
Keysight PathWave 89600 VSA Software

Notices

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A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

In This Book

This guide documents how to install the Keysight 89600 software and a transportable license. It also documents how to view the software's online help and demo signal packages.

Other Documentation

In addition to the Quick Start Guide (this book), the following documentation is included with your software:

- The *89600 Software Installation Guide* (InstallationGuide.pdf) is available online, during installation by clicking **More Installation Choices > View Installation Guide**, or after you install the software in **C:\Program Files\Keysight\89600 Software <ReleaseVersion>\89600 VSA Software\Help**.
- The 89600 Online Help is available after you install the software on your computer. The help provides use and operation information.
- If you install the IO libraries, the complete documentation for the Keysight IO libraries is available by right-clicking the **Keysight IO Libraries Suite** icon in the Windows task bar's Hidden Icons panel and selecting **Documentation**.
- Technical Specifications are available from the 89600 web page:
<http://www.keysight.com/find/89600>

NOTE

To read the PDF files, you must have Acrobat Reader installed on your computer. To install the latest Acrobat Reader, go to:
<http://get.adobe.com/reader/>

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Overview

The Keysight 89600 VSA Quick Start Guide provides all necessary instructions to install the Keysight 89600 software and a transportable license

89600 Software

The Keysight 89600 VSA software's installation wizard guides you through the installation process.

Licensing

There are four types of licenses:

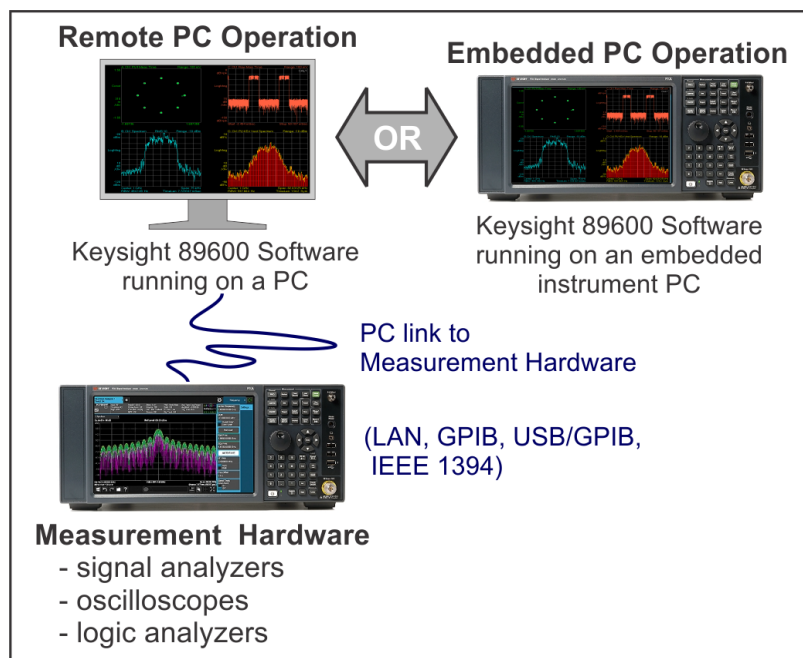
- **Demo:** The Demo license is provided with the 89600 software installation and enables you to use the 89600 software with limited functionality.
- **Trial:** The Trial license lets you immediately start using a fully licensed 89600 software application for a temporary trial period. When the trial period expires, you will need to purchase a valid license for continued use.
- **Node-locked:** The node-locked license is used to license the Keysight 89600 software plus options to only run on one specified host PC.
- **Transportable:** The Transportable license is used to license the Keysight 89600 software plus options to only run on the host PC. However, you do have the capability to transport the license to a different PC, making it the new host PC.
- **Floating:** The Floating or Network license provides the ability for different PC's to use a license that is stored on a network PC (or server).
- **USB portable:** The USB portable license is used to license 89600 VSA software with options to only run on one host PC with certified USB dongle, which needs be purchased separately.
You can move the USB portable license together with the certified USB dongle from one Host PC to another Host PC.

This Quick Start Guide documents how to install the transportable license. For information on how to install the demo, trial, or floating license types, see the Installation Guide (InstallationGuide.pdf) available online, during installation by clicking **More Installation Choices > View Installation Guide**, or after you install the software in **C:\Program Files\Keysight\89600 Software <ReleaseVersion>\89600 VSA Software\Help**.

Keysight 89600 Software Operating Configurations

The Host PC is the computer that will run the Keysight 89600 software. There are two 89600 software operating configurations: Remote PC Operation and Embedded PC Operation (also referred to as Embedded Instrument Operation). In a Remote PC Operation, the software runs on a standalone host PC linked to the measurement hardware via the I/O interface, such as LAN, GPIB, USB, and IEEE 1394.

In an Embedded PC Operation, the 89600 software runs on a PC embedded in the measurement hardware platform such as the Keysight X-Series Analyzer, Keysight Infiniium Scope, and Keysight Logic Analyzer.



Installation and Configuration Process

The Keysight 89600 software installation process includes the following primary steps:

1. **Set up and configure the remote PC.**

NOTE

Skip this step if you are installing the software in an embedded PC operation.

Go to Chapter 2 [Configuring Remote PC \(page 11\)](#) to setup and configure the remote PC hardware including:

2. **Install the 89600 software.**

Go to Chapter 3 [Installing 89600 Software \(page 15\)](#) and follow the instructions to install the Keysight 89600 software.

3. **License the Keysight 89600 software.**

Go to Chapter 4 [Installing Licenses \(page 25\)](#) and follow the instructions to license the Keysight 89600 software and option.

Configuring Remote PC

This chapter only applies to the remote PC operation configuration. This contains information to setup and configure the PC including system requirements, I/O interface requirements, and the PC interface installation and setup procedure.

NOTE

If you are going to install the software in an embedded PC operation, skip this chapter and go directly to [Installing 89600 Software \(page 15\)](#).

Configuration Steps

1. Verify your PC meets the system requirements listed in the following table.

Characteristic	Requirement
Operating system	Microsoft Windows 11 Professional or Enterprise Microsoft Windows 10 Professional, Enterprise or Education (64 bit)
CPU	1 GHz (>2 GHz recommended)
RAM	2 GB (16 GB recommended)
Video RAM	128 MB (1 GB recommended)
Graphics support	OpenGL version of 2.1 or higher required for rendering of 3D trace data in some measurement options
Hard disk	3 GB minimum available
Additional drives	Network access or a USB memory device required for installation and license transfer
Interface support	LAN, GPIB, USB. For Option SSA, PCIe Express card interface to PXI mainframe or an embedded PC M9036A/M9037A to be used

2. Verify that your PC's I/O interface meets the requirements listed in the following table.

NOTE

If you are only using simulated measurement hardware or signal simulation software, you do not need to install/configure an I/O interface. You can skip the remainder of this chapter and go directly to [Installing 89600 Software in a PC \(page 16\)](#).

Using the following table, determine what type of PC and I/O interface is required for your measurement hardware. Note that you may need to install and configure more than one interface.

- If the PC already supports the I/O interface, skip the remainder of this chapter and install the 89600 VSA software—go to [Installing 89600 Software in a PC \(page 16\)](#).
- If the PC supports the I/O interface but it is not currently installed, you will need to install and configure the I/O interface hardware on the PC—go to [Installing I/O Interface Hardware \(page 14\)](#).
- If the PC does not support the I/O interface, you can not use the 89600 VSA software with your measurement hardware.

Measurement Hardware	Computer Type	Interface
Keysight ESA	Laptop or desktop PC	GPIB, or USB/GPIB adapter
Keysight ESA-E Series Analyzer	Laptop or desktop PC	GPIB or USB/GPIB
Keysight InfiniiVision Oscilloscope	Laptop or desktop PC	LAN, GPIB, or USB/GPIB
Keysight Infiniium Oscilloscope	Laptop or desktop PC or embedded Windows scope	LAN, GPIB, USB/GPIB, or internal
Keysight Logic Analyzer	Laptop, desktop PC, or embedded PC	LAN, IEEE-1394 (only for 1690 Series), or internal
Keysight X-Series Signal Analyzer	Laptop, desktop PC, or embedded PC	LAN or internal*
Keysight Handheld RF and Microwave Analyzer	Laptop or desktop PC	LAN
Keysight modular products	Laptop, desktop PC, or embedded PC	LAN, GPIB, USB/GPIB or internal

* The Keysight X-Series Signal Analyzer embedded PC operation only supports a LAN interface between the analyzer and a Keysight Source.

1. Installing I/O Interface Hardware

- a. Install I/O Interface Card(s) in the PC.

Install all necessary I/O interface card(s) in the PC per the instructions that came with the I/O interface card vendor documentation.

National Instruments GPIB card: For a National Instruments GPIB card, be sure to install the NI 488.2 software first, then reboot your PC and install the interface card.

NOTE

Exclude Multiple GPIB Devices: If this PC controls other GPIB measurement hardware or devices, you need to exclude those devices from the 89600 identification process.

- b. Configure the PC I/O Interface.

Configure the I/O interface card(s) in the PC per the instructions that came with the I/O interface card vendor documentation.

TIP

You can typically use the default I/O interface hardware settings.

NOTE

GPIB: For GPIB interfaces, make sure that each measurement hardware has a unique GPIB address—multiple GPIB devices cannot use the same GPIB address.

NOTE

If the PC and measurement hardware are connected to a local internal LAN, you may need to check with your network administrator to verify that the IP addresses for the PC and measurement hardware satisfy requirements.

- c. Cycle power OFF/ON on all system hardware.

After completing the hardware I/O connections, cycle the power OFF/ON on the PC and all connected measurement hardware.

- d. Next install the 89600 VSA software. Go to [Installing 89600 Software in a PC \(page 16\)](#).

Installing 89600 Software

This procedure installs the 89600 VSA software.

There are different installation procedures for each operating configuration—Remote PC and Embedded PC configuration. Remote PC configuration requires installing the software in a PC. Embedded PC configuration requires installing the software in the measurement hardware; there are also different install procedures for different measurement hardware types.

Select and use the software installation procedure for your particular installation:

Remote PC Configuration

- [Installing 89600 Software in a PC \(page 16\)](#)

Embedded PC Configuration

- [Installing 89600 Software in a Keysight X-Series Signal Analyzer \(page 18\)](#)
- [Installing 89600 Software in a Keysight Infiniium Scope \(page 20\)](#)
- [Installing 89600 Software in a Keysight Logic Analyzer \(page 22\)](#)

Installing 89600 Software in a PC

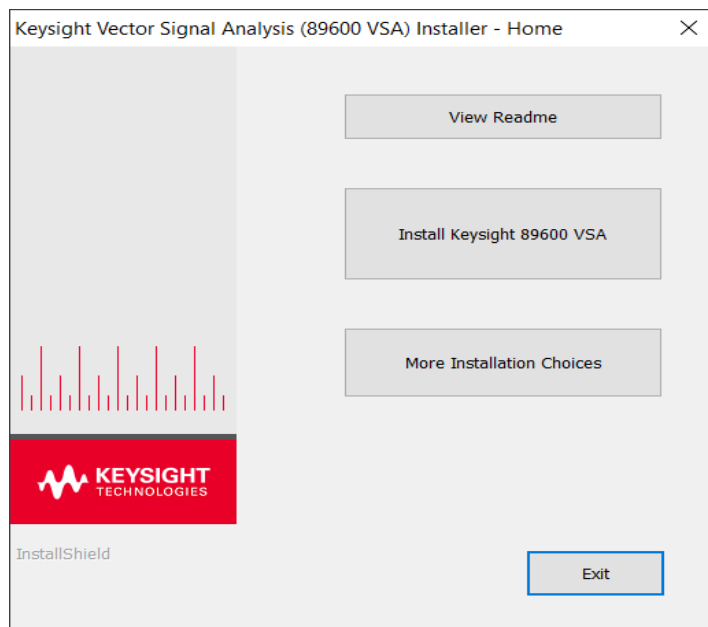
To install the Keysight 89600 software in a remote PC configuration:

1. Download the 89600 VSA Software at www.keysight.com/find/89600_VSA_sw_download.
2. Close any applications you have open.

NOTE

To install the Keysight 89600 software, you must have administrator privileges.

3. Launch the 89600 VSA Installer as administrator. When the Keysight Vector Signal Analysis (89600 VSA) Installer window opens, open and review the following sections of the Readme file (click **View Readme**).
 - Required Minimum License Version
 - Installation Information



4. After reviewing the Readme file, start the software installation by clicking **Install Keysight 89600 VSA**. Step through the InstallShield Wizard and stop at the *Select Products and Features* window.
5. Select the Products and Features you want to install, click **Next** then continue through the InstallShield Wizard to complete the installation.
6. If you will be using connected hardware, see [Installing or Updating Keysight IO Libraries for Keysight 89600 VSA \(page 17\)](#).
7. The installation process configures your system environment for the 89600 software applications. Some installations may require a system PC reboot. If this occurs, click **OK** to reboot.

IMPORTANT After rebooting you will need to be logged on with administrative privileges to complete the installation.

8. The 89600 software installation is now complete and the software can be run. However, the software and options need to be licensed. To learn how to obtain a license, see [Installing Licenses \(page 25\)](#).

Installing or Updating Keysight IO Libraries for Keysight 89600 VSA

Keysight 89600 VSA Uses IO Libraries for SCPI API support and Hardware Connectivity. If these features are not required for anticipated usage, then IO Libraries does not need to be installed.

Known issues that may affect VSA users when Updating Keysight IO Libraries from a previous version

- DO NOT update Keysight IO Libraries on a Keysight instrument. Please refer to instrument specific update instructions.
- Updating from a version of Keysight IO Libraries version 2024 or older will remove connection definitions from Keysight Connection Expert. Please make note of any VISA addresses and alias names for connections (using Keysight Connection Expert), and manually reconfigure these connections after installation is complete (using Keysight Connection Expert).
- Updating from a version of Keysight IO Libraries version 2024 or older will disregard settings, or previously chosen installation options. Please make note of this and choose installation options consistent with what is required for the installation environment, and update any settings after installation.

Installing or Updating Keysight IO Libraries

To learn about, download, install, and configure the most up-to-date version of Keysight IO Libraries, please visit and follow the instructions provided at:

<https://www.keysight.com/find/iolib>.

Installing 89600 Software in a Keysight X-Series Signal Analyzer

NOTE

Verify that the Instrument software revision (**System** hardkey > **Show** softkey > **System** softkey) is A.19.05 or greater.

You can install 89600 software on your Keysight X-Series Signal Analyzer one of two different ways.

If you have an Internet connection to the X-series analyzer, you can download the Keysight 89600 VSA Installer from the Keysight 89600 software download page (www.keysight.com/find/89600_VSA_sw_download).

If the Keysight X-Series Analyzer does not have an Internet connection, you can use a PC to download the 89600 VSA Installer to a USB drive, then install directly from the USB drive.

NOTE

This procedure assumes that a USB Flash Drive is being used. Other USB storage devices such as a USB hard drive could also be used.

To install the 89600 VSA software in a Keysight X-Series Signal Analyzer using a USB Flash drive:

1. On an Internet-connected PC, download the 89600 VSA Software at www.keysight.com/find/89600_VSA_sw_download.
2. Insert a USB Flash Drive into a USB port on the PC.
3. Use Windows Explorer to copy the Keysight 89600 VSA Installer onto the USB Flash Drive.
4. Connect a USB keyboard and mouse to the analyzer.

NOTE

To install the Keysight 89600 software on the analyzer, you need to have administrator privileges. Press **Ctrl - Alt - Delete**, then click **Log Off....** Log back in as the Administrator. Depending on your instrument's installed Windows OS image version, the default administrator password is either **agilent4u** or **Keysight4u!**.

5. Insert the USB Flash Drive into an available USB port on the analyzer.
6. Open Windows Explorer and navigate to the USB drive.
7. Double-click the 89600 VSA Installer to launch it.
8. When the Keysight Vector Signal Analysis (89600 VSA) Installer window opens, read the Readme information.
9. After you read the Readme file, close it, then click **Install 89600 VSA**. Continue through the InstallShield Wizard until you reach the **Select Products and Features** window.
10. Select the features you want to install, then continue through the InstallShield Wizard to complete the installation.

11. When the installation is complete, exit the installer.
12. Start the X-Series analyzer application: Double-click the **LaunchXSA** icon on the Windows desktop.
13. After the X-Series analyzer finishes booting up, start the Keysight 89600 software:
 - Press the Mode Hardkey, then there is Launch VSA button on the left bottom of the window. You can choose from the menu below the "Launch VSA" button to specify the launched 89600 VSA version which has already been installed inside this signal analyzer.

Next, the software and options need to be licensed. To learn how to obtain a license, see [Installing Licenses \(page 25\)](#).

Installing 89600 Software in a Keysight Infiniium Scope

IMPORTANT Embedded operation with the 89600 is not recommended for the Infiniium 8000 and 80000 Series scopes.

Many Infiniium oscilloscopes provide an open Microsoft Windows operating system that enables you to install other applications. You can install and operate the 89600 Vector Signal Analysis software on these scopes.

If you have an Internet connection to the Keysight Infiniium scope, you can download the Keysight 89600 VSA Installer from the Keysight 89600 software download page (www.keysight.com/find/89600_VSA_sw_download).

If the Keysight Infiniium scope does not have an Internet connection, you can use a PC to download the 89600 VSA Installer to a USB drive, then install directly from the USB drive.

NOTE This procedure assumes that a USB Flash Drive is being used. Other USB storage devices such as a USB hard drive could also be used.

To install the 89600 VSA software in a Windows scope:

1. Increase the scope's virtual memory to at least 1 GB as follows:
 - a. Minimize the scope application.
 - b. Navigate to: **Control Panel > Administrative Tools** (double-click) > **Computer Management** (double-click) > **Computer Management (Local)** (right-click) > **Properties > Advanced** (tab) > **Performance Settings** (button) > **Virtual Memory - Change** (button) to display the Virtual Memory dialog screen.
 - c. Set Initial Size (MB) and Maximum Size (MB) to 1000 MB (or more if you have sufficient Space Available), then click **Set > OK > OK** (reboot message) > **OK > OK**.
 - d. When the *System Settings Change* dialog appears, click **Yes** to restart the computer.
2. On an Internet-connected PC, download the 89600 VSA Software at www.keysight.com/find/89600_VSA_sw_download.
3. Insert a USB Flash Drive into a USB port on the PC.
4. Use Windows Explorer to copy the Keysight 89600 VSA Installer onto the USB Flash Drive.
5. Connect a USB keyboard and mouse to the scope.

NOTE To install the Keysight 89600 software on the scope, you need to have administrator privileges. Press **Ctrl - Alt - Delete**, then click **Log Off...** and log back in as the Administrator.

6. Insert the USB Flash Drive into an available USB port on the scope.
7. Open Windows Explorer and navigate to the USB drive.

8. Double-click the 89600 VSA Installer to launch it.
9. When the Keysight Vector Signal Analysis (89600 VSA) Installer window opens, read the Readme information.
10. After you read the Readme file, close it, then click **Install Keysight 89600 VSA**. Continue through the InstallShield Wizard until you reach the **Select Products and Features** window.
11. Select the features you want to install, then continue through the InstallShield Wizard to complete the installation.
12. When the installation is complete, exit the installer.
13. Start the 89600 VSA. Click **Start > Keysight 89600 VSA <ReleaseVersion> > Keysight 89600 VSA <ReleaseVersion>**.

Next the software and options need to be licensed. To learn how to obtain a license, see [Installing Licenses \(page 25\)](#).

Installing 89600 Software in a Keysight Logic Analyzer

The first step is to decide where you want to install the 89600 VSA software. For information on logic analyzer configurations, see "[Configurations](#)" on page 1.

If the logic analyzer has an Internet connection, you can download the Keysight 89600 VSA Installer from the Keysight 89600 software download page (www.keysight.com/find/89600_VSA_sw_download).

If the Keysight logic analyzer does not have an Internet connection, you can use a PC to download the 89600 VSA Installer to a USB drive, then install directly from the USB drive.

NOTE

This procedure assumes that a USB Flash Drive is being used. Other USB storage devices such as a USB hard drive could also be used.

To install the 89600 VSA software in a logic analyzer:

1. On an Internet-connected PC, download the 89600 VSA Software at www.keysight.com/find/89600_VSA_sw_download.
2. Insert a USB Flash Drive into a USB port on the PC.
3. Use Windows Explorer to copy the Keysight 89600 VSA Installer onto the USB Flash Drive.
4. Connect a USB keyboard and mouse to the analyzer.

NOTE

To install the Keysight 89600 software on the logic analyzer, you need to log on with administrator privileges.

5. Insert the USB Flash Drive into an available USB port on the analyzer.
6. Open Windows Explorer and navigate to the USB drive.
7. Double-click the 89600 VSA Installer to launch it.
8. When the Keysight Vector Signal Analysis (89600 VSA) Installer window opens, read the Readme information.
9. After you read the Readme file, close it then click **Install Keysight 89600 VSA**. Continue through the InstallShield Wizard until you reach the *Select Products and Features* window.
10. Select the features you want to install, then continue through the InstallShield Wizard to complete the installation.
11. When the installation is complete, exit the installer.

NOTE

When installing the 89600 VSA in a logic analyzer mainframe, **Hardware support** is disabled. This prevents using disk space for unnecessary components that are not needed when the 89600 VSA software is installed in a logic analyzer.

12. Start the 89600 VSA. Click **Start > Keysight 89600 VSA <ReleaseVersion> > Keysight 89600 VSA <ReleaseVersion>**.

Next, the software and its options must be licensed. To learn how to obtain a license, see [Installing Licenses \(page 25\)](#).

Installing Licenses

The 89600 software and options must be licensed to operate in a useful manner. The 89600 software has Demo, Trial, Node-locked, Transportable, Floating, and USB portable license types. The Demo license is installed with the 89600 software. This chapter describes how to install a Transportable license. For instructions on installing the other types of licenses, see the Installation Guide (InstallationGuide.pdf), which is available online, during installation by clicking **More Installation Choices > View Installation Guide**, or after you install the software in C:\Program Files\Keysight\89600 Software <ReleaseVersion>\89600 VSA Software\Help.

Transportable License

This section describes the steps to obtain and install a Transportable license. The Transportable license enables the 89600 software and options that you purchased. The license must be installed on the same computer that runs the 89600 software. However, the license can be transferred from one computer to another computer.

Licensing the 89600 Software is a two step process:

1. Redeem the License.
Go to [Redeeming a transportable license \(page 26\)](#).
2. Install the License file.
Go to [Installing a transportable license \(page 27\)](#).

NOTE

The term PC refers to any computer or instrument (such as analyzers and oscilloscopes) running the 89600 software.

Redeeming a transportable license

To redeem a Transportable license, follow these steps:

1. Collect the Software License Entitlement Certificates for all 89600 software options that you purchased. The Software License Entitlement Certificates are included with the *89600 VSA Software Installation Materials* envelope (printed on gray parchment).

NOTE

The Software License Entitlement Certificate also includes instructions to redeem your licenses.

2. Obtain the license Host ID (Model Number, Serial Number) from the PC that you installed the VSA software on.
 - a. Launch the Keysight Software Manager Utility. Within the VSA software, click **Utilities > Licenses > Status > Keysight Software Manager Utility...**, or from the Windows desktop, click **Start > Keysight Software Manager Utility**.
 - b. Copy the Keysight Host ID at the top of the **Add License** tab.

NOTE

For Measurement Hardware (instruments), the Keysight Host IDs consist of an Keysight instrument model number and serial number. On a desktop or laptop PC, the default model number is PCSERNO.

3. Redeem your licenses and obtain the license files.
Follow the instructions included on the *Software License Entitlement Certificate* to redeem your licenses and obtain the license files. Go to the *Keysight Software Manager* website:

<http://www.keysight.com/find/softwaremanager>

- First time access will require you to register.

IMPORTANT Remember your user password. The password is required for future access to manage your licenses.

- You will need the *Keysight Order Number* and *Keysight Certificate Number* located on the top of your *Software License Entitlement Certificate*.
4. Install License File(s): Check your email for the license file(s) and then install the license file(s) on the PC—go to [Installing a transportable license \(page 27\)](#).

Installing a transportable license

Installing the license file is necessary to license the 89600 software. After completing [Redeeming a transportable license \(page 26\)](#), you will receive a Keysight email containing your license file for the redeemed Entitlement Certificates. Follow these steps to install the license files on the PC:

1. Copy the email attachment with the .lic file extension to a folder on your PC, connected hard drive, or USB storage device.
2. Start the Keysight Software Manager Utility by clicking **Utilities > Licenses > Status > Keysight Software Manager Utility....**
3. In the Keysight Software Manager Utility, click **Add License > Install License File**.
4. Browse to the location where you saved the license file. Select the license file and click the **Open > Add Now**.

NOTE The install operation can take up to 40 seconds to complete.

When the license file is successfully installed, the installed licenses that are available are listed in the Keysight Software Manager Utility. Make sure your licensed options and features are shown.

5. Restart the VSA software to activate the license.
6. After installing the license file, verify that the Options are licensed for use by the Keysight 89600 software. Start the Keysight 89600 software, then open **Utilities > Licenses > Features** (or **Utilities > Licenses > Legacy Options** for legacy licenses) and verify the options are correctly licensed (Yes in the On column).

"On" Column	License Status
Yes	Option is licensed for use.
--	Dash indicates that the license option has not been selected for use by the VSA. To include an option, open the <i>Select License Options</i> system utility and select (check) the options that you want to include in the VSA measurement capability (click Start > Keysight 89600 VSA <ReleaseVersion> > Select License Options . The VSA must be closed and restarted to incorporate the changes.

"On" Column	License Status
No	Option is not licensed for use.

Using the VSA Online Help and Demos

Now that you have installed and licensed your Keysight 89600 software, it is time to start using it. The best way to learn how to use the VSA software is to view the online help and demo signal packages.

There are multiple ways to access the 89600 VSA help, as described on the following pages in this chapter.

Accessing Help

Start menu

After installing the 89600 VSA software, you can click the Windows **Start** button > **All Programs > Keysight 89600 VSA <ReleaseVersion> > Help > VSA Help** to open the 89600 VSA help system.

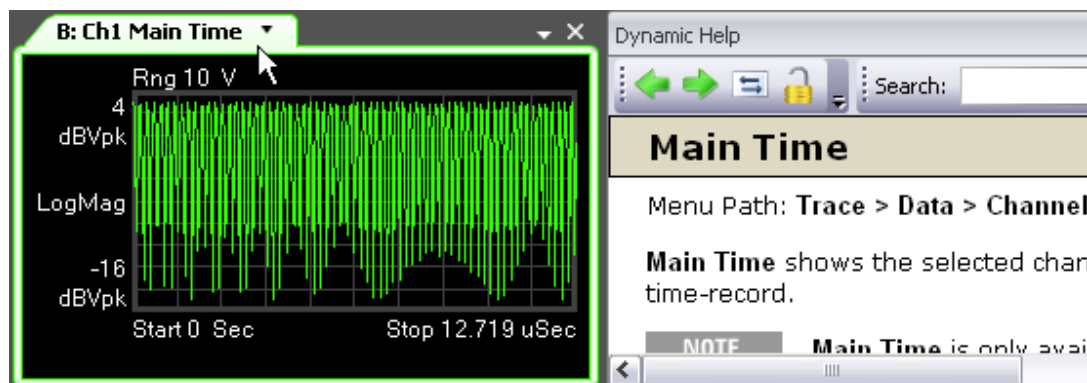
Help menu

While the VSA software is running, click **Help** from the main menu then select one of the following menu items:

This menu item...	Does this...
Show Help	Opens the 89600 VSA help system in an external window.
Search Help	Opens the 89600 VSA help system to the search tab.
Dynamic Help	Opens the dynamic help panel. By default, dynamic help is shown in a tool window that is docked to the right-hand side of the VSA main window.
Getting Started	Opens a topic with links to information about getting started with the 89600 VSA.
Demos	Opens a list of demo signals that are provided with the VSA.
.NET API Reference	Opens the 89600 VSA .NET API reference in a separate help window.
SCPI Reference	Opens the 89600 VSA SCPI reference in a separate help window.
Keysight 89600 VSA website	Opens the 89600 VSA website in the default web browser.
Keysight VSA forums	Opens the Keysight VSA forums.
Technical Support	Opens the 89600 VSA Technical Support website.
About...	Shows information about the VSA software, including what software version is installed on your computer.

Dynamic help

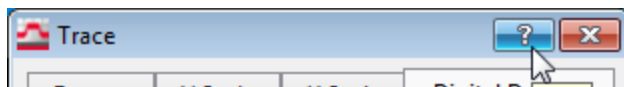
Dynamic help is the quickest and easiest method to find help. To open the dynamic help window, select **Help > Dynamic Help**. The current topic follows the user interface item that currently has focus.



Help button on dialogs

You can access help for any dialog box by clicking the **?** button in title bar of the dialog box.

In the following illustration, clicking the **Help** button opens the VSA help for the **Format** tab of the **Digital Demod Properties** dialog box.

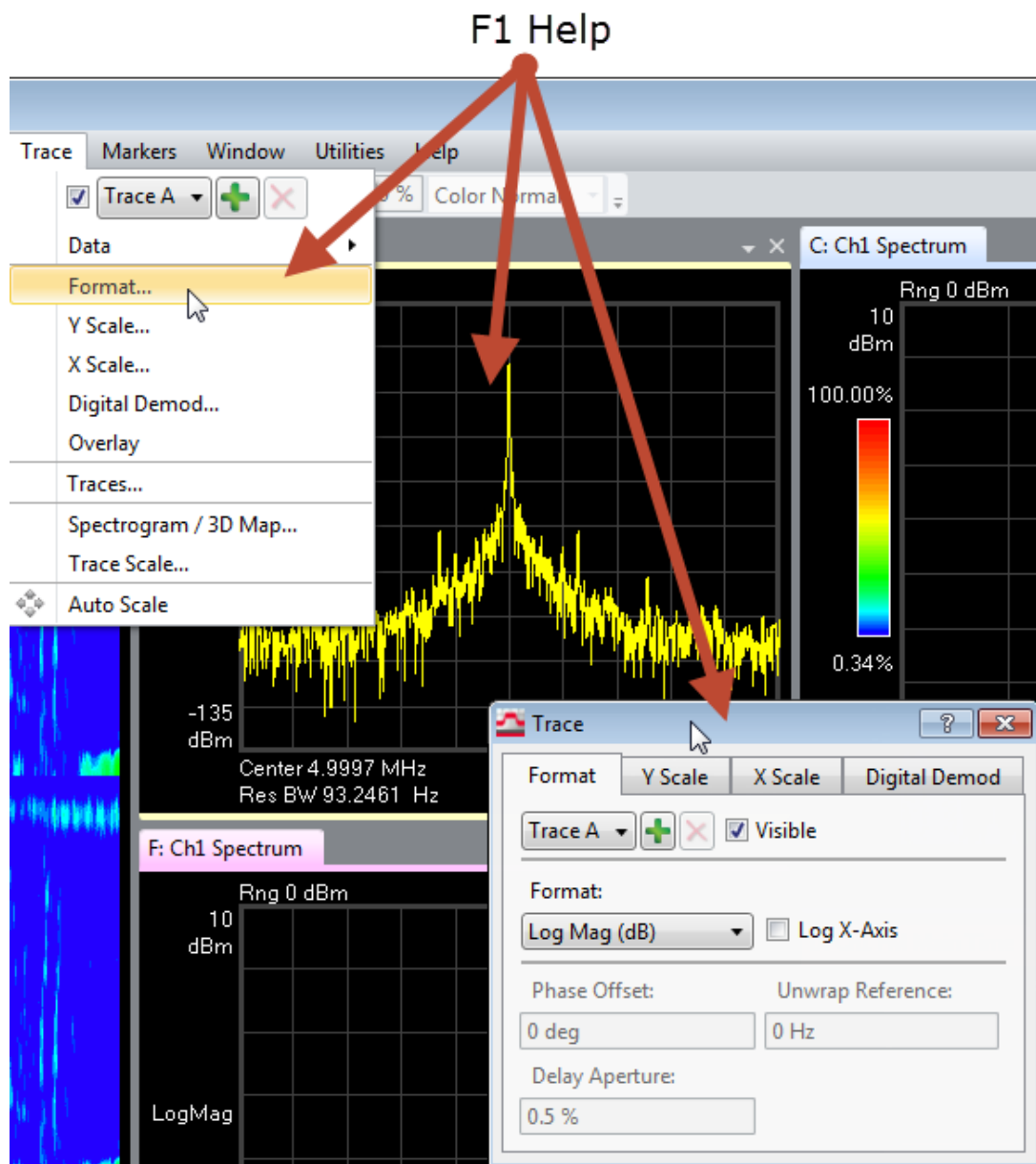


F1 on the keyboard

You can access context-sensitive help by pressing the **F1** key.

When you are viewing a dialog box, pressing **F1** shows the same information as clicking the **?** button. The **F1** help also works on menus and traces.

Pressing **F1** while a menu item is highlighted opens context-sensitive help for that menu item.



Recalling a Demo Signal Package

Recalling a demo signal package is a good way to learn about the measurement capabilities and features of the 89600 VSA. The 89600 VSA provides various demo signal packages that include recorded signals, signal setup files, or Signal Studio setup files, and a demo help topic.

To view the available demo signals, open the *Demo and Recorded Signals* help topic (click **Help > Demos**).

To recall a demo:

1. Click **File > Recall > Recall Demo**.
2. In the *Recall Demo* dialog, browse to **C:\Program Files\Keysight\89600 Software <ReleaseVersion>\89600 VSA Software\Help\Signals**.
3. Select a Demo file of interest. For example, browse to AM FM PM, then select *XMITTER.htm*.
4. Click **Open**. The VSA recalls the instrument setup (measurement state), loads the recorded signal, and opens the corresponding help file in a separate window.
5. Read the Demo help file to learn about the recorded signal and the VSA setup information.
6. To start the measurement, click the Restart button () in the tool bar or click **Control > Restart**.

VSA Security, Advisories and Vulnerabilities

This section contains important information relating to keeping test environments secure while using the 89600 VSA Software.

Product Information, Advisories and Reporting Vulnerabilities

Keysight Corporate Information

<https://www.keysight.com/us/en/contact.html>

Keysight 89600 VSA Product Information

Use the following product information to identify product updates and security advisories, or when reporting a vulnerability:

- *Product name:* Keysight Vector Signal Analysis Software
- *Model:* 89601C
- *Version:* 2025 Update 2.0
- *URL on Keysight.com:*
<https://www.keysight.com/us/en/products/software/pathwave-test-software/89600-vsa-software.html>

Keysight Responsible Disclosure Program

<https://www.keysight.com/us/en/contact/responsible-disclosure-program.html>

Keysight Security Advisories

<https://www.keysight.com/us/en/about/quality-and-security/security/product-and-solution-cyber-security.html>

Reporting Security Vulnerabilities

<https://www.keysight.com/us/en/about/quality-and-security/security/product-and-solution-cyber-security/report-a-product-cybersecurity-issue.html>

Securing the VSA Software

Agilent.SA.Vsa.Vector-x64.exe may host many services listening on various ports and bound to various interfaces. The user should take necessary means to implement firewall rules to secure these services.

SCPI Services

The user may enable a SCPI service using HiSLIP, Telnet, or Socket protocols; HiSLIP connections go through *HppSupportService.exe* but Telnet and Socket

services are hosted by *Agilent.SA.Vsa.Vector-x64.exe*.

The Telnet and Socket services listen on configurable ports defaulting to 5024 and 5025 respectively, bound to all IPv4 and IPv6 interfaces. Access configuration through VSA's SCPI Preferences: **Utilities** → **SCPI Preferences**.

.NET API Services

VSA's API is accessible to both .NET Framework clients through VSA's .NET Remoting service as well as modern .NET clients through VSA's .NET Client access service.

The .NET Remoting service listens on the first available port from the range 60189, 60190, ... or a configured port number. The service is bound to all IPv4 interfaces. Configure using command line argument: *-port:<port>*; the service supports core functionality and cannot be disabled. See the VSA Help for more information.

The .NET Client access service listens on the first available port from the range 59189, 59190, ... or a configured port number. The service is bound to all IPv4 and IPv6 interfaces or a configured host address. Configure using command line argument: *-serveraddress:<host[:port]>*; enable and disable through VSA's Startup Preferences: **Utilities** → **Startup Preferences**. See the VSA Help for more information.

Hardware Connectivity Services

Some hardware connectivity features enable connectivity services upon utilizing the feature.

A Vita49 stream listener service listens on any port and interface specified. The service is hosted by *Agilent.SA.Vsa.Vector-x64.exe*. Add a stream listener through VSA's Instrument Manager: **Utilities** → **Hardware** → **Instrument Manager** → **Add new instrument** → **Custom LAN** → **Custom Model: Vita49**.

Other VSA Services

VSA listens on port 8070 bound to the IPv4 loopback interface for core functionality.

Other Keysight Components' Services

Agilent.SA.Vsa.Vector-x64.exe installs with, or is likely to be installed with other Keysight components which may host their own services. Users are likely to use port 4880, a HiSLIP service hosted by **HppSupportService.exe** and bound to all IPv4 and IPv6 interfaces. Other components include:

- *agileesofd.exe*
- *AgilentLicenseService.exe*
- *HppSupportService.exe*
- *KeysightCommunicationsFabric.exe*
- *LxiMdnsResponder.exe*

Securing VSA – Other Considerations

VSA is not intended to run as administrator or with elevated privileges; run VSA under an ordinary user account.

