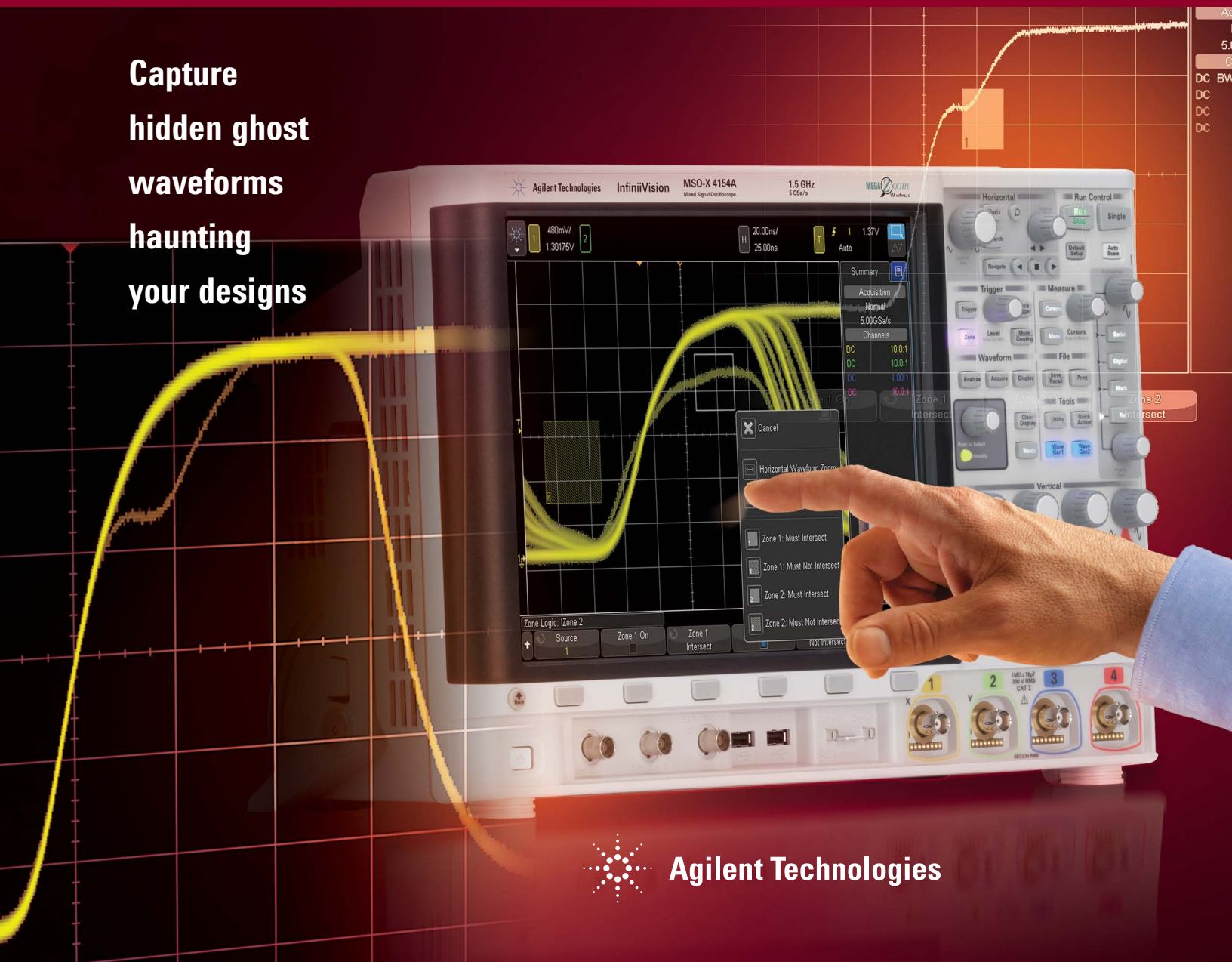
Agilent & Our Distributor Network

Right Instrument. Right Expertise.
Delivered Right Now.

Agilent Basic Instruments

February–April 2013

Capture hidden ghost waveforms haunting your designs



Agilent Technologies

Capturing ghosts: the oscilloscope specifications that matter the most

A flickering "waveform ghost" is a classic intermittent signal—sometimes it's there; sometimes it isn't. A ghost can be an infrequent narrow glitch, an infrequent shift in timing, an infrequent runt pulse, or any inconsistent and unexpected waveform.

These anomalies are among the toughest troubleshooting challenges, so it's vital to understand how scope performance affects your ability to capture, identify, and fix these difficult creatures.

Bandwidth and sample rate

The most important oscilloscope specifications to consider are bandwidth and sample rate. A scope's real-time bandwidth and its associated sample rate determine the level of detail in which signals can be captured. If an infrequent glitch has a very fast transition time or is very narrow, a low bandwidth scope may filter out the glitch entirely, and you'll never know it's there.

Memory depth and display update rate

Deep memory is a powerful tool for catching ghosts because it allows you to sample at higher rates over a longer period of time. However, even if an infrequent event is randomly captured in your scope's deep acquisition memory buffer, will you know it's there? And if you can't readily see it on the scope's display, how do you even know that you need to search for it, or what to search for?

A fast display system greatly enhances a scope's ability to make those occasional waveform ghosts more visible. The higher the waveform update rate, the more likely it will catch and display infrequent anomalies, even when you are not specifically looking for them.

Figure 1 shows an example of a waveform ghost captured on Agilent's new InfiniiVision 4000 X-Series oscilloscope while updating at 1,000,000 waveforms per second. Scopes with slower update rates may never reveal this ghost of a waveform (an infrequent non-monotonic edge).

Assuming that your oscilloscope's update rate is fast enough, the next step is typically to set up the scope to uniquely trigger on it in order to isolate it so that you can determine its root cause. If the infrequent anomaly is a narrow glitch, try using your scope's pulse-width trigger mode. If the infrequent anomaly is a pulse with insufficient amplitude, try using your scope's runt trigger mode. Or if the anomaly is an infrequent non-monotonic edge as in this particular example, try the rise-time trigger mode.

Zone triggering

Chances are you'll encounter situations in which using your scope's advanced parametric/violation triggering modes is easier said than done. A simpler alternative in many cases is zone triggering, which is available on Agilent's InfiniiVision 4000 X-Series oscilloscopes. Simply draw a box (zone) around the area of the waveform ghost using the scope's capacitive touch screen as shown in **Figure 2**, and the scope will display only the anomalous waveforms that intersect that zone.

To learn more about capturing elusive signals with today's advanced scopes, visit **www.agilent.com/find/zonetrigger**

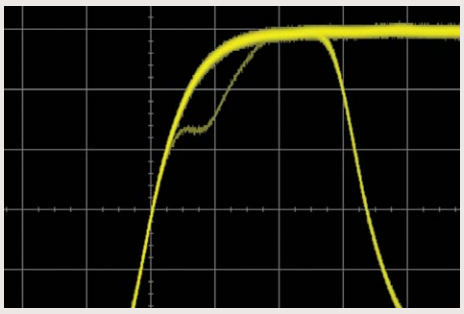


FIGURE 1

The scope's fast waveform update rate reveals an infrequent non-monotonic edge.

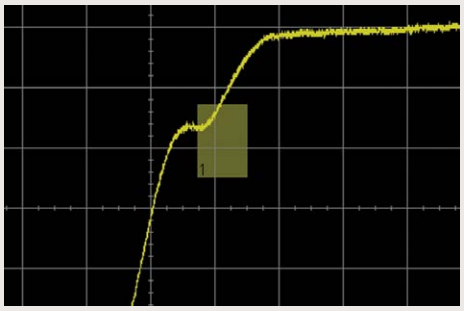


FIGURE 2

InfiniiScan Zone trigger isolates the non-monotonic edge waveform.

PROMOTIONS

Four free 1 GHz active probes

Achieve 1 GHz full system bandwidth to the probe tip with your purchase of a new InfiniiVision 4000 X-Series 1 GHz or 1.5 GHz oscilloscope.

Probes ship automatically with scope.
Valid through 31 May 2013.

Free Preamplifier

Purchase a N9322C Basic Spectrum Analyzer and receive a free 7 GHz preamplifier.

Valid through 31 May, 2013.

Free accessories for U1600 handheld scopes

Purchase any U1600 Series handheld oscilloscope and get a FREE U1591A soft carrying case and a FREE U1583B AC current clamp accessory.

Valid through 30 June, 2013.
www.agilent.com/find/GetEquipped

Free upgrades for 34450A DMM

Purchase the new 34450A 5.5 digit DMM and receive FREE upgrades: 50,000 memory points and GPIB connectivity.

Valid through 31 May, 2013.
www.agilent.com/find/34450Apromo

Breakthrough scope technology lets you see more, do more and get more for your money

1000 Series oscilloscopes

- 50 to 200 MHz, 2 and 4 channel DSO models with up to 20 kpts memory
- 5.7-inch color display offers powerful signal capture and display
- Up to 2 GSa/s sample rate
- 23 automatic measurements, sequential acquisition, mask testing and digital filters provide advanced measurement capabilities
- Accelerate your productivity with an 11-language user interface, USB connectivity, and a standard educator's kit

InfiniiVision 2000 X-Series oscilloscopes

- 70 to 200 MHz bandwidth, 100 kpts memory, DSO and MSO models
- Up to 50,000 waveform updates/second
- 8.5-inch WVGA display offers 2x the viewing area and 5x the resolution of competitive scopes
- Fully upgradable—bandwidth, MSO, WaveGen built-in 20 MHz function generator, and integrated digital voltmeter

InfiniiVision 3000 X-Series oscilloscopes

- 100 MHz to 1 GHz bandwidth, up to 4 Mpts memory, DSO and MSO models
- Up to 1,000,000 waveform updates/second
- 8.5-inch WVGA display is 50% larger and 3x the resolution of competitive scopes
- Mega*Zoom* IV responsive, uncompromised smart memory with segmented memory optional
- Fully upgradable—bandwidth, MSO, memory, WaveGen built-in 20 MHz arb/function generator, integrated digital voltmeter, and serial analysis

InfiniiVision 4000 X-Series oscilloscopes

NEW

- 200 MHz to 1.5 GHz bandwidth, DSO and MSO models
- Up to 1,000,000 waveform updates/sec
- 12.1-inch capacitve touch display—40% larger than competitive scopes
- Industry's only InfiniiScan Zone touch triggering
- Mega*Zoom* IV uncompromised smart memory with segmented memory standard
- Fully upgradable—WaveGen built-in 20 MHz arb/function generator, integrated digital voltmeter, and serial analysis including USB

Experience speed, usability and integration.

Gain greater insight with powerful applications

See the complete list at www.agilent.com/find/scope-apps

Description	2000 X-Series	3000 X-Series	4000 X-Series
20 MHz WaveGen	DSOX2WAVEGEN	DSOX3WAVEGEN	DSOX4WAVEGEN2 (2-ch AWG)
3-digit voltmeter	DSOXDVM	DSOXDVM	DSOXDVM
DSO to MSO upgrade	DSOX2MSO	DSOX3MSO*	DSOXPERFMSO
I2C/SPI trigger/decode		DSOX3EMBD	DSOX4EMBD
RS232/UART trigger/decode		DSOX3COMP	DSOX4COMP
NEW USB full/low trigger/decode			DSOX4USBFL
NEW USB high trigger/decode			DSOX4USBH

** 1 GHz models require DSOXPERFMSO*

Get a FREE 30-Day Trial License. **www.agilent.com/find/30daytrial**

Maximum versatility to troubleshoot today's challenges and anticipate tomorrow's needs

U1600 Series handheld scopes

- 5.7-inch VGA TFT LCD display with indoor, outdoor, and night-vision viewing modes
- 3-in-1 instrument: scope, DMM, and data logger
- Two independent, isolated channels (U1610A, U1620A)
- Up to 2 GSa/s sample rate and up to 2 Mpts deep memory to zoom in on critical details
- Benchtop-like dual window zoom for more detailed waveform analysis

Validate your most challenging designs with realistic test signals using exclusive Trueform *technology*

33500B Series waveform generators

NEW

- Exclusive new Trueform waveform technology generates signals with the lowest jitter (<40 ps) and harmonic distortion (<0.04% THD) from 1 µHz to 30 MHz
- Arbitrary waveforms: 1 M (16 M optional) points, sequencing, and embedded editor
- Function generator: sine, square, ramp, triangle, noise, DC, AM, FM, PWM, sum, PRBS, and more
- 16 bits of resolution, 1 mVpp to 10 Vpp
- USB, GPIB and LAN (LXI Core) connectivity

Model	Key specifications
33500B Series	20 & 30 MHz, 16-bit, 250 Msa/s, 1 M point arb
33509B/33511B	20 MHz, 1-Ch (optional arb) / (built-in arb), 20 MHz pulse
33510B/33512B	20 MHz, 2-Ch (optional arb) / (built-in arb), 20 MHz pulse
33519B/33521B	30 MHz, 1-Ch (optional arb) / (built-in arb), 30 MHz pulse
33520B/33522B	30 MHz, 2-Ch (optional arb) / (built-in arb), 30 MHz pulse
33210A	10 MHz, 1-Ch, 14-bit, 50 MSa/s, 8 K point (optional arb)
33220A	20 MHz, 1-Ch, 14-bit, 50 MSa/s, 64 K point, 5 MHz pulse
33250A	80 MHz, 1-Ch, 12-bit, 200 MSa/s, 64 K point, 50 MHz pulse
33502A	Isolated amplifier, dual channel, 50 V peak-to-peak
33503A	BenchLink Waveform Builder Pro Software

Agilent & Our Distributor Network

Right Instrument. Right Expertise.
Delivered Right Now.

Modular flexibility and universal channels for a wide range of measurements with no external signal conditioning

34970A/72A data acquisition switch unit

- Low cost, 3-slot unit with 6½ digit DMM and built-in signal conditioning
- Choose from 8 plug-in modules, up to 120 1- wire (60 2-wire) channels or 96 cross points
- Benchlink Data Logger software included, optional 34830A Benchlink Data logger Pro
- GPIB & RS-232 connectivity (34970A) USB & LAN (LXI Core) connectivity (34972A)—built-in web interface for easy control

34970A/72A plug-in modules

Model	Key specifications
34901A/02A/08A multiplexers	Up to 300 V, 16, 20, or 40 channels
34903A GP switch	300 V, 20 actuator channels
34904A matrix	4x8 matrix
34905A/06A RF switches	2 GHz dual, 50 and 75 Ω
34907A multi-function	DIO, DAC, totalizer

34980A multi-function switch/ measurement unit

- High performance, 8-slot mainframe with 6½ digit DMM and built-in signal conditioning
- Choose from 21 plug-in modules, up to 1024 1-wire (560 2-wire) channels or 4096 cross pts.
- Optional 34832A Benchlink Data logger Pro
- GPIB, USB,LAN (LXI Core) connectivity—built-in web interface for easy control

34980A plug-in modules

Model	Key specifications
34921A–34925A multiplexers	Up to 300 V, 40, 70, or 80 channels
34937A–34939A GP switches	Up to 64 channels, 5 A, 300 V
34931A–34934A matrix modules	Up to Quad 4x32 matrix
34941A–34947A RF & µWave switches	Up to 26.5 GHz switching
34950A–34952A system control modules	DIO, DAC, totalizer

MEASUREMENT HINT

Many data acquisition sensors are offered with either voltage or current outputs. When measuring over long distances (e.g., hundreds of meters), current output offers several key advantages: avoiding large voltage drops in long wires, locating the external power source near the data acquisition equipment rather than the sensors, and needing only two wires to carry both signal and power to the sensor.

Anticipate every new challenge with reconfigurable portable test systems

USB modular instruments and data acquisition

- Mix and match the USB modular instruments, DAQ modules or switching I/O units to meet your measurement needs
- Instrument and DAQ modules can be used standalone or integrated together in the USB modular chassis
- Hi-speed USB 2.0 interfaces for easy setup, plug-and-play, and hot swappable connectivity
- U2781A USB modular product chassis can host up to six modules and synchronize multiple instruments
- Bundled Agilent Measurement Manager lets you configure and control a system with no programming

USB modular instruments (U2700 Series) includes 100/200 MHz oscilloscopes, 3-channel source measurement unit, 5 ½ digit DMM, switch matrix, and function generator. For more information, go to **www.agilent.com/find/usbmodular**

USB modular data acquisition (U2300 Series and U2500 Series) includes multifunction and simultaneous sampling multifunction DAQ devices. Additional I/O devices and RF switch driver are also available. For more information, go to **www.agilent.com/find/usbdaq**

The cost-effective way to accelerate production line LCR testing and improve component evaluation

4263B LCR meter

- 100 Hz to 100 kHz
- 0.1% basic accuracy
- High-speed measurement: 25 ms
- 6 test frequencies: 100 Hz, 120 Hz, 1, 10, 20, 100 kHz

Achieve deep insights quickly with histograms, trend charts and statistics

RF and universal frequency counters

- Frequency, frequency ratio, time interval, rise/fall time, phase, and much more
- Histograms, trending, data logging, and built-in math and statistics functions give greater insights into system behavior
- 53230A offers: 20 ps single-shot, burst microwave, and continuous gap free measurements with time stamped edges.
- Optional 6 or 15 GHz RF channel
- USB, GPIB and LAN (LXI Core) connectivity

Model	Key specifications
53210A	350 MHz RF frequency counter, 10 digits/s
53220A	350 MHz universal frequency counter/timer, 12 digits/s, 100 ps
53230A	350 MHz universal frequency counter/timer, 12 digits/s, 20 ps

High performance

Anticipate new demands with modular versatility, deep accuracy, and high speed

N6700 low-profile modular power system

- Ideal DC power supply solution for automated test systems: small, fast, and flexible
- Small 1 U high mainframe (400, 600, 1200 W) with slots for up to 4 programmable DC power modules
- Industry leading fast command processing time (<1 ms) to improve throughput
- Mix and match the performance you need with your choice of over 30 programmable DC power modules: basic, high performance, and precision (mA and µA); available in 50, 100, 300, and 500 W
- USB, GPIB and LAN (LXI Core) connectivity

N6705B DC power analyzer

- Get deep insight into DUT power consumption—without assembling a complex test system
- Integrate up to four DC programmable power modules with DMM, scope, arb, and data logger features; up to 600 W total power
- USB, GPIB and LAN (LXI Core) connectivity

6600 Series high-performance DC supplies

- Fast, low-noise outputs improve measurement accuracy and test throughout
- 40 to 6600 W, single output, up to 120 V, and up to 875 A
- Programmability and built-in V & I measurements simplify test setups
- GPIB connectivity

N3300 DC electronic load mainframe

- Stable and accurate: these loads are easy to integrate into your test system
- Automated command list execution reduces workload on system controller
- 1800 W mainframe accepts up to six 150 to 600 W modules for simultaneous testing
- Maximum inputs up to 240 V and 120 A
- GPIB connectivity

Agilent offers more than

250 power products to meet your specific needs.

The free Agilent Power Product Selection Guide helps you choose your instrument by the number of outputs, output power characteristics, packaging, special features and application specific solutions.

www.agilent.com/find/powerbrochuredisty

High value

Solid performance and robust features help you achieve more on lower budgets

N5700 and N8700 Series system DC power

- Basic, high-power, single output power supplies
- 45 affordable models in compact 1U (750 and 1500 W) and 2U (3.3 and 5 kW) packages
- Up to 600 V or up to 400 A
- Programmability and built-in V & I measurements simplify test set ups
- USB, GPIB and LAN (LXI Core) connectivity

E3600 Series DC power

- Output noise as low as 1 mVp-p/0.2 mVrms
- Tight 0.01% load and line regulation
- Fast load transient response time (<50 µs)
- 30 to 200 W outputs

U8000 Series DC power supplies

- Output sequencing (for U803x Series)
- Low output noise (as low as 1 mVrms) minimizes interference into your device-under-test (DUT)
- Fast load transient response time (< 50 µs) reduces test time and manufacturing cost
- Excellent 0.01% load and line regulation for steady output power levels
- Total power of 375 W at three outputs (for U803x Series)

6030 Series basic autoranging DC supplies

- Autoranging to do the job of multiple power supplies
- 240 or 1200 W output, up to 500 V and up to 120 A
- Programmability and built-in V & I measurements simplify test setups
- GPIB connectivity

82350B PCI high-performance GPIB interface

- Easily control instruments and exchange data with maximum throughput, and comes with built-in buffering for speeds up to 900 KB/s.

82357B USB/GPIB interface

- Comes with high-speed USB 2.0 with fast, easy, plug-and-play connection and auto configuration, and offers a GPIB transfer rate of up to 1.15 MB/s

You need it when? Agilent distribution partners offer expedient delivery.

Find an Agilent distributor today at
www.agilent.com/find/distributor

HANDHELD INSTRUMENTS

Retool your expectations of handheld test tools, with high performance in the harshest environments

Now use the U1177A Infrared (IR)-to-*Bluetooth*® Adapter with ALL Agilent U1200 models

U1230 Series

- Work faster and safer with LED flashlight, V_{sense} non-contact voltage detection, flashing backlight display for visual feedback in noisy areas, and more
- 6,000-count display
- IR-to-USB connectivity for easy data transfer

U1240 Series

- Dig deeper with low µA and high MΩ ranges, harmonic ratio measurements in AC supplies, and dual/differential temperature measurements
- 10,000-count display
- 0.09% basic DCV accuracy

U1250 Series

- Find the details that matter with 0.025% basic DCV accuracy, accurate true-RMS AC measurements, and high-contrast OLED display (U1253B)
- 50,000-count dual display
- CAT III 1000 V and CAT IV 600 V safety rating

U1270 Series

- Get clear and distinct display readings with superior contrast from OLED display
- Improve productivity such as low impedance mode, low pass filter, offset compensation
- Both visual and audible continuity indication in noisy environments
- Dust and water resistant casing (certified to IP 54)
- Up to 3000 m operating altitude
- -40 to 55 °C operating temperature

U1210 Series handheld clamp meters

- Wide-range metering lets you measure up to 1000 A and still see 10 mA
- Large two-inch clamp opening
- CAT III 1000 V / CAT IV 600 V safety rating
- Includes full featured DMM with resistance, capacitance, frequency, and temperature functions

See how the wireless capability works with the U1210 Series HH clamp meter.

Visit http://tinyurl.com/ce9yv9d

or scan this QR code to watch how the wireless capability allows large current measurements at a safe distance.

DIGITAL MULTIMETERS

Accomplish even more with higher speeds, greater capability, and better value

34401A digital multimeter, 6½ digits

- Basic accuracy: 0.0035% DC, 0.06% AC
- 12 measurement functions, plus limit testing and statistics give meaningful answers in less time
- 1,000 readings/s in ASCII format across the GPIB interface

34410A/11A enhanced performance multimeter, 6½ digits

- Upgrade to a faster, more accurate multimeter with additional functions
- 10,000 readings/s at 5½ digits (34410A), 50,000 readings/s at 4½ digits (34411A)
- 14 measurement functions including capacitance and temperature; built-in data logging
- 50,000 reading non-volatile memory
- USB, GPIB, and LAN (LXI Core) connectivity

34450A digital multimeter, 5½ digits

- Increase test throughput with up to 190 readings/second
- 0.015% DCV accuracy
- 11 measurement functions, plus histogram and basic statistical functions
- Ultra-bright OLED with dual display capability
- Up to 50,000 memory points—capture and log up to 14 hours of data
- USB 2.0, Serial interface (RS-232), GPIB (option)

U3400 Series digital multimeters, 4½ and 5½ digits

- Low-cost basic dual display DMMs for tight budgets
- 120,000 counts resolution (50,000 count for U3401A)
- Up to 0.012% DC voltage accuracy
- 11 basic measurements including DC and True RMS AC and AC+DC voltage and current, selectable 2- or 4-wire resistance (2-wire only for U3401A)

U3606A multimeter/DC power supply

- Convenient combination of DMM and power supply
- DMM: 120,000 counts resolution with DC voltage accuracy 0.025%
- Power supply: Dual range 30 V / 1 A or 8 V / 3 A output with OVP and OCP protection
- USB TMC 488.2 and GPIB connectivity

Achieve more on a tight budget: Solid performance with robust measurement features

N9310A RF signal generator

- 9 kHz to 3 GHz CW output, 20 Hz to 80 kHz low frequency (LF) output
- -127 to +13 dBm output level range (max +20 dBm settable)
- - 95 dBc/Hz SSB phase noise
- Extensive analog modulation: AM, FM, phase, and pulse modulation
- Optional IQ modulator, 40 MHz bandwidth
- Up to +/- 0.1 ppm aging rate

N9320B RF spectrum analyzer

- PowerSuite: high-confidence answers with simple one-button measurements of channel power, occupied bandwidth and other key parameters
- AM/FM and ASK/FSK demodulation analysis
- LAN, GPIB, and USB connectivity
- Frequency range: 9 kHz to 3 GHz
- DANL: -148 dBm with pre-amp on
- RBW: 10 Hz to 1 MHz
- Free remote control PC software

N9322C RF spectrum analyzer

NEW

- Frequency range: 9 kHz to 7 GHz
- DANL: -152 dBm typical, with preamp on
- RBW: 10 Hz to 3 MHz
- Sweep time: 2 ms to 1000 s
- 7 GHz tracking generator, built-in VSWR bridge
- AM/FM, ASK/FSK demodulation
- Free remote control PC software

Express configurations: fastest delivery on the leading low-cost signal characterization tool

Now up to 26.5 GHz

N9000AEP Express CXA signal analyzer

- PowerSuite: high-confidence answers with simple one-button measurements of channel power, occupied bandwidth and other key parameters
- Consistent measurement platforms save you time and money
- 9 kHz up to 26.5 GHz; ±0.5 dB amplitude accuracy; -163 dBm DANL

NEW **2 new microwave models perform essential signal characterization**

Greater capability and speed

N1913A/N1914A EPM power meters

- Up to four channels to speed up and simplify RF average power measurements
- Improved measurement speed of 400 readings/s with the Agilent E-Series sensors
- Industry's first color LCD readout in an average power meter

Enhanced spectrum analyzers accelerate field testing and troubleshooting

Now up to 20 GHz

Handheld spectrum analyzers

- Field ready—mil-rugged, weather resistant and fanless design
- Benchtop performance—lowest DANL -164 dBm (normalized to 1 Hz), minimum sweep time < 2 ms
- Task Planner—Optional feature reduces up to 95% test setup time and delivers test automation (N9344C/43C/42C)
- Built-in GPS antenna and receiver, tracking generator and cable antenna tester
- AM/FM, ASK/FSK modulation analysis
- Channel scanner, Spectrogram and USB power sensor support

Models	Key specifications
N9344C	9 kHz to 20 GHz
N9343C	9 kHz to 13.6 GHz
N9342C	9 kHz to 7 GHz
N9340B	9 kHz to 3 GHz

Precision. Readiness. FieldFox.

FieldFox handheld analyzers

Now up to 26.5 GHz

- Benchtop accuracy with integrated QuickCal
- Configure as cable and antenna analyzers, network analyzers, spectrum analyzers, or all-in-one combination analyzers
- Rugged and reliable (3-year warranty); water-resistant and dust-free cases
- Compact and lightweight (6.6 lbs) with long battery life (3.5 hrs)
- Wide operating temperature: -10 to +55 °C (14 to 131 °F)
- MIL-PRF 28800F Class 2 compliance

NEW **14 new models deliver benchtop accuracy**

Models	Key specifications
N9913A-N9918A	Combination Analyzers, up to 26.5 GHz
N9925A-N9928A	Microwave VNAs, up to 26.5 GHz
N9935A-N9938A	Combination Spectrum Analyzers, up to 26.5 GHz
N9912A	RF Analyzer, 4 GHz and 6 GHz
N9923A	RF VNA, 4 and 6 GHz

U2020 X-Series USB peak power sensors

- World's fastest USB power sensor (>3,500 readings per second)
- Built-in trigger in/out functions
- 50 MHz to 40 GHz (sensor dependent),-35 to +20 dBm, Type-N and 2.4 mm connectors

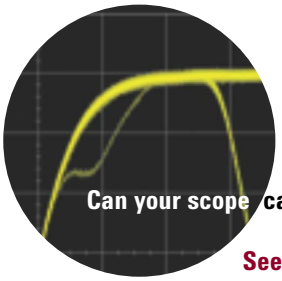
Agilent distribution partners: fast, local response with a direct line to Agilent's test and measurement experts

Find an Agilent distributor today at
www.agilent.com/find/distributor

Agilent Technologies

P.O. Box 3828, Englewood, CO 80112-5910

Unsubscribe:
To unsubscribe from Agilent direct mail, please send your name and address to: site_assistance@agilent.com and we will remove your name from our list.



Can your scope catch the ghosts lurking in your new designs?
See page 2.

NEW

True*form* signal generation technology: high-end performance at budget-friendly prices

The technologies used to digitally generate analog waveforms have long been a case study in compromise. The point per clock (PPC) method is precise but complex and expensive, whereas the far less expensive direct digital synthesis (DDS) renders only approximations of the desired waveform.

The Trueform signal generation technology available in the Agilent 33500B Series waveform generators uses a virtual variable clock with advanced filtering to deliver the performance of PPC at the price of DDS generators. Consider the advantages over DDS: a twelvefold reduction in jitter, high-fidelity signals that eliminate the point-skipping problems of DDS, total harmonic distortion up to five times lower than DDS, and full anti-aliasing with no external filtering required.

With these improvements in signal quality and fidelity, the Agilent 33500B Series waveform generators with Trueform are especially useful for the following applications:

- Simulating a clock signal
- Generating a serial data signal
- Precise timing control, such as a trigger source or gate controller
- Baseband IQ signal generator (option IQP)

Technical data and pricing subject to change without notice.

Printed in U.S.A., February 1, 2013

5991-1539EN

Anticipate ___Accelerate ___Achieve

Find an Agilent distributor today at
www.agilent.com/find/distributor