 4nF ~ 40mF **Frequency:** 4kHz ~ 40MHz. Auto/manual ranging. Relative mode. Min/max hold. Data hold. Memory. Audible continuity.

Model 391A:

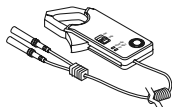
4-1/2 Digit LCD Display (20,000 count). **DC Volts:** 200mV ~ 1000V **AC Volts:** 200mV ~ 750V **DC/AC Current:** 400µA ~ 10A True RMS reading **Resistance:** 200Ω ~ 20MΩ **Diode Test:** at 1mA, 3.2VDC max. type **Frequency:** 2kHz ~ 200kHz **Duty Cycle:** .0 ~ 90% (0.1% resolution). Data hold. Logic level measure (TTL).

BK388B-ND	.....	\$130.00
BK390A-ND	.....	\$170.00
BK389A-ND	.....	\$150.00
BK391A-ND	.....	\$190.00
LC-298-ND Carrying Case (1 Year Warranty)	.....	\$19.71

Accessories

DC/AC Current Clamp Adapter

Measures current without disconnecting circuit under test. Measures to 400A DC or AC. Outputs 1 mV per Amp., operates on 2V range of any DMM.



Power Requirements: 9V battery
Operating Temp.: 0°C ~ 50°C, <70% RH
Dimensions: 7 x 2.8 x 1.3"

Accessories Included: Battery and instruction manual.

BKCP-3-ND	\$95.67
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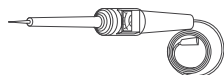
Probes and Test Lead Sets

TP-29-ND	Type K Bead Thermocouple Probe	\$10.34
BKTL-4-ND	Universal Test Lead Set	\$9.31
TL-2A-ND	Test Lead Set, Fully Shrouded SILIC, IEC61010-2-031 1,000V CATIII	.....	\$22.83
TL-1-ND	Test Lead Set, Fully Shrouded	.....	\$9.31
TL-3-ND	Test Lead Accessory Set for BKTL-4 and TL-2A	.....	\$17.62

High-Voltage Probes

Model PR-28A:

Accessory for DMM's Multiplies instrument ranges by 1000 (40V becomes 40,000V). PR-28 for use with any high impedance (10MΩ or greater) voltmeter.



Voltage Range: 40kVDC and 20kVAC (60Hz)
Frequency Range: DC-8Hz 20kVAC max. 60Hz
Impedance: 600MΩ accuracy: ±3% plus instrument accuracy
Calibration: Internal; factory calibrated at 25kV
Size: 14" long; 2.25" diameter (max.); 48" cord
Connector: Dual banana

Model HV-44A:

Built in meter for stand-alone operation (No DMM required). Measures voltages up to 40,000VDC. Factory calibrated at 25kV (±2% accuracy); full scale ±3% accuracy. Conventional round needle type tip and flat spring type tip for easy access to CRT anode. **Size:** 16.5 x 2.1 x 2" **Color:** Black and Red
Positive Polarity Only - Not for microwave ovens.

PR-28A-ND	.....	\$66.57
HV-44A-ND	.....	\$113.00

Logic Probes

20MHz and 50MHz Logic Probes



Model DP-21:

(20MHz Logic Probe): Tests TTL, DTL, RTL, HTL, CMOS and MOS. Displays pulse presence and logic states. Memory mode "freezes" pulse display. Catches pulses to 30ns or pulse trains to 20MHz. 1MΩ input impedance. **Operating Supply Voltage Range:** TTL-5V, CMOS 5-15V **Dimensions:** .7 x .7 x 8.2"

Model DP-52

(50 MHz Logic Probe): Tests TTL and CMOS. Displays DC to 50MHz. Detects 10ns pulse width. Overload protected. 120kΩ input impedance. **Operating Supply Voltage Range:** 4-18VDC **Dimensions:** .7 x .7 x 8.2"

DP-21-ND	.....	\$36.00
BKDP52-ND	.....	\$46.00

Pulsar Probe



For TTL and CMOS. Produces 10µs pulse signal at 100mA. External square wave terminal. **Output Current:** Pulsar mode-100mA sink/source square wave mode-5mA sink/source. **Operating Supply Voltage Range:** 5-15VDC **Sync Input Impedance:** 1MΩ **Dimensions:** .7 x .7 x 8.2"

DP-31A-ND	\$36.00
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Component Testers

Dual-Display Auto Ranging LCR Meter

Measures inductance, resistance and capacitance. 4 1/2 digit LCD display. Tests at 100Hz, 120Hz, 1kHz or 10kHz (120Hz or 1kHz for 878A only). Relative mode. Tolerance mode. Backlight (879 only).



Accessories Included: 9V battery, user manual and test alligator clips pair.

BK878A-ND	.....	\$249.00
BK879-ND	.....	\$332.22
LC-298-ND Carrying Case (1 Year Warranty)	.....	\$19.71

Bench LCR/ESR Meter with Component Tester

Synthesized In-Circuit LCR/ESR Meter with Component Tester. Used for measuring inductors, capacitors and resistors with DC/AC Voltage measurements and Diode/Audible Continuity checks.



BK889A-ND	\$1204.35
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In-Circuit Testers

Model 885 — LCR/ESR Meter:

Specifications: Measurement parameters: Z, L, C, DCR, ESR, D, Q, and 0 Test conditions: 100Hz, 120Hz, 1kHz, 10kHz, 1vrms, 0.25Vrms, 0.05Vrms **Features:** • 0.5% basic accuracy • Dual LCD display • SMD surface mount tweezer probe included • Fully auto/manual selection • DC resistance measurement • Rechargeable battery/AC powered

BK885-ND	.....	\$565.00
LC-298-ND Carrying Case (1 Year Warranty)	.....	\$19.71

LCR Meter

Model 875B: Measures capacitance (200pF-20mF ±1%), resistance (2-20MΩ ±1%), and inductance (200µH-200mH ±1%). 3-1/2 digit LCD display. Low battery and overload indicator.

Power: Single standard 9V battery
Dimensions: 1.4 x 3.5 x 7.5"

Accessories Included: Test leads, battery, instruction manual.

BK875B-ND	.....	\$195.00
LC-298-ND Carrying Case (1 Year Warranty)	.....	\$19.71



Auto Ranging Capacitance Meter

Model 830B: 4-1/2 digit LCD display. 11,000 counts resolution. Nine automatically selected ranges with full scale value from 1.0pF ~ 199.99mF. **Features:** • USB PC interface and data logging software included • Three year warranty **Specifications:** • Power Source: 9V battery • Dimensions: 7.24 x 3.42 x 1.61"



Model 890B: 4-1/2 LCD with dual display. 11,000 counts resolution. Nine automatically selected ranges with full scale value from 1.0pF ~ 50mF. **Features:** • Program unique values to sort for specific circuit applications • USB PC interface for data logging software available

BK830B-ND	.....	\$289.00
BK890B-ND	.....	\$134.00
LC-298-ND Carrying Case (1 Year Warranty)	.....	\$19.71

Capacitance Meter

Model 810C: 3-1/2 digit LCD display. Nine ranges from 200pF to 20mF. Low battery and over-range indicator. **Power Source:** One 9V battery **Dimensions:** 5.7 x 3 x 1.6" **Accessories Included:** Test leads, battery, and manual.

BK810C-ND	.....	\$81.00
LC-298-ND Carrying Case (1 Year Warranty)	.....	\$19.71



IC Testers

Model 570A — Linear IC Tester:

Features:

- Tests all common analog IC's • Auto identification of unmarked/house-coded devices listing possible replacements • Conditional/unconditional loop testing mode • Functional test emulates passive circuitry to implement a comprehensive test in a variety of configurations • Displays diagnostic information down to individual component pins • Rugged, hand-held, ergonomically designed case incorporates built-in membrane keypad, 2 x 16 dot matrix alpha numeric LCD and high quality 16 pin ZIF socket • Auto power off

BK570A-ND	\$1399.00
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Model 575A — Digital IC Tester:

Features:

- 40 pin wide-entry ZIF sockets test a broad range of TTL, CMOS Memory, LSI, Interface and other devices (NAND gates to CPUs) • Identifies unmarked and house-coded devices • Detects intermittent and temperature related faults • Displays diagnostic information for individual pins

BK575A-ND	\$1099.00
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NTSC Generator

Model 1257:

This portable, handheld NTSC Pattern Generator with S-Video, composite video and audio outputs is powered by a 9-volt battery or AC adapter. It provides NTSC color bars, crosshatch, dot, staircase, circle, center cross, windows, and a full range of color raster patterns. The outputs available are composite video and audio via two RCA connectors or an S-Video mini-DIN output. Signals can be produced as an interlaced or progressive scanning mode. No modulated RF signal is provided.

BK1257-ND NTSC Generator	\$205.00
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Network and PC Cable Testers

Model 231A:

Tests 10 BaseT, 100 Base2, RJ45, RJ11, 356A, TIA-568A, TIA-568B, and token ring cables. • Detects open, short, cross, and continuity • Tests Point-to-Point, rather than a Pair-to-Pair • Tests cables on wall plate or patch panel up to 1000 ft. away with the remote kit • Easy to read LED display

BK231A-ND DLX Multi-Network Cable Tester	\$80.00
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Deluxe EPROM Eraser

Model 851:

Heavy duty EPROM eraser simultaneously erases up to 40 twenty-four pin EPROMs. Features a 60 minute timer.

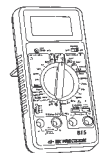
BK851-ND	\$161.10
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3 1/2 Digit Hand-Held Parts Tester

26 user ranges for versatile test selection. Tests capacitance from 0.1pF ~ 20mF. Tests resistance from 0.1Ω ~ 20MΩ. Tests transistors, SCRs, diodes and LEDs. Tests batteries under actual loaded conditions.

Power: One 9V transistor battery
Dimensions: 6.9 x 3.6 x 1.3"

Accessories Included: Test leads, spare fuse, battery, instruction manual.



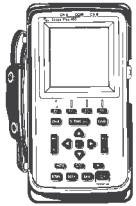
BK815-ND	.....	\$102.00
LC-298-ND Carrying Case (1 Year Warranty)	.....	\$19.71

More Product Available Online: www.digkey.com

Toll-Free: 1-800-344-4539 • Phone 218-681-6674 • Fax: 218-681-3380



Dual Channel, 20MHz Oscilloscope with True RMS Digital Multimeter



Portable Oscilloscope and Dual Input DMM

- Cursor Readout
- Pre-Post Triggering
- Decibel Measurement
- Trend Mode
- Real Time Sample Rate
- Bright LCD Backlight
- Continuous Autoselect
- RS232 Option Available

Includes: Two test leads, two banana to BNC adapters, one DC-60MHz X1 X10 passive oscilloscope probe, power supply and user manual.

VERTICAL	
Bandwidth	20MHz with SP60B 10:1 Probe 10MHz with Shielded Test Leads
Sample Rate Real Time: Equivalent Time:	25 Megasamples per Second up to 2MHz 500 Megasamples per Second > 2MHz
Sensitivity	50mV to 200V/div 1,2,5 Sequence
Coupling	AC, DC, GND
Resolution	8 bits
Accuracy	± 3% + 0.05 range/div
HORIZONTAL	
Modes	Single, Normal, Auto
Samples per Division	25
Accuracy Real Time: Equivalent Time:	± 0.1% + 0.04 time/div ± 0.5% + 0.08 time/div
TRIGGER	
Source	Internal
Modes	Free Run, Normal
Sensitivity Real Time: Equivalent Time:	2 divisions or more 3 divisions or more
TREND MODE	
Plot Time	30 sec/div to 1 hour/div
Plot Data Type	Maximum/Minimum Selectable
Memory	2 Screens
TRUE RMS DMM	
DCV (CH1, CH2) Basic Accuracy:	400mV, 4, 40, 400, 600V ± 0.5% + 5 digits
ACV (CH1, CH2) Basic Accuracy:	400mV, 4, 40, 400, 600V ± 1% + 10 digits
Frequency (CH1, CH2) Basic Accuracy:	1Hz - 20MHz ± 0.5% + 5 digits
Ohm (CH1 only) Basic Accuracy:	400, 4k, 40k, 400k, 4M, 20M ± 0.5% + 5 digits
Continuity (CH1 only)	Sounds < 0.1kΩ, ± 2% + 5 digits

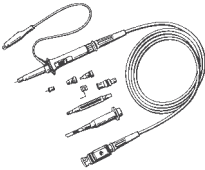
Description	Digi-Key Part No.	Price Each	TPI Part No.
Handheld Oscilloscope 460	290-1460-ND	995.00	460
Carry Case for 460	290-1905-ND	39.95	A905
Software and RS232 Cable for 460	290-1404-ND	69.95	A404

High-Performance Oscilloscope Probes IEC 1010 Category I or Category II Compliance

It is important that you select a probe with the same bandwidth or "frequency range" as the oscilloscope used for the job. For example, if you're using a 100 MHz oscilloscope, choose a probe with a minimum of 100MHz. To achieve optimum performance, choose a probe with more than twice the bandwidth of the oscilloscope.

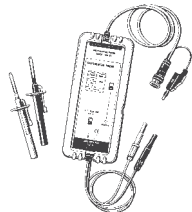
Category I This slim design comes equipped with interchangeable cables, probe tips and grooved heads. Compensation adjustment placed in the BNC eliminates noise and interference related pickup. Available in switchable and non-switchable versions.

Category II This versatile design offers three monolithic interchangeable probes in 60, 100, and 250MHz bandwidth.



Bandwidth	Attenuation	Cable Length Meters	Input Impedance R C	Max Input V DC + Peak AC Range	Rise Time	Compensation	Readout	Digi-Key Part No.	Price Each	TPI Part No.
Switchable, IEC 1010 Compliant - Category II										
250MHz	x1 x10	1.5	1 Meg 10 Meg	200pF 22pF	600V	1.5ns 10-60pF	NA	290-1057-ND	69.95	IP250
Switchable, IEC 1010 Compliant - Category I										
60MHz	x1 x10	1.2	1 Meg 10 Meg	47pF 18pF	600V	5.8ns 10-35pF	NA	290-1003-ND	34.95	SP60B
100MHz	x1 x10	1.2	1 Meg 10 Meg	47pF 16pF	600V	3.5ns 10-35pF	NA	290-1004-ND	39.95	SP100B
150MHz	x1 x10	1.2	1 Meg 10 Meg	47pF 15pF	600V	2.3ns 10-35pF	NA	290-1005-ND	44.95	SP150B
200MHz	x1 x10	1.2	1 Meg 10 Meg	47pF 15pF	600V	1.8ns 10-35pF	NA	290-1006-ND	49.95	SP200B
250MHz	x1 x10	1.2	1 Meg 10 Meg	47pF 14pF	600V	1.4ns 10-35pF	NA	290-1007-ND	54.95	SP250B
300MHz	x1 x10	1.2	1 Meg 10 Meg	47pF 12pF	600V	1.1ns 10-35pF	NA	290-1008-ND	59.95	SP300B
Non-Switchable, IEC 1010 Compliant - Category I										
15MHz	x1	1.2	1 Meg	47pF	600V	23ns	—	290-1000-ND	29.95	1P20B
100MHz	x10	1.2	10 Meg	16pF	600V	3.5ns	10-35pF	290-1001-ND	34.95	P100B
100MHz	x10	1.2	10 Meg	16pF	600V	3.5ns	10-35pF	290-1050-ND	39.95	P100BR
200MHz	x10	1.2	10 Meg	15pF	600V	1.8ns	10-35pF	290-1002-ND	39.95	P200B
250MHz	x100	1.2	100 Meg	6.5pF	1200V	1.4ns	10-35pF	290-1051-ND	44.95	P250
250MHz	x100	1.2	100 Meg	6.5pF	1200V	1.4ns	10-35pF	290-1052-ND	49.95	P250R
250MHz	x10	1.2	10 Meg	14pF	600V	1.4ns	10-35pF	290-1053-ND	44.95	P250B
250MHz	x10	1.2	10 Meg	14pF	600V	1.4ns	10-35pF	290-1054-ND	49.95	P250BR

Differential Probe



This high-voltage differential probe allows conventional grounded oscilloscopes to be used for display and measurement of multiple floating signals with high common mode voltages. IEC 1010 approved for safety.

FUNCTION:	Bandwidth: DC - 25MHz (-3dB)	Offset (typical): <±5mV -14°F - 74°F (-10°C - 40°C)
Accuracy: ±2%	Risetime: 14ns	Common Mode: ±1,400VDC Inc. Pk AC, or 1,000V RMS
Input Impedance: 4M/10pF each side to ground, 8M/5pF between inputs	Input Voltage: ±140VDC Inc. Pk AC	Output Source Impedance: 1 @ 1kHz, 8 @ 1MHz
Maximum Differential: 20:1 or 100V RMS, ±1,400VDC Inc. Pk AC, 200:1 or 1,000V RMS	Operating Temperature: -14°F - 74°F (-10°C - 40°C)	Power Requirements: 4 AA cell or 6V main adapters; DC/600mA or DC/800mA
Output Voltage: ±7 minimum 2K load	Noise (typical): 1.5/2mV	Input Leads: 45cm double insulated PVC terminated in 44mm safety plugs
290-1076-ND	ADP25	\$374.95

4,000 Count True RMS DMM with 1MHz Waveform Capabilities



Versatile 6 Instruments-in-1

Features:

- Autoranging 4,000 Count/True RMS DMM
- 1MHz
- Trend Mode
- Component Test
- Logic Test
- Frequency Counter
- T-Base Button
- Continuous Autoselect
- RS232 Option Available

Includes: Insulated test leads with alligator clips, power supply, NiCad battery and user manual.

OSCILLOSCOPE	
Bandwidth	1MHz
Sample Rate	20 Megasamples per Second Single Shot
Channels	Single
Glitch Capture	Yes
Trend Mode	Yes
Auto Set	Continuous
Waveform Memory	8 locations
Set-up Memory	8 locations
Viewing Area	160 x 240 pixels
Contrast	Adjustable
DMM	
True RMS	Yes
Basic DC Accuracy	0.3%
DCV / ACV	Up to 1,000 volts
DCA / ACA	Up to 10 amps
Ohms	Up to 40MΩ
Capacitance	Up to 400µF
Frequency	Up to 2MHz

Description	Digi-Key Part No.	Price Each	TPI Part No.
TPI 440 Hand-held Oscilloscope 440	290-1440-ND	299.95	TPI 440
Software for TPI 440	290-1075-ND	59.95	A402
Battery Charger for TPI 440	290-1441-ND	19.95	TPI A401
Carrying Case for TPI 440	290-1900-ND	18.54	TPI A900
Rubber Boot for TPI 440	290-1123-ND	19.95	A403

Digital Multimeters

TPI digital multimeters feature auto ranging, minimum/maximum record function, 4,000-count display, and protective rubber feet. **Includes:** Batteries, Test Leads, Protective Boot, and Instruction Manual with 3-year Limited Warranty

• The 183 offers a triple display with backlight, frequency and capacitance ranges, and RS-232 communication function.

• TPI 190 series digital multimeters feature 50,000-count triple display with analog bar graph and backlight, separate fuse and battery compartment, CAT IV rated test leads with screw on alligator clips, and protective rubber feet.



183

FUNCTION	100	126	153	183	192	194
Display Count	4,000	4,000	4,000	4,000	50,000	50,000
AC Volts	600	600	750	750	750	750
DC Volts	600	600	1,000	1,000	1,000	1,000
Basic DC Accuracy	0.5%	0.3%	0.3%	0.03%	0.05%	0.05%
AC/DC Amps	NA	400mA	10	10	10	10
True RMS	NA	NA	NA	Yes	Yes	Yes
Resistance	10MΩ	400MΩ	40MΩ	40MΩ	50MΩ	50MΩ
Capacitance	NA	NA	NA	10,000µF	100µF	20,000µF
Frequency	NA	NA	NA	200KHz	500KHz	500KHz
Analog Bar Graph	NA	NA	NA	Yes	Yes	Yes
Auto Range	Yes	Yes	Yes	Yes	Yes	Yes
Data Hold	NA	Yes	Yes	Yes	Yes	Yes
Min./Max. Record	NA	Yes	Yes	Yes	Yes	Yes
Sleep Mode	NA	NA	NA	Yes	Yes	Yes
Auto Power Off	Yes	Yes	Yes	NA	Yes	Yes
RS232 (cable and software)	NA	NA	NA	Optional A108	Optional A191	Optional A191
Dimensions - Inch (with boot)	7.4 x 3.4 x 1.3	6 x 3 x 2	7.75 x 3.75 x 2.25	7.75 x 3.75 x 2.25	8.0 x 4.5 x 2.0	8.0 x 4.5 x 2.0

Description	Digi-Key Part No.	Price Each	TPI Part No.
EZ 100, One Button Operation	290-1920-ND	49.95	100
Pocket Auto Range, Compact Size	290-1126-ND	59.95	126
4 Digit, Large Display	290-1153-ND	74.95	153
4 Digit, Triple Display	290-1183-ND	139.95	183
5 Digit, CAT III	290-1423-ND	229.95	192
5 Digit, CAT IV	290-1424-ND	269.95	194

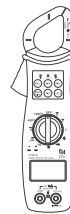
Digital Clamp-On Meter

Measure AC/DC volts, AC amps, DC microamps, resistance, continuity, temperature, capacitance, frequency and diodes.

Features:

- Non-contact voltage detection
- High voltage indication
- Ability to capture in-rush current with peak hold mode

290-1421-ND 270 \$129.95



Fiber Optic Inspection Tool

Features: • Machined aluminum housing • Coated flexible 48" fiber optic cable for accessibility to tight areas with bends and curves • Hi-resolution 8,000 pixel image • Super bright LED flashlight light source • Compact aluminum carrying case with locking latches • Removable right angle mirror

Specifications: • .39 inch (1.0mm) shaft diameter • 48 inch (1,220mm) working length

810-ND \$499.95



Pocket Digital Contact Thermometers

Range: -58°F - 300°F or -50°C - 150°C **Resolution:** 0.1°F or 0.1°C **Accuracy:** ±2°F or ±1°C **Sampling Time:** 1.5 seconds **Battery:** 1.5V button **Features:** • Data hold for hard to reach areas • Auto power off

310: • Reversible LCD head • Turns for best viewing • Easy-to-read LCD • 4.9" stem

312: • Water resistant for use in wet environments • Quick response • Easy insertion into "Petes" plugs • 4.9" stem

315: • Rugged design • Water resistant • 3.1mm diameter stem for "Petes" plugs

290-1310-ND 310 \$12.95

290-1312-ND 312 \$15.95

290-1422-ND 315 \$18.95

More Product Available Online: www.digikey.com

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