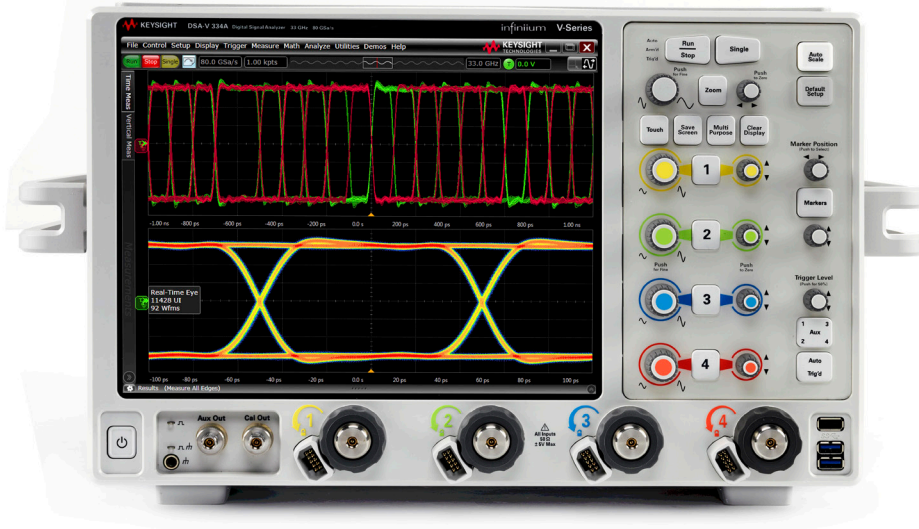


Keysight Technologies

Infiniium V-Series Real-Time Oscilloscopes

Industry-Leading Accuracy that Ensures Greater Clarity in Analysis and Debug of High-Speed Designs

Configuration Guide



This configuration guide will help you determine which options, accessories, probes, and software to include with your new V-Series oscilloscope, or to add as upgrades to an existing V-Series oscilloscope.

Infiniium V-Series Ordering Configuration

Get the most out of your oscilloscope investment by choosing options and software for your most common tasks. Configure your Infiniium V-Series oscilloscope in three easy steps.

1. Choose your oscilloscope, memory and options

Oscilloscope mainframe

Oscilloscope models ¹			Analog bandwidth		Sample rate	
DSO models (4 analog channels)	DSA models (4 analog channels) ²	MSO models (4 analog channels + 16 digital channels)	2-channel	4-channel	2-channel	4-channel
DSOV334A	DSAV334A	MSOV334A	33 GHz	16 GHz	80 GSa/s	40 GSa/s
DSOV254A	DSAV254A	MSOV254A	25 GHz	16 GHz	80 GSa/s	40 GSa/s
DSOV204A	DSAV204A	MSOV204A	20 GHz	16 GHz	80 GSa/s	40 GSa/s
DSOV164A	DSAV164A	MSOV164A	16 GHz	16 GHz	80 GSa/s	40 GSa/s
DSOV134A	DSAV134A	MSOV134A	13 GHz	13 GHz	80 GSa/s	40 GSa/s
DSOV084A	DSAV084A	MSOV084A	8 GHz	8 GHz	80 GSa/s	40 GSa/s

All models come with power cord, keyboard, mouse, calibration cable, ESD wrist strap and (5) coax adapters³. The 8 and 13 GHz models come standard with two N5442A precision BNC adapters.

Oscilloscope memory depth⁴

Acquisition memory depth upgrade	Option number on new oscilloscope
50 Mpts/channel memory	Standard
100 Mpts/channel memory upgrade ⁵	DSOV000-100
200 Mpts/channel memory upgrade	DSOV000-200
500 Mpts/channel memory upgrade	DSOV000-500
1 Gpts/channel memory upgrade	DSOV000-01G
2 Gpts/channel memory upgrade	DSOV000-02G

Options

Acquisition memory depth upgrade	Option number on new oscilloscope
Hardware serial trigger upgrade ⁶	DSOV000-810
MSO upgrade ⁶	Standard on MSO models
1 TB removable Solid State Drive (SSD) with Windows 7	DSOV000-801
GPIB card-interface	DSOV000-805
Performance verification and deskew fixture	DSOV000-808
Stack mount kit option for stacking two frames	N2117A
Rack mount kit	N5470A
ANSI Z540-1 compliant calibration	DSOV000-A6J
ACCLASS Accreditation ANSI-ASQ National Accreditation Board, USA (calibration + uncertainties + guardbanding)	DSOV000-AMG
Performance verification and deskew fixture	N5443A

- All models ship standard with 3-year warranty.
- DSA models come with 100 Mpts/channel, EZJIT Complete and Serial Data Analysis standard.
- Oscilloscope 8, 13 and 16 GHz models come with adapters rated to 25 GHz (part number 1250-3758). All other models come with adapter rated to 35 GHz (part number 5061-5311).
- Memory depth per channel when 4 channels are turned on.
- DSA models come with 100 Mpts/channel standard.
- Either MSO or hardware serial trigger option can be added to the oscilloscope. Upgrade is not available when the oscilloscope already has the MSO or hardware serial trigger installed.

Infiniium V-Series Ordering Configuration (continued)

2. Choose your probes and accessories

Probe amplifier

Description	Model number
30 GHz InfiniiMax III probe amplifier	N2803A
25 GHz InfiniiMax III probe amplifier	N2802A
20 GHz InfiniiMax III probe amplifier	N2801A
16 GHz InfiniiMax III probe amplifier	N2800A
20 GHz InfiniiMax III+ probe amplifier ¹	N7003A
16 GHz InfiniiMax III+ probe amplifier ¹	N7002A
13 GHz InfiniiMax III+ probe amplifier ¹	N7001A
8 GHz InfiniiMax III+ probe amplifier ¹	N7000A

Probe head

Description	Model number
16 GHz QuickTip probe head ²	N2848A
QuickTip probe tip (set of 4) ²	N2849A
16 GHz solder-in probe head	N5441A
26 GHz solder-in probe head ²	N2836A
28 GHz Zero Insertion Force (ZIF) probe head	N5439A
200 Ω ZIF tip for high sensitivity ³	N5447A
25 GHz PC board ZIF tip (for normal sensitivity)	N2838A
30 GHz browser probe head	N5445A
Browser tip replacement (set of 4)	N5476A
28 GHz 3.5 mm/2.92 mm/SMA probe head ²	N5444A

Probe adapter

Description	Model number
30 GHz voltage termination adapter	N7010A
Performance verification and deskew fixture	N5443A
Precision BNC adapter (50 ohm)	N5442A
Sampling scope adapter	N5477A
High impedance probe adapter (includes one N2873A passive probe)	N5449A

For more information about Keysight's InfiniiMax probes and accessories selection guide, view the Keysight publication number 5968-7141EN.

For more information about Keysight's InfiniiMax III and III+ probing system, view the data sheet with the Keysight publication number 5990-5653EN.

1. With InfiniiMode technology, allowing you to switch to differential, single-ended, and common mode without adjusting probe tip connections.
2. Probe head that supports InfiniiMode connections.
3. Compatible only with InfiniiMax III probe amplifier.

Infiniium V-Series Ordering Configuration (continued)

MSO probes and accessories

Description	Model number
Single-ended flying lead set	E5382B
Single-ended soft touch connectorless probe	E5390A
1/2 size soft touch connectorless probe	E5398A
Differential soft touch probe	E5387A
Differential flying leads	E5381A

The MSO is compatible with all Keysight 90-pin cable connectors. The N2815A MSO/LA cable comes standard with MSO models or MSO upgrade.

3. Choose your measurement-specific software

Measurement and analysis software

Description	License type		
	Fixed	Floating	
	Factory-installed on new oscilloscope or user-installed on existing oscilloscope	User-installed transportable license	Server-based license
EZJIT Complete jitter analysis	N8823A-1FP	N8823A-1TP	N5435A-067
EZJIT Plus jitter analysis	N5400A-1FP	N5400A-1TP	N5435A-001
EZJIT jitter analysis	E2681A-1FP	E2681A-1TP	N5435A-002
Frequency domain analysis	N8832A-001	-	-
High-speed SDA and clock recovery	E2688A-1FP	E2688A-1TP	N5435A-003
InfiniiScan software triggering	N5414B-1FP	N5414B-1TP	N5435A-004
InfiniiSim advanced signal de-embedding	N5465A-1FP	N5465A-1TP	N5435A-027
InfiniiSim basic signal de-embedding	N5465A-3FP	N5465A-3TP	N5435A-026
MATLAB - Basic digital analysis	N8831A-001	-	-
MATLAB - Standard digital analysis	N8831A-002	-	-
MultiScope software - combines two scopes ¹	-	N8834A-ATP	N5435A-085
MultiScope software - combines five scopes ¹	-	N8834A-BTP	N5435A-086
MultiScope software - combines ten scopes ¹	-	N8834A-CTP	N5435A-090
Pulse Amplitude Modulation (PAM-4) analysis	N8827A-1FP	N8827A-1TP	N5435A-077
PrecisionProbe calibration	N2809A-1FP	N2809A-1TP	N5435A-044
Serial data equalization	N5461A-1FP	N5461A-1TP	N5435A-025
Spectrum visualizer	64996A-1FP	64996A-1TP	-
User-defined function	N5430A-1FP	N5430A-1TP	N5435A-005

1. Supports any combination of Infiniium oscilloscope models with software 5.50 and above.

Infiniium V-Series Ordering Configuration (continued)

3. Choose your measurement-specific software (continued)

Compliance test and validation software

Description	License type		Server-based license
	Fixed	Floating	
	Factory-installed on new oscilloscope or user-installed on existing oscilloscope	User-installed transportable license	
BroadR-Reach	N6467A-1FP	N6467A-1TP	N5435A-062
DDR1 and LPDDR1	U7233A-1FP	U7233A-1TP	N5435A-021
DDR2 and LPDDR2	N5413B-1FP	N5413B-1TP	N5435A-037
DDR3 and LPDDR3	U7231B-1FP	U7231B-1TP	N5435A-053
DDR4 and LPDDR4	N6462A-1FP	N6462A-1TP	N5435A-056
DisplayPort 1.2	U7232C-1FP	U7232C-1TP	N5435A-041
eDP 1.4	N6469A-1FP	N6469A-1TP	N5435A-083
eMMC	N6465A-1FP	N6465A-1TP	N5435A-061
Ethernet + EEE 10/100/1000Base-T	N5392B-1FP	N5392B-1TP	N5435A-060
Ethernet 10GBase-T	U7236A-1FP	U7236A-1TP	N5435A-023
Ethernet 10GBase-KR	N8814B-1FP	N8814B-1TP	N5435A-059
Ethernet 100GBase-CR10	N8828A-1FP	N8828A-1FP	N5435A-078
Ethernet 100GBase-CR4	N8830A-1FP	N8830A-1FP	N5435A-080
Ethernet 100GBase-KR4	N8829A-1FP	N8829A-1FP	N5435A-079
GDDR5	U7245A-1FP	U7245A-1TP	-
HDMI 2.0	N5399C-1FP	N5399C-1TP	N5435A-070
MHL 3.0	N6460B-1FP	N6460B-1TP	N5435A-078
MIPI D-PHY	U7238C-1FP	U7238C-1TP	N5435A-022
MIPI M-PHY	U7249C-1FP	U7249C-1TP	N5435A-043
MOST	N6466A-1FP	N6466A-1TP	N5435A-068
PCI Express Gen 3	N5393D-1FP	N5393D-1TP	N5435A-040
SAS-3	N5412D-1FP	N5412D-1TP	N5435A-073
SATA Gen 3	N5411B-1FP	N5411B-1TP	N5435A-028
SFP+	N6468A-1FP	N6468A-1TP	N5435A-074
USB 2.0	N5416A-1FP	N5416A-1TP	N5435A-017
USB 3.1	U7243B-1FP	U7243B-1TP	N5435A-075
USB HSIC	U7248A-1FP	U7248A-1TP	N5435A-042
UHS-I	U7246A-1FP	U7246A-1TP	-
UHS-II	N6461A-1FP	N6461A-1TP	N5435A-052
User-defined application	N5467B-1FP	N5467B-1TP	N5435A-058
Thunderbolt	N6463B-1FP	N6463B-1TP	N5435A-057
XAUI	N5431A-1FP	N5431A-1TP	N5435A-018

Infiniium V-Series Ordering Configuration (continued)

3. Choose your measurement-specific software (continued)

Protocol decode software

Description	License type		Server-based license
	Fixed	Floating	
	Factory-installed on new oscilloscope or user-installed on existing oscilloscope	User-installed transportable license	
8b/10b (generic)	_1	_1	_1
64b/66b (Ethernet 10GBase-KR)	N8815A-1FP	N8815A-1TP	N5435A-045
CAN/LIN/FlexRay	N8803A-1FP	N8803A-1TP	N5435A-033
DDR2/3/4 and LPDDR2/3/4	_2	_2	_2
Ethernet 10Base-T / 100Base-TX	N8825A-1FP	N8825A-1TP	N5435A-088
I2C/SPI	N5391A-1FP	N5391A-1TP	N5435A-006
JTAG	N8817A-1FP	N8817A-1TP	N5435A-038
MIPI CSI-3	N8820A-1FP	N8820A-1TP	N5435A-065
MIPI DigRF v4	N8807A-1FP	N8807A-1TP	N5435A-047
MIPI D-PHY	N8802A-1FP	N8802A-1TP	N5435A-036
MIPI LLI	N8809A-1FP	N8809A-1TP	N5435A-049
MIPI RFFE	N8824A-1FP	N8824A-1TP	N5435A-072
MIPI UFS	N8818A-1FP	N8818A-1TP	N5435A-063
MIPI UniPro	N8808A-1FP	N8808A-1TP	N5435A-048
PCIe 1 & 2	N5463A-1FP	N5463A-1TP	N5435A-032
PCIe 3	N8816A-1FP	N8816A-1TP	N5435A-046
RS-232/UART	N5462A-1FP	N5462A-1TP	N5435A-031
SATA	N8801A-1FP	N8801A-1TP	N5435A-035
SSIC	N8819A-1FP	N8819A-1TP	N5435A-064
SVID	N8812A-1FP	N8812A-1TP	N5435A-054
USB 2.0	N5464A-1FP	N5464A-1TP	N5435A-034
USB 3.0	N8805A-1FP	N8805A-1TP	N5435A-071

1. Standard on DSA models or with high-speed SDA option.

2. Standard on MSO models or with MSO upgrade.

Ordering Configuration

Upgrade your existing oscilloscope

Bandwidth upgrades

Description	Option number
Bandwidth upgrade to 13 GHz	DSOV13GBW
Bandwidth upgrade to 16 GHz	DSOV16GBW
Bandwidth upgrade to 20 GHz ²	DSOV20GBWU
Bandwidth upgrade to 25 GHz ²	DSOV25GBWU
Bandwidth upgrade to 33 GHz ²	DSOV33GBWU

Memory upgrades

Description	Option number
50 Mpts/channel to 100 Mpts/channel memory upgrade	N2810A-100
100 Mpts/channel to 200 Mpts/channel memory upgrade	N2810A-200
200 Mpts/channel to 500 Mpts/channel memory upgrade	N2810A-500
500 Mpts/channel to 1 Gpts/channel memory upgrade	N2810A-01G
1 Gpts/channel to 2 Gpts/channel memory upgrade	N2810A-02G

Other upgrades

Description	Option number
Hardware serial trigger upgrade ^{1, 2}	N2119AU
MSO upgrade ^{1, 2}	N2118AU
Additional 500 GB removable Solid State Drive (SSD) with Windows 7	N2110A-500
Additional 1 TB removable Solid State Drive (SSD) with Windows 7	N2110A-01T
GPIB card-interface	82351B
Performance verification and deskew fixture	N5443A
Stack mount kit option for stacking two frames	N2117A
Rack mount	N5470A

1. Either MSO or hardware serial trigger option can be added to the oscilloscope. Upgrade is not available when the oscilloscope already has the MSO or hardware serial trigger installed.
2. Return to Keysight service center is required to perform upgrade.

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