Keysight Technologies
BenchVue Software v3.5 (BV0000A)

Data capture simplified. Click. Capture. Done.

Technical Overview

KEYSIGHT TECHNOLOGIES

Unlocking Measurement Insights

Simplified Measurement Viewing, Control and Capture

Keysight BenchVue software for the PC reinvents your bench testing by making it simple to connect and record results with your instruments with no programming. You will derive answers faster than ever by easily viewing, logging and exporting measurement data and screen images with a few clicks from a single environment.

Use BenchVue to:
- Visualize multiple measurements simultaneously
- Easily log data, screen images and system state
- Recall past state of your bench to replicate results

Save time with:
- Fast measurement data export in desired formats
- Rapidly prototype custom test sequences
- Quickly access manuals, drivers, FAQs and videos

From anywhere:
- Monitor and control your bench from mobile devices

Measurement Viewing

See your measurements across instruments in one place to quickly correlate measurement activities and obtain actionable insight. Depending on your measurement task, BenchVue provides extensive data, trace and measurement logging capabilities all from within one piece of software.

Plug and Play Instrument Control

Connecting and controlling an instrument to BenchVue is as simple as plugging it in and launching the BenchVue instrument application. No programming or separate instrument drivers required. BenchVue will automatically detect GPIB, USB and LAN instrument connections.

BenchVue Apps

BenchVue software provides a wide array of apps with different capabilities. These capabilities vary based on the functionality of the types of instruments, apps, and models that are connected to your PC running BenchVue software. For most of the apps, optional Pro version upgrades are available to extend app functionality.

BenchVue app name	No cost version	Optional Pro/License upgrade [1]
Test Flow	Included in BV0000A (demo mode only)	BV1001A
Digital Multimeter	Included in BV0000A	BV0001A
Function Generator	Included in BV0000A	BV0002A
Power Supply	Included in BV0000A	BV0003A
Oscilloscope	Included in BV0000A	BV0004A
Spectrum Analyzer	Available in BV0000A	BV0005A
Data Acquisition	Available in BV0000A	BV0006A
Power Meter	Available in BV0000A	BV0007A
Network Analyzer	Available in BV0000A	BV0008A
Electronic Load	Available in BV0000A	N/A
Power Analyzer App	Available in BV0000A	N/A
FieldFox Analyzer App	Available in BV0000A	BV0010A
Universal Counter App [2]	Available in BV0000A	BV0011A
Signal Generator App	Available in BV0000A	BV0012A

1. See page 11 for more information about Pro/License upgrades.
2. Available August 2016.

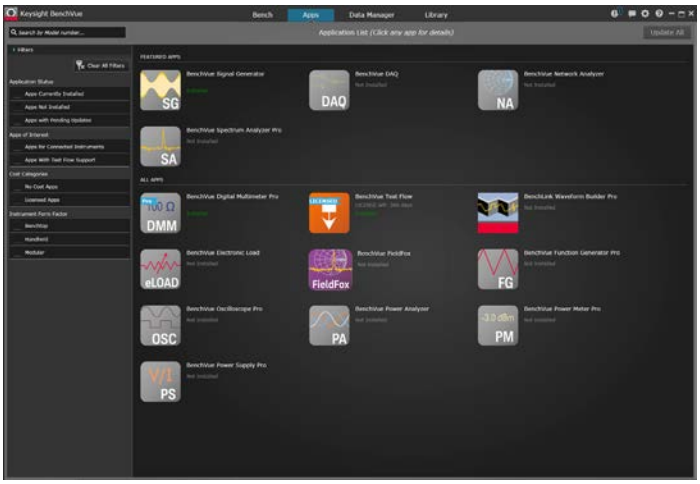
For the latest applications check out the BenchVue app tab within BenchVue or visit: **www.keysight.com/find/benchvue_apps**

Integrated Applications

Each application is integrated into the BenchVue software platform, which allows you to take advantage of all BenchVue features. Every no-cost download of the BenchVue platform software (BV0000A) includes no-cost, base versions of the most commonly used apps:
- BenchVue Digital Multimeter app (BV0001A)
- BenchVue Function Generator app (BV0002A)
- BenchVue Power Supply app (BV0003A)
- BenchVue Oscilloscope app (BV0004A)
- BenchVue Test Flow app (BV1001A, demo mode only)

BenchVue Software Platform Features

Apps Tab



Example of BenchVue's applications tab.

Additional apps can be easily viewed, downloaded and installed via the apps tab within BenchVue.

Filters can also be used to help you easily find apps of interest. You can get a description of your app, start a free trial, install/ remove apps, and even license your app all within the apps tab.

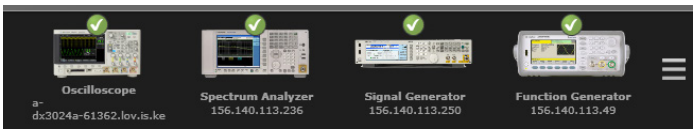
Keysight recommends checking the apps tab on a regular basis as existing apps are updated constantly and new apps are added all the time.

Bench Tab

As BenchVue's main interface, you will do most of your instrument work in this tab. The instrument apps launch into this tab, allowing you to control, data log or automate sequences with the BenchVue Test Flow app. Apps from this tab can also be expanded for better viewing. With the Bench Tab, you can view and control up to 4 instruments in BenchVue. Even more instruments can be controlled by expanding them into their own windows. To try out some of the BenchVue apps for instruments you don't currently have on your bench, use BenchVue's Demo mode.

Instrument Tool Bar

Located at the bottom of BenchVue's interface, the Instrument Panel shows all instruments connected to your PC. Simply double click on any of your instruments to start interacting with that instrument in BenchVue. Click on the configuration icon to open up Keysight's IO libraries, toggle BenchVue's Demo mode on and off, and access other helpful configurations for the Instrument tool bar.



Small Icons, Big Impact

Tucked away in the corners of the BenchVue interface and each of the apps, are unobtrusive icons that can be very useful in enhancing your BenchVue experience.

Comment Icon – Use this menu to send feedback, report an issue or contact support.

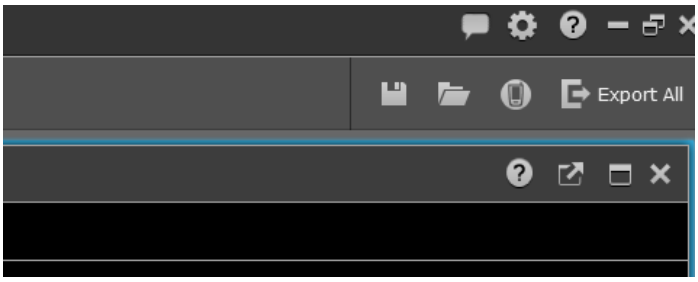
Gear Icon – Use this menu to access additional settings and other configurations for the BenchVue platform, or license your BenchVue app.

Question Icon – Press this icon to load the Help file. Note that each app has its own help icon, which provides "help" information specifically for that app.

Save, Open Icons – With these icons you can save the state of your app for easier configuration and recall.

Export All – This icon allows you to export the data from all of the apps. Individual apps export their data with their own export button found in the app.

Cell Phone Icon [1] – Toggle mobile device support for BenchVue with this icon.

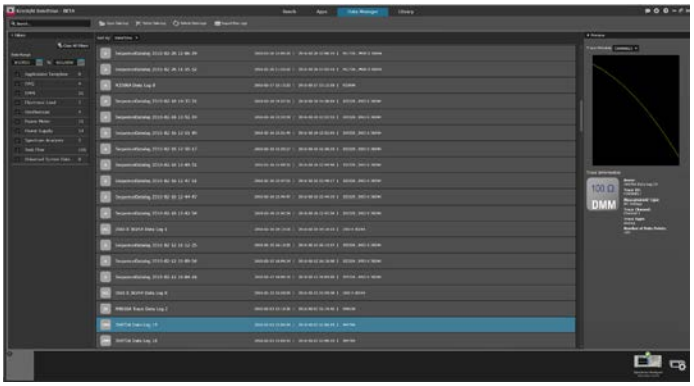


1. Mobile support is not included with all BenchVue apps.

BenchVue Software Platform Features (Continued)

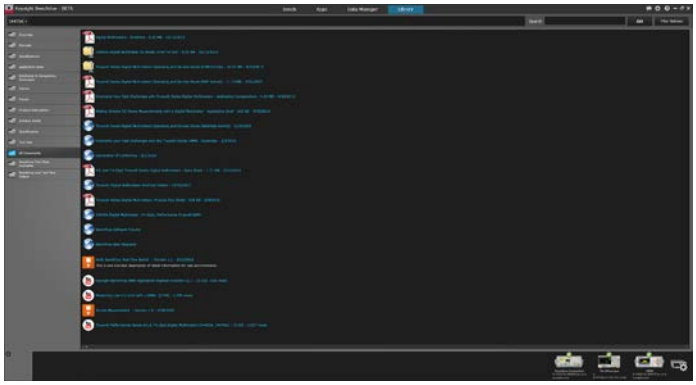
Data Manager Tab

The Data Manager tab is used to find past data logs. BenchVue automatically stores the data logs that you take; an especially useful feature if you've neglected to save critical data. This data repository allows you to filter based on either date range or app.



Library Tab

You can find all the documentation for your Keysight instrument in the Library tab. App notes, datasheets, user guides, and even videos are aggregated on the Library tab for easier access than ever before. Simply click on your instrument on the Instrument tool bar and additional documentation relating to that instrument is automatically loaded. Example Test Flow sequences and BenchVue videos are also available in the Library.



BenchVue Test Flow App

Optional License: BV1001A

Rapidly prototype automated tests in BenchVue

Enhance your workflow with the BenchVue Test Flow app by creating custom test procedures within BenchVue software. The intuitive drag-and-drop interface enables you to quickly create simple test procedures or sequences that used to require days using traditional programming languages. Obtain a deeper understanding of your data using the built-in analysis tools that log and graph the data with selectable x-axis and y-axis formats. The BenchVue Test Flow app is installed with the BenchVue platform software.

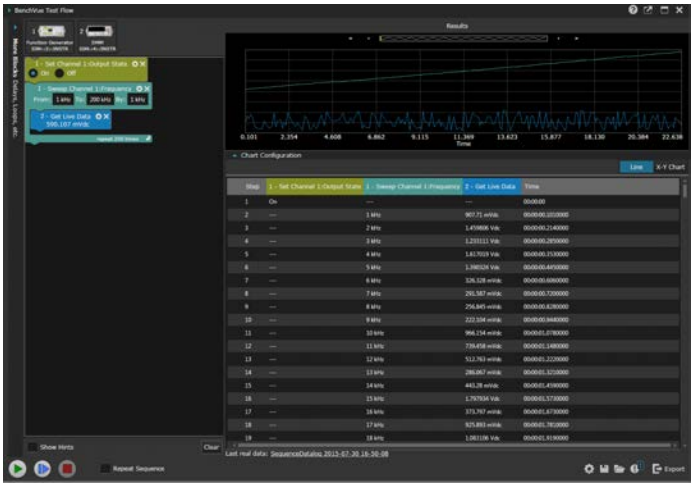
With BenchVue Test Flow you can:

- Create custom test sequences fast and intuitively
- Combine multiple instruments into a sequence for better DUT characterization
- Drag-and-drop controls and for rapid test prototyping

Interpret results more quickly by:

- Validating your sequence setup using the preview tool
- Customizing your graphs to view measurements with different X-axis and Y-axis information
- Viewing data logs in tabular form
- Exporting data to popular tools such as Microsoft Excel, Microsoft Word and MATLAB for documentation or further analysis

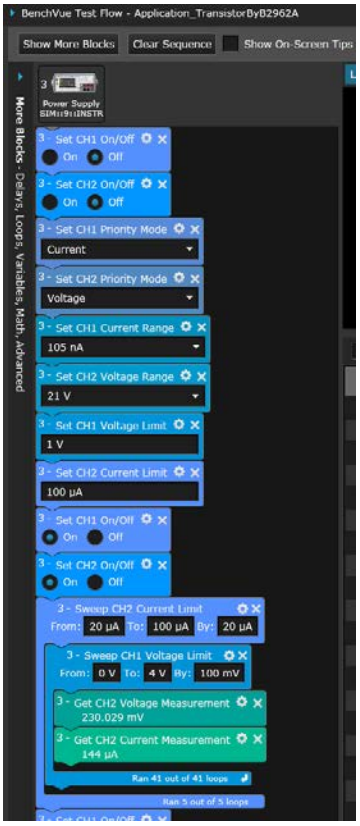
BenchVue Test Flow is integrated into the BenchVue framework and occupies the right-hand panel of the user interface.



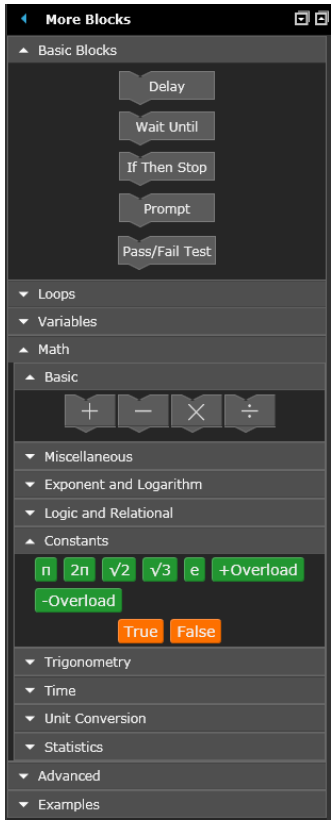
Visualize your Test Flow results in chart or tabular form.

Use blocks to control your test workflow

Create your test procedures in BenchVue Test Flow by dragging and dropping blocks into a test sequence. This intuitive method of test design allows you to understand the order of operations within your test sequence. Simply use the instrument controls and measurements that are available from integrated instrument controls in the BenchVue apps. For added flexibility, several utility blocks are available in BenchVue Test Flow including step controls, loops, and the ability to run SCPI commands, integrated Command Expert sequence blocks, or external programs.



Arrange the BenchVue Test Flow blocks in sequence in the order you want to run them. Top to bottom.



Built-in blocks add flexibility for your test sequences.

BenchVue Test Flow App

The BenchVue Test Flow app is integrated into BenchVue to help you easily create custom, automated test procedures to meet your unique needs.
Optional License: BV1001A

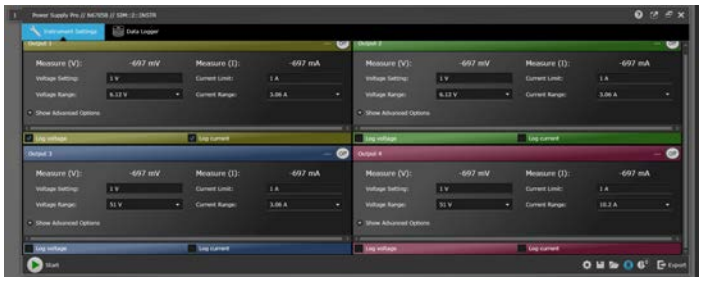
BenchVue Digital Multimeter App

Control your digital multimeter to visualize measurements, perform data logging and annotate captured data.
Optional Pro License: BV0001A

BenchVue Function Generator App

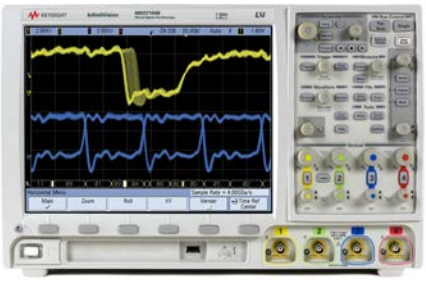
Control your function generator to set waveform properties and load custom arbitrary waveforms from files or drag-and-drop from an oscilloscope.
Optional Pro License: BV0002A

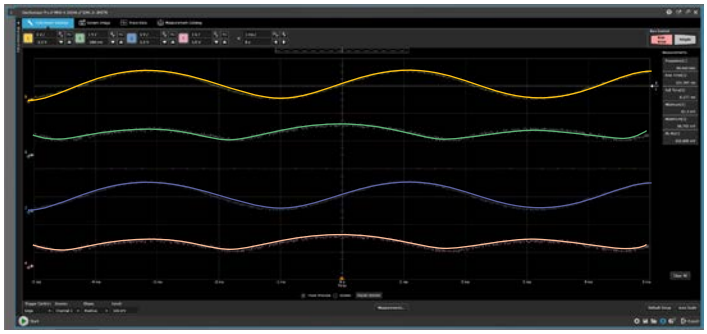
BenchVue Power Supply App



Control your power supply to set parameters, visualize power output and data log changing voltage and current over time.
Optional Pro License: BV0003A

BenchVue Oscilloscope App





Control your oscilloscope to quickly capture and annotate screen images, record trace data and data log measurements.
Optional Pro License: BV0004A

BenchVue Spectrum Analyzer App

Control your spectrum or signal analyzer to quickly capture and annotate screen images and log trace data.
Optional Pro License: BV0005A

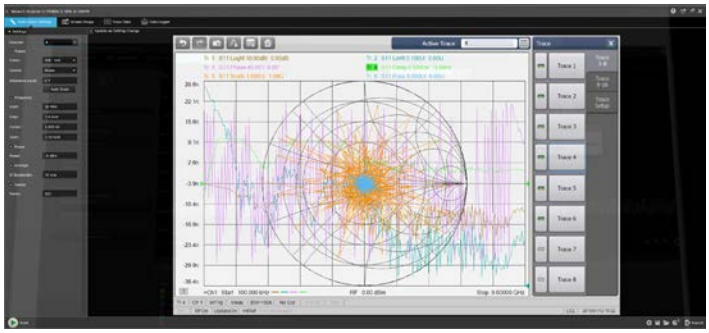
BenchVue Data Acquisition App

Control your 34970 or 34972 to data log and visualize measurements in a wide array of display options.
Optional Pro License: BV0006A

BenchVue Power Meter App

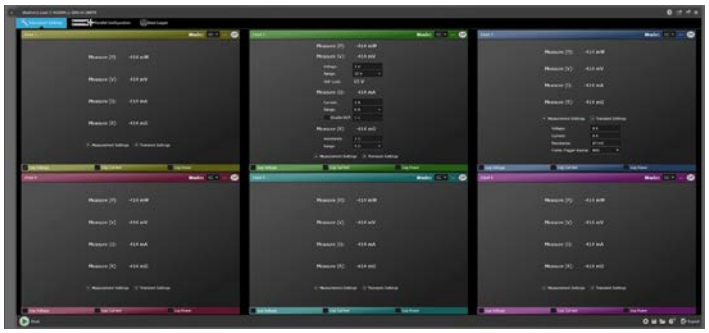
Control your power meter to data log and visualize measurements in a wide array of display options.
Optional Pro License: BV0007A

BenchVue Network Analyzer App



Quickly capture and annotate screen images and acquire trace data from your network analyzer for documentation and further analysis.
Optional Pro License: BV0008A

BenchVue Electronic Load App

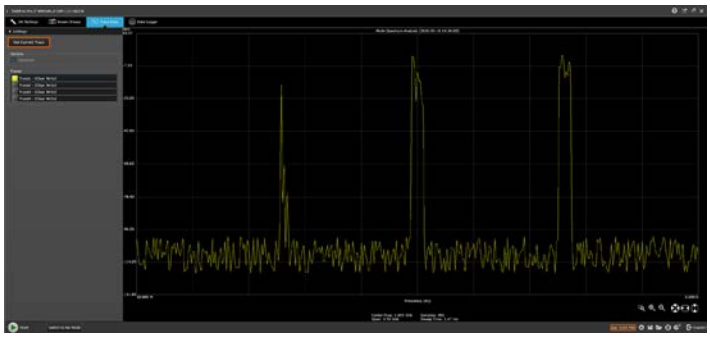


Control your electronic load to set parameters, visualize power input and data log changing voltage and current over time.

BenchVue Power Analyzer App

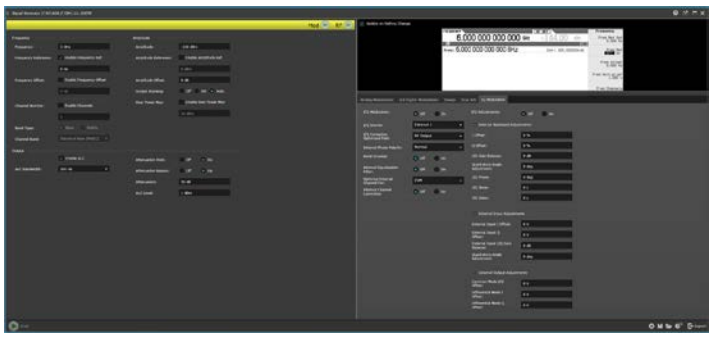
Connect, control, and visualize power analyzer measurements.

BenchVue FieldFox Analyzer App



Use your FieldFox in spectrum analyzer and network analyzer modes to control and capture measurements over time.
Optional Pro License: BV0010A

BenchVue Signal Generator App



Control your signal generator to set waveform properties, control modulation, and load custom arbitrary waveforms from files.
Optional Pro License: BV0012A

Application Comparisons

BenchVue contains many no cost applications to control instruments and record measurement data. Optional Pro upgrades are are available to extend functionality:

Product	No-cost base features	Pro/License upgrade features	Mobile support	Pro model number
Digital Multimeter App	– Instrument control – Measurements – Data logging (1 hour) [1] with graphing	– Digitizer functions – Unrestricted data logging – Limit testing and alerts	Yes	BV0001A
Function Generator App	– Instrument controls	– Waveform editing capabilities	Yes	BV0002A
Power Supply App	– Instrument controls – Log output V&I data (1 hour) [1] with graphing	– Status alerts – Unrestricted data logging	Yes	BV0003A
Oscilloscope App	– Instrument controls – Measurements – Screen images – Trace data – Log measurements (1 hour) [1] with graphing	– Limit testing and alerts – Unrestricted data logging	Yes	BV0004A
Spectrum Analyzer App	– Instrument controls – Log screen images (1 hour) [1] – Log trace data (1 hour) [1]	– Deep memory capture – Unrestricted data logging	Yes	BV0005A
Data Acquisition App	– Instrument controls – Data graphing tools – Log measurements (8 hour) [1]	– Unrestricted data logging	No	BV0006A
Power Meter App	– Instrument controls – Data visualization tools – Multi unit control – Log measurements (1 hour) [1]	– Unrestricted data logging	No	BV0007A
Network Analyzer App	– Instrument controls – Log screen images (1 hour) [1] – Log trace data (1 hour) [1]	– Unrestricted data logging	No	BV0008A
FieldFox App	– Instrument controls – Support for spectrum analyzers and network analyzers personalities – Log trace data (1 hour) [1] – Log screen images (1 hour)	– Unrestricted data logging	No	BV0010A
Universal Counter App [2]	– Instrument control – Measurements – Frequency data logging (1 hour) [1] with graphing	– Data logging for all other measurements – Unrestricted data logging	No	BV0011A
Signal Generator App	– Instrument controls	N/A	No	N/A
Power Analyzer App	– Instrument controls – Log measurements – Get screen captures	N/A	No	N/A
Electronic Loads App	– Instrument controls – Log power, V, I – Parallel channel config	N/A	No	N/A
Test Flow App	– Instrument setting/measurement automation and sequence creation – Loop/sweep/advanced sequencing – Results visualization – Simulation mode	– Run sequences with live instruments	No	BV1001A

1. No-cost base version data logging capabilities.
2. App release August 2016.

BenchVue Software Supported Instruments

Each of the BenchVue apps support certain Keysight instrument models. These apps are updated regularly with additional models as shown below. For the most current supported instrument list, visit: **www.keysight.com/find/BenchVueInstruments**

Data acquisition units (2)	**Power meters/ sensors (25)**	**Function generators (19)**	**Power supplies/ SMUs (138)**	**Signal analyzers (25)**	**Oscilloscopes (164)**
34970A	U2021XA	332x0A (3)	B2900 Series (4)	X-Series	2000-X Series (12)
34972A	U2022XA	33500 Series (10)	B2961A/62A	N9040B UXA	3000-X Series (18)
Digital multimeters (10)	U2041XA	33600 Series (4)	E3600 Series (14)	N9030A/B PXA	3000T Series (20)
344xxA	U2042XA	81150A	E36100 Series (5)	N9020A/B MXA	4000-X Series (16)
Network analyzer (28)	U2043XA	81160A	N5700 Series (24)	N9010A/B EXA	5000 (5)
ENA E50xxA/B/C (5)	U2044XA	**Power analyzers (2)**	N6700A/B	N9000A/B CXA	6000-X Series (4)
PNA N522xA (5)	U2049XA LAN	PA2201A	N6701A	PSA E444x (6)	6000 Series (16)
PNA-L N523xA (5)	U2000 Series (9)	PA2203A	N6702A	ESA E440xB (4)	7000 Series (28)
PNA-X N524xA (6)	U848x Series (4)	**Signal generators (14)**	N6705A/B	BSA N932xB/C (2)	9000 Series (8)
PXI VNAs	N191xA (4)	E4428C	N6705A	**Electronic loads (4)**	90000 (6)
M937xA (6)	N8262A	E4438C	N6785A	N3300A	90000 Q-Series (5)
PXIe multiport VNA		E8257D	N6786B	N3301A	90000 X-Series (12)
M9485A		E8267D	N6900 Series (12)	6060B	S Series (14)
		E8663D	N7900 Series (12)	6063B	**Counters (3)** [1]
		EXG X-Series	N8700 Series (21)	**FieldFox analyzers (22)**	53210A
		N517xB (3)	N8900 Series (36)	N9912A	53220A
		MXG X-Series		N9913A-N9918A (6)	53230A
		N518xB (3)		N9923A	
		N518xA (3)		N9925A-N9928A (4)	
				N9935A-N9938A (4)	
				N9950A-N9952A (3)	
				N9960A-N9962A (3)	

1. These models will be available August 2016.

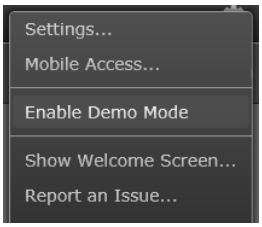
BenchVue Mobile

Mobile apps lets you monitor and respond to long running tests from anywhere. Multimeters, oscilloscopes, function generators, spectrum analyzers and power supplies are all supported from one app.

BenchVue mobile is a mobile app that you can install on an Android or Apple iOS device to control BenchVue bench applications running on your Windows computer. BenchVue mobile connects to your computer as a client, and requires that your mobile device and computer be connected to the same local network or intranet (behind the same corporate firewall). This network connection can be made via a WiFi connection inside your work location or externally through a VPN connection.

BenchVue Demonstration Mode

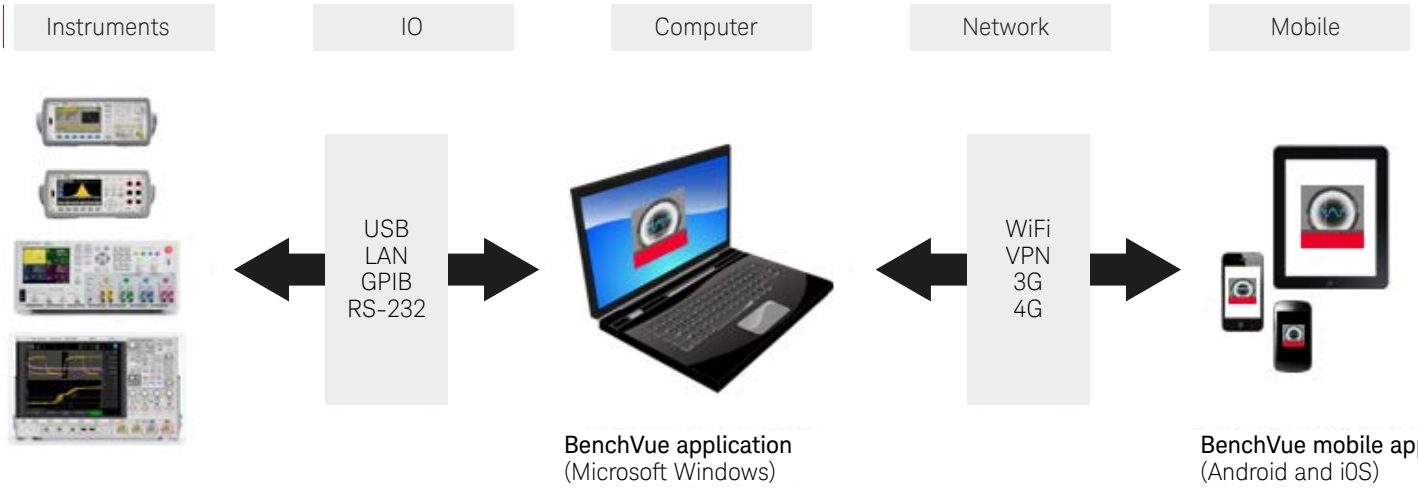
BenchVue includes a demonstration mode that requires no instruments to be connected, making product evaluation quick and easy. Simply download and click “enable demo mode” under the global setting menu to begin exploring BenchVue functionality.



To assist in the evaluation of BenchVue with physical instruments, BenchVue includes an integrated user manual and getting started guide to make setup quick and easy.

Supported Apps for BenchVue Mobile

- Digital Multimeter app
- Function Generator app
- Power Supply app
- Spectrum Analyzer app
- Oscilloscope app



System and Installation Requirements

Computer operating system	
Windows 10, 8, 7	– Windows 10 32-bit and 64-bit (Professional, Enterprise, Education, Home versions) – Windows 8 32-bit and 64-bit (Professional, Enterprise, Core) – Windows 7 SP1 and later 32-bit and 64-bit (Professional, Enterprise, Ultimate, Home Basic, Home Premium)
Computer hardware	Windows 10, 8 and 7 – Processor: 1 GHz or faster (2 GHz or greater recommended) – RAM: 1 GB (32-bit) or 2 GB (64-bit) (3 GB or greater recommended)
Interfaces	USB, GPIB, LAN, RS-232
Display resolution	1024 x 768 minimum for single instrument view (higher resolutions are recommended for multiple instrument view)

Additional requirements

BenchVue requires a VISA (Keysight or National Instruments) when used to connect to physical instruments. Keysight IO Libraries Suite, which contains the necessary VISA, will be downloaded and installed automatically when BenchVue is installed if needed. IO Libraries Suite 16.3 or newer is recommended. IO Libraries Suite information is available at: **www.keysight.com/find/iosuite**

Mobile devices

Apple iPhone, iPad, iPod Touch all models; iOS 7.0 and later. Android phone and tablets; Android 4.0.3 and later.

With BenchVue, It's as Simple as: Click. Capture. Done.

BenchVue software for PC

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Evolving

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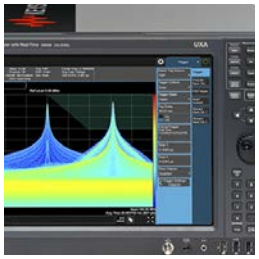

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China	800 810 0189
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India	1 800 11 2626
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Korea	080 769 0800
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Singapore	1 800 375 8100
Taiwan	0800 047 866
Other AP Countries	(65) 6375 8100

Europe & Middle East

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Finland	0800 523252
France	0805 980333
Germany	0800 6270999
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KEYSIGHT TECHNOLOGIES
Unlocking Measurement Insights

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