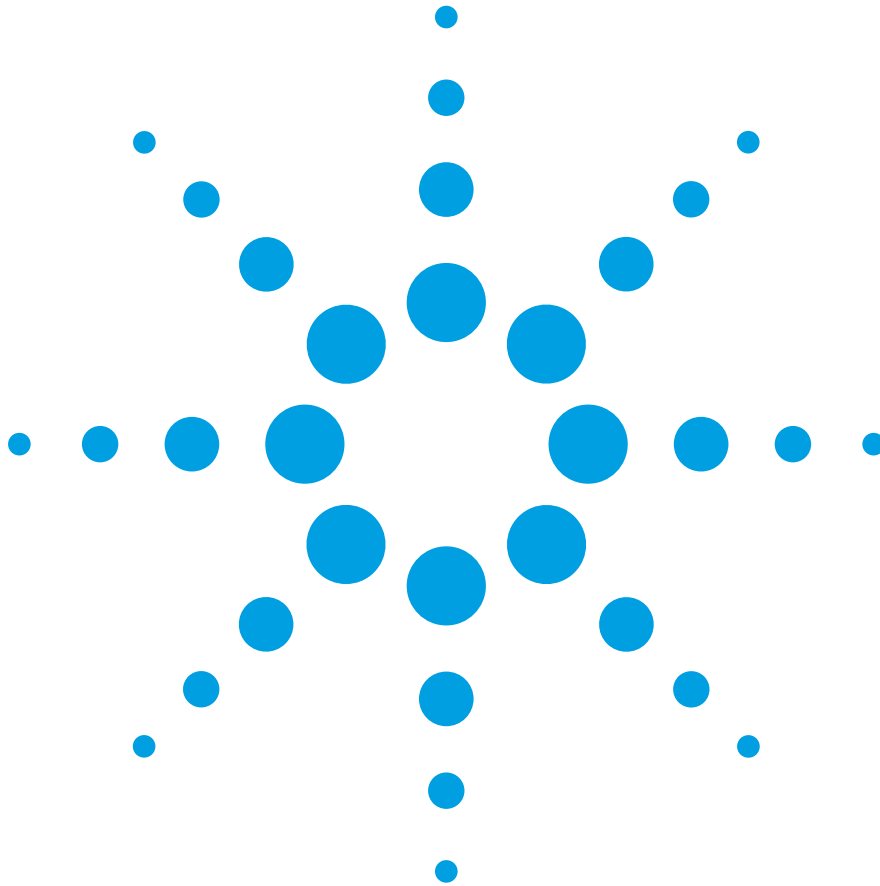


Web Enabled Software for 8614xB-series Optical Spectrum Analyzers

Installation Guide



Agilent Technologies

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Agilent Technologies Company
Lightwave Division
3910 Brickway Boulevard
Santa Rosa, CA 95403, USA

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Web Enabled Software—at a glance

This installation guide shows how to set up Agilent 8614xB-series optical spectrum analyzers (OSA) so that you can remotely control an OSA and view its screen via a web browser. The Web Enabled Software is unsupported software developed for use with PC servers using either Internet Explorer¹ or Netscape Navigator.

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Introduction The following block diagram illustrates the relationships between the OSA, server PC, and client PCs. Remote clients establish a connection to a dedicated server through a web browser. Afterwards, the server talks to the OSA over GPIB and retrieves the necessary data to send back to its remote clients. Only GPIB I/O devices manufactured by Agilent or National Instruments are recommended for use with the Web Enabled Software.

All the necessary web enabled software is installed on the server. No installation is needed on the client because this is done transparently through your web browser. Non-PC clients may work with this application.

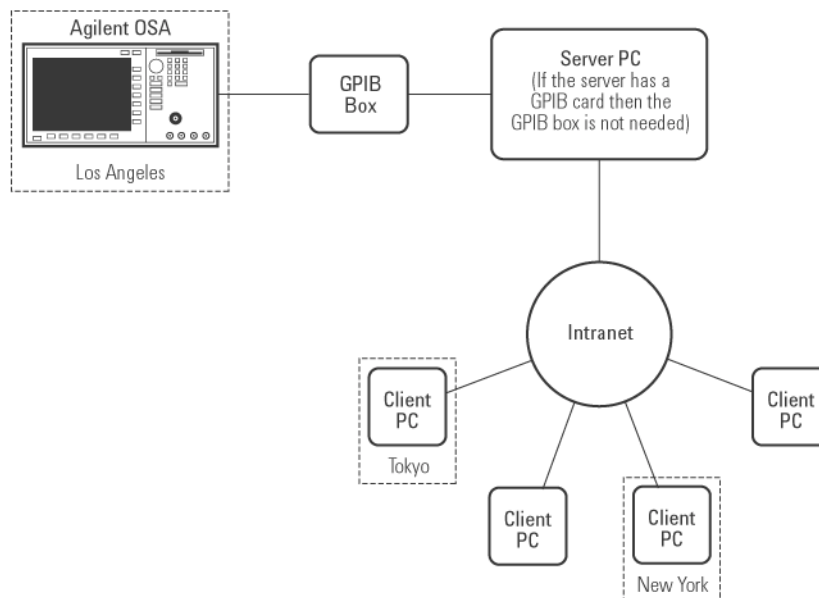


Figure 1. Web Enabled Software environment

1. Internet Explorer is a product of Microsoft Corporation.

Web Enabled Software—at a glance

A browser running on your server can use the server in the same way as any remote client. This may be useful to troubleshoot your system, or to simply operate your web enabled spectrum analyzer while you collaborate with another client who is connecting remotely. For optimum performance, do not leave the local browser running as a client of your web enabled spectrum analyzer unless you are using it.

Required hardware and software

You can use either a desktop server PC or a laptop server PC. For hardware and software requirements for each configuration as well as client PCs, [refer to “Required Equipment” on page 5](#).

Required Equipment

Desktop Server Configuration

- Server** Windows NT ® 4.0 with service pack 5 (or later) or Windows ® 2000.
 180 MHz Pentium ® II CPU or better
 128 MB (or more) of RAM
 20 MB (or more) of free disk space
- GPIB Interface** Agilent 82350A PCI GPIB Interface Card, *or*
 National Instruments PCI-GPIB Interface card
- Web server software** Apache¹ for Windows NT /2000, *or*
 Internet Information Services (IIS) on Windows 2000, *or*
 Microsoft's Personal Web Server (PWS) for Windows NT
- Local Area Network (LAN) connection** The LAN connection must have TCP/IP installed and configured such that it can ping all required clients. If you are unsure if this requirement is met, check with your system administrator.
- wjview.exe** This application is supplied with Internet Explorer 5.0 (and later versions). It provides an environment for running Java™ programs on a PC.
- Optional LAN/GPIB Gateway** Agilent E2050A LAN/GPIB Gateway, *or*
 National Instruments GPIB-ENET/100 LAN/GPIB gateway

Laptop Server Configuration

- Server** Windows 2000, *not Windows NT*
 180 MHz Pentium II CPU or better
 128 MB (or more) of RAM
 20 MB (or more) of free disk space.
- GPIB Interface** National Instruments PCMCIA-GPIB for Windows 2000 Interface card
- Web server software** Apache for Windows NT/2000, *or*
 Internet Information Services (IIS) on Windows 2000
- Local Area Network (LAN) connection** The LAN connection must have TCP/IP installed and configured such that it can ping all required clients. If you are unsure if this requirement is met, check with your system administrator.
- wjview.exe** This application is supplied with Internet Explorer 5.0 (and later versions). It provides an environment for running Java programs on a PC.

1. Apache is a product of the Apache Software Foundation.

Required Equipment

- Optional LAN/GPIB Gateway** Agilent E2050A LAN/GPIB Gateway, *or*
 National Instruments GPIB-ENET/100 LAN/GPIB gateway

Client PCs

- Windows 95/98/Me/2000/NT 4.0 or better.
- Pentium II CPU (or equivalent) or better.
- Working connection to a Local Area Network (LAN), with TCP/IP installed and configured such that it can ping all required servers. Check with your system administrator if you are unsure if this requirement is met. Note that neither ping nor a browser can connect to a server that is inside an organization's firewall if that client PC is not also inside the same firewall.
- At least a 15 monitor capable of greater than 256 colors with a display resolution of at least 1024 x 768 pixels.
- Internet Explorer 4.0 with Service Pack 2 (or better) or Netscape Navigator 4.76 (or better) installed and working. Netscape 6.0 and greater is also supported.

Selecting the Web Server Software

You must install a web server before you install your server software from Agilent Technologies.

Apache for Windows NT/ 2000 This free web server is preferred because it has no (known) limits on the number of simultaneous client connections that it will allow. You can download it from the Apache web site at: <http://httpd.apache.org/>. Apache is also provided on the installation CD in the Files/Apache folder and can be installed with the following steps:

- 1 Right click on the CD drive containing the installation CD.
- 2 Select open from the context menu.
- 3 Once it is installed, click Start Apache then Install service in the Apache Web Server program group (Start menu, Programs, Apache Web Server). Apache will start up automatically each time you reboot your computer.

Microsoft's Personal Web Server (PWS) for Windows NT This web server software limits the number of clients to about 4 or 5 (it's not necessarily always the same). The PWS is part of the Windows NT 4.0 Option Pack for Windows NT 4.0. The installation of the Option Pack includes an installation of the PWS.

Use the Personal Web Manager to control this web server. Personal Web Manager is located under the Windows NT 4.0 Option Pack/Personal Web Server program group on Windows NT.

Internet Information Services (IIS) on Windows 2000 This web server software limits the number of clients to about 4 or 5 (it's not necessarily always the same). Use the Personal Web Manager to control this web server. Personal Web Manager is located in Windows 2000 under Start, Control Panel, Administrative Tools.

Perform the following steps to confirm that IIS is installed:

- 1 Click Add/Remove Programs in the Control Panel.
- 2 Select the Windows Setup tab.
- 3 Scroll down to Internet Information Services, and verify that the check box next to this item has a check mark in it. If it is blank, click it then click Next to begin the installation process.

Test Your Web Server Start a web browser and open the following URL:

`http://<your fully qualified server computer's network name or IP address>.`

For example, if your computer is named `myserver.mycompany.com`, go to `http://myserver.mycompany.com`. You should see some default web page from your web server. If you get error 404 or any other indication that the page is not found, make sure that the web server is running and started as a service by looking at Services under Control Panel (Windows NT) or under Control Panel, Administrative Tools. If it is not Started, right-click the item (Apache or IIS Admin Service), click Properties, and set Startup type to Automatic. Reboot and retest to make sure your web server is running. Since it is now configured as a service that automatically starts up, it should always be running even after a reboot.

Selecting the Web Server Software

Unsupported Web Servers Although everything should still work properly with an unsupported web server, the setup program will not let you install unless you have Apache, IIS, or PWS installed. Install one of these supported web servers first in order to proceed with the Web Enabled software installation. Then after installation is complete, copy the web files (specified during installation) into a subdirectory of the your unsupported web server's root path.

Installing Web Enabled Software and Hardware

This procedure shows you how to install the required hardware along with the Web Enabled Software. You can use a direct GPIB connection to the server, or if the OSA is more than 4 meters from the server, use a LAN connection through a supported LAN/GPIB gateway.

- 1** Locate the OSA within 4 meters of your server or LAN/GPIB gateway.
- 2** Connect the line power cord to the OSA, and press the power on button.
- 3** On the OSA, press System and then Remote Setup. Note the GPIB address on the instrument's screen. (The default value is 23.)
- 4** If you're using a direct GPIB connection between the OSA and the server:
 - a** Install the GPIB Interface card into the server.
 - b** Connect a GPIB cable between the OSA and the server.
- 5** If you're using a GPIB connection between the OSA and a LAN/GPIB gateway:
 - a** Install the LAN/GPIB gateway. If you're using an Agilent E2050A gateway, use the **allow** command to allow only your server PC to make a connection to the OSA. This avoids conflicts from any other PCs.
 - b** Connect a GPIB cable between the OSA and the LAN/GPIB gateway.
 - c** Connect an active LAN connection to the LAN/GPIB gateway.
- 6** Install the I/O software into the server. During this process, you will assign virtual I/O handles to your GPIB card or gateway. For example, GPIB0. GPIB0 is normally the first GPIB interface configured, additional ones would be GPIB1, GPIB2, and so on. Remember which GPIB is which; you'll need this information to configure the server later on.
- 7** If you installed an Agilent 82350A PCI GPIB Interface card or an Agilent E2050A LAN/GPIB gateway, use the following steps to verify proper installation:
 - a** Confirm that the blue IO icon is displayed in the lower-right corner of the screen near the clock display. This icon signifies that you have installed the Agilent I/O Libraries.
 - b** Click the blue IO icon and then click About Agilent IO Libraries Control. Verify that the version is J.00.00 or newer.
 - c** Click OK to close the version dialog.
 - d** Click the blue IO icon, and then click Run Visa Assistant to test your connection to the OSA.
 - e** The display shows all instruments connected to GPIB0, GPIB1, and so on. The ::23 (or some other numbers preceded by ::) symbol refers to an instrument's GPIB address. For OSAs, this is typically ::23.
 - f** Click on the address you want to test.
 - g** Click the Formatted I/O tab, and then click the IEEE 488.2 radio button.
 - h** Enter any queries into the Enter String to Print or Query box.

Installing Web Enabled Software and Hardware

- i** Click viQueryf.
- j** Click on the *IDN? button to query the OSA's ID string. It should return a string that identifies the OSA confirming it is properly connected to a GPIB handle.
- 8** Install the web server on the server PC. Refer to "Selecting the Web Server Software" on page 7.
- 9** Locate the Agilent applet, setup.exe. It can be found on the OSA product CD, or from the self-extracting installation package that is located on the Agilent download site.
- 10** Follow the displayed installation instructions.

NOTE

During installation, the application requires the path to the server's web root directory. This is the directory where web files (for example, html files and images) are shared. If you use the PWS or IIS web server, this directory will be C:\inetpub\wwwroot. If you use the Apache web server, this directory will be C:\Program Files\Apache Group\Apache\htdocs. You should not change this directory unless you need to configure an additional virtual or served directory in your web server.

Java Virtual Machine (JVM)

In some cases, the setup may detect an insufficient Microsoft Java Virtual Machine, which is required. If you are using Windows NT or have upgraded to Windows 2000 from Windows NT (Windows 2000 comes with the JVM), you must ensure that the JVM is properly installed. To do this, search your hard drive for the file wjview.exe (it is usually in the c:\winnt\system32 folder). If this file is not present on your hard drive, then you must install the JVM. If you do find the file wjview.exe, you must make sure it meets the version number requirement. To do this, right click on the file, and select Properties from the context menu. Click on the Version tab and look at the number to the right of File Version:. This number should be 5.0.3229.0 or higher. If the version number is not high enough, you should upgrade the JVM to a more recent version.

The JVM can be downloaded from Microsoft's web site (<http://www.microsoft.com>) or can be installed from the installation CD in the Files/MS JVM folder. To open the CD right click on the CD drive containing the installation CD and select open from the context menu.

- 11** From the Start menu, select Programs, Agilent, Web Enabled OSA.
- 12** Click start server to launch a server console.
- 13** A dialog box pops up with a GPIB address. Enter the GPIB address of the OSA. If you do not know the instruments GPIB address, press System and then Remote Setup on the OSA. Note the GPIB address on the instrument's screen. (The default value is 23.)
- 14** To learn how to run the software, refer to "Running the Web Enabled Software" on page 11.

Running the Web Enabled Software

- 1 Start the web browser on the server.
- 2 From your web browser, open the Web Enabled Software page by entering the following address:

`http://<server PC name>[/<instrument webpage directory>]/default.htm`

where:

- <server PC name> is the name or IP address of your server PC as configured by your network administrator.
- /<instrument web page directory> is the name of the subdirectory you chose during the instrument server installation. The default subdirectory is WebOSA.

For example, if your server PC's network name is mycomputer.mycompany.com and you use the default subdirectory for the instrument's web page, enter: `http://mycomputer.mycompany.com/WebOSA/default.htm`.

NOTE

If you are using an Apache web server, or configured your PWS/IIS web server to use default.htm as the default web page, you may leave off the /default.htm from the end of the address or location.



Figure 2. The opened WebOSA page

- 3 Click on the Remote Control button to start your connection.

Running the Web Enabled Software

In order for a browser to run a java application, it needs Sun's java plug-in. If you do not have this plug-in, the browser will route you to a location where you can download it. If you are using Internet Explorer, it will automatically run the setup. Otherwise, you need to download and install the plug-in manually.

- 4 Make the appropriate selection when the security warning is displayed.

Click Grant always (recommended) or Grant this session if you trust that the applet supplied by Agilent Technologies is safe (you must accept this certificate to run the applet). If you click Grant this session, this dialog will appear each time you access this page. If you click Grant always, you will not see this dialog again.

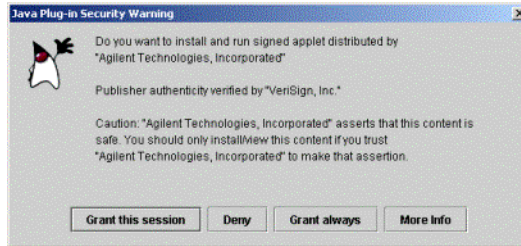


Figure 3. Accepting installation of the Agilent applet

- 5 The following web page should be displayed.

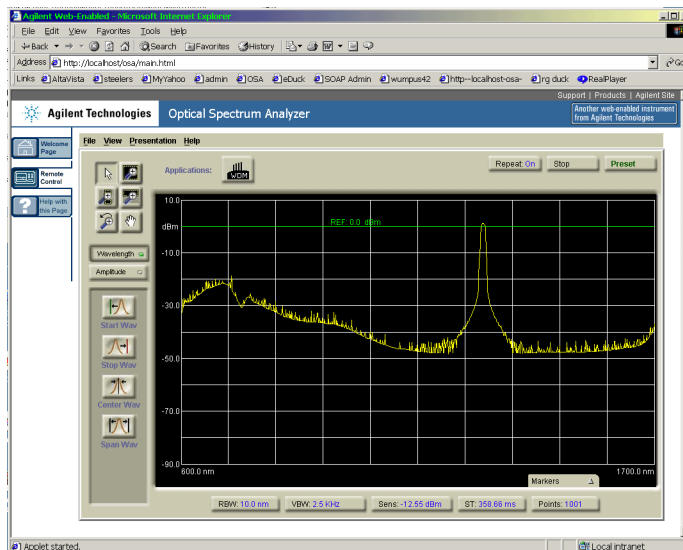


Figure 4. The OSA display viewed on the web page

Troubleshooting

Can't open OSA Web Enabled page

- ❑ Check that the web server has started. Manually start the web server through the appropriate program group in the start menu. Consult your web server documentation for more details. It is a good idea to configure your web server to start up automatically when your computer starts.
- ❑ Check for an incorrect URL. It is possible that the URL was incorrectly reported by the set-up package. You may have to qualify your machine name with the specific domain. You can also try to replace the host name with the IP address. You can find out your IP address by opening a MS-DOS ® command prompt, and entering the command `ipconfig`.
- ❑ Check that the Web Enabled Software files are located in a subdirectory of your web server's root directory. Every web server has a root directory, and every subdirectory can be accessed through a browser. If the Web Enabled Software files were inadvertently moved outside of the root directory path, they will no longer be accessible.

Server cannot connect to the instrument

- ❑ Check the GPIB address. When you start the Web Enabled server, it should prompt you for the GPIB address of the instrument. Confirm that you correctly entered the GPIB address of the OSA.
- ❑ Check that all GPIB cables are connected properly.
- ❑ Check that the GPIB software is working correctly. Both National Instruments and Agilent Technologies provide a software for testing communication with an instrument.

Difficulty installing Java plug-in with Netscape Navigator 6.X

The Java plug-in requires 7.6Mb.

It will take you approximately 37 minutes to download on a 28.8 modem. If you are encountering problems downloading, try these other download sites to download the Java plug-in:

- http://java.sun.com/j2se/1.3.0_01/jre/index.html
- For Windows: <ftp://ftp.netscape.com/pub/netscape6/english/6.0/windows/win32/smart-update/jre13i.exe>
- For Linux: <ftp://ftp.netscape.com/pub/netscape6/english/6.0/unix/linux22/xpi/jre.xpi>

For further assistance go to <http://help.netscape.com/>.

Missing Agilent I/O libraries

If you do not have the Agilent I/O libraries 82350A PCI GPIB Interface card or E2050A LAN/GPIB gateway, download and install them from the following site:

http://www.agilent.com/find/iolib_support

Removing the Web Enabled Software

Before removing the Web Enabled Software, make sure that you are not running the server and that there are no clients connected to the applet or web pages. To remove this product from your server PC, run the uninstall program from the Agilent, Web Enabled OSA program group. There is nothing to remove from any clients.