

Keysight Infiniium S-Series Oscilloscopes

The Standard for Superior Measurements

Whether you must debug your latest design or verify compliance, it is critical that your oscilloscope displays a true representation of your signal. This requires world-class signal integrity, and Infiniium S-Series oscilloscopes were designed with that in mind. The S-Series provides a superior time base, front-end, and ADC technology blocks. This gives you a platform with up to 16 bits of resolution, low noise, low jitter, and high ENOB – giving you visibility into the true performance of your device.



| Hardware Option | Description |
|-----------------|-------------------------------------|
| DSOS000-200 | 200 Mpts/ch memory |
| DSOS000-400 | 400 Mpts/ch memory |
| DSOS001-DSA | 200 Mpts/ch memory + EZJit Complete |
| DSOS000-A6J | ANSI Z540 Compliant Calibration |
| N2902B | Rackmount Kit |

S-Series Model Specifications

| Model ^[1] | DSOS054A/ MSOS054A | DSOS104A/ MSOS104A | DSOS204A/ MSOS204A | DSOS254A/ MSOS254A | DSOS404A/ MSOS404A | DSOS604A/ MSOS604A | DSOS804A/ MSOS804A |
|------------------------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Bandwidth (BW) | 500 MHz | 1 GHz | 2 GHz | 2.5 GHz | 4 GHz | 6 GHz ^[4] | 8 GHz ^[4] |
| 10/90% rise time ^[2] | 860 ps | 430 ps | 215 ps | 172 ps | 107.5 ps | 71.7 ps | 53.8 ps |
| Full BW ENOB ^[3] | 8.1 | 7.8 | 7.5 | 7.4 | 7.2 | 6.8 | 6.4 |
| Full BW Noise Floor ^[5] | 74 μ V | 90 μ V | 120 μ V | 130 μ V | 153 μ V | 195 μ V | 260 μ V |
| Sample Rate | 20 GSa/s on two channels, 10 GSa/s on four channels | | | | | | |
| Standard Memory | 100 Mpts/ch, upgradeable up to 400 Mpts/ch | | | | | | |
| Vertical Resolution | 10 bits at full bandwidth; up to 16 bits in high resolution | | | | | | |
| RF Noise Density ^[6] | -160 dBm/Hz | | | | | | |
| SFDR ^[7] | 72 dB | | | | | | |
| Display Size | 15" XGA Capacitive Touchscreen, VGA and Display Port for External Monitors | | | | | | |

1. DSO and MSO models have four analog channels. MSO models include 16 digital channels. 2. Calculation passed on 0.43/BW. 3. Measured at full bandwidth without high resolution mode enabled. Typical specification; not warranted. 4. 6 GHz and 8 GHz only possible when two channels are active. Four channel bandwidth is 4 GHz. 5. Measured at 2 mV/div at full oscilloscope bandwidth and sample rate, no high resolution. 6. Tested at 1 mV/div, -38 dBm, 1.0001 GHz CF, 500 kHz span, 3 kHz RBW. 7. Tested with 1 GHz, 0dBm signal at input, FFT with 3 GHz CF, 5 GHz span, 100 kHz RBW.

Key Probes and Applications

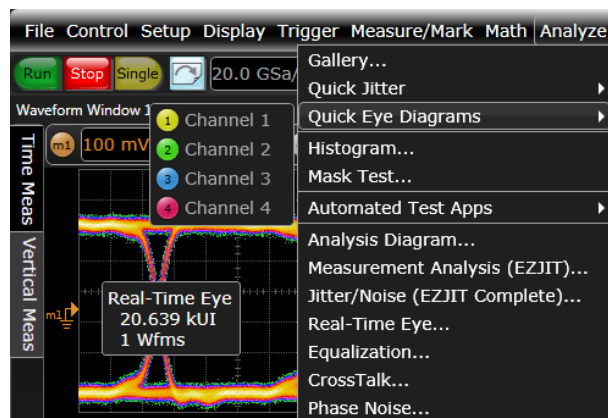
| | |
|------------------------|---|
| N2873A | Passive, 10:1, 500 MHz Single Ended Probes (x4 Ship With All Models) |
| 1130/31/32/34B | Active, 1.5 – 7 GHz, Single Ended OR Differential InfiniiMax Probe Family |
| N2750/51/52A | Active, 1.5 – 6 GHz, Single Ended AND Differential InfiniiMode Probe Family |
| N7020/24A | Active, 2 – 6 GHz, Single Ended Power Rail Probe (up to +/-24 V offset at 1 mV/div) |
| N2795/96/97A | Active, 1 – 2 GHz, Single Ended (N2797A: Extreme Temperature Probe (-40 C to +85 C)) |
| N2792A, N2818/19A | Active, <800 MHz, Differential Low Voltage (20 V differential, 60 V common mode) |
| N2790A, N2804A, N2891A | Active, <300 MHz, Differential High Voltage (up to 7 kV) |
| N2780/81/82/83B | Clamp-On AC/DC Current Probe Family (up to 100 MHz, 500 A _{RMS}) |
| N7026A | Clamp-On AC/DC Current Probe (30 A _{RMS} , 150 MHz) |
| N7040/41/42A | Rogowski Coil AC Current Probe (up to 3 kA, 30 MHz) |
| D9010DMBA | De-Embedding: PrecisionProbe and InfiniiSim Basic for modeling cables, probes and fixtures |
| D9010JITA | EZJit Complete: Timing jitter, vertical noise, and phase noise analysis |
| D9010SCNA | InfiniiScan: Visual- and measurement-based triggering |
| D9010LSSP | Low-Speed Serial Trigger/Decode: I2C, SPI/eSPI, Quad SPI/eSPI, RS232/UART, JTAG, I2S, SVID, Manchester |
| D9010BSEO | Infiniium Offline: Use your scope GUI on a PC to do remote measurements, post-processing, and documentation with ease |

Find us at www.keysight.com. More Information: www.keysight.com/find/S-Series

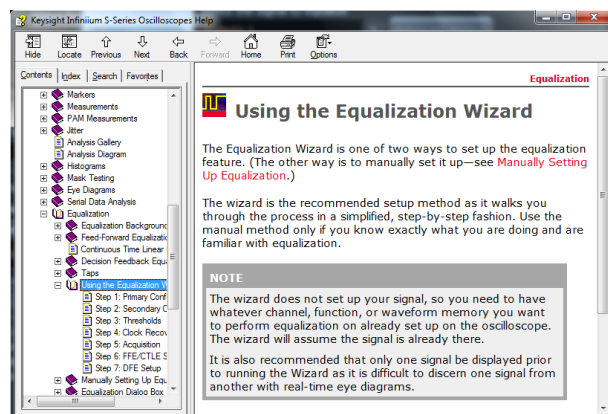
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The Keysight S-Series Offers the Most...

Intuitive User Interface

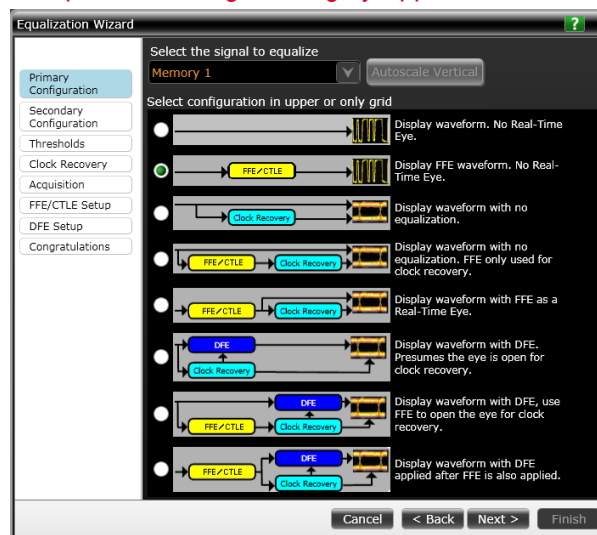


All menus and dialogs are accessible through a simple menu structure that is optimized for mouse or touch operation. Jitter tests, eye diagrams and more can be set up automatically with one click the Analyze menu, reducing your overall test time.

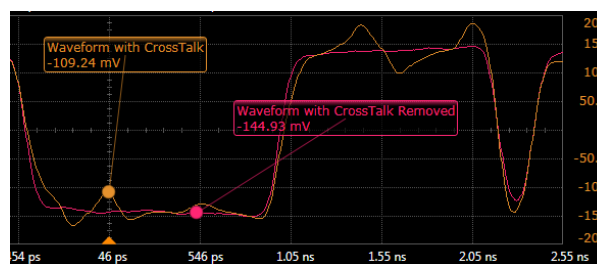


Access built-in help for any feature instantly from its dialog box, or by searching through the main help menu, ensuring you are maximizing the capabilities of your S-Series scope.

Comprehensive Signal Integrity Applications

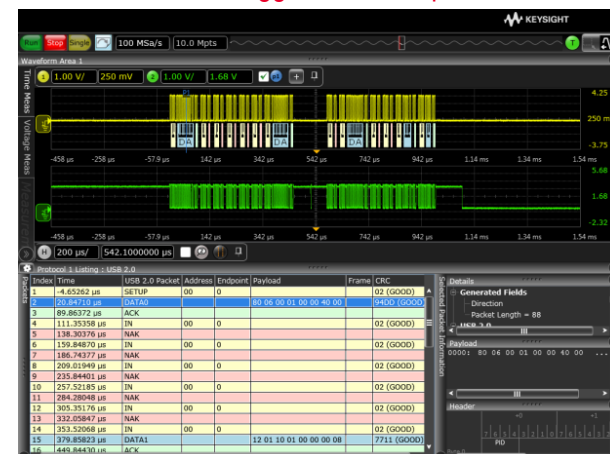


Setup wizards, exclusive to Infiniium, walk you step-by-step through every setting you need to adjust for the best measurements. This equalization wizard helps you open closed eyes on fast data streams using proprietary techniques to remove effects of cables, probes or fixtures from your measurement.

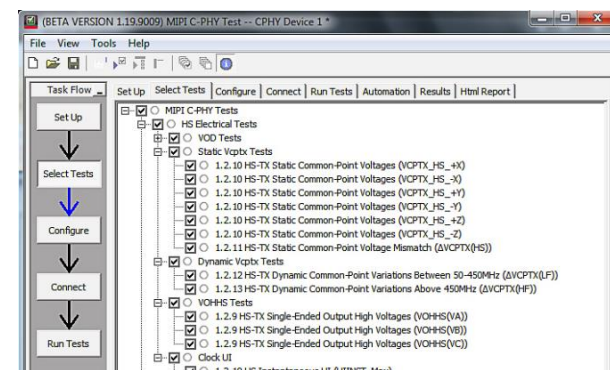


Determine the effects of aggressors on a signal before you do the design work to remove them using the exclusive crosstalk analysis application (D9020ASIA).

Protocol Decode, Trigger, and Compliance Tools



Use one of Keysight's protocol decoding and triggering application packages for increased productivity. The software converts DSO or MSO physical layer acquisitions into packets for specific protocols. Only Keysight offers this breadth, with over 30 protocols available.



With over 20 compliance applications available, your S-Series is ready to ensure your design is robust and ready to meet the latest and greatest of industry standards, improving your product quality.