

Agilent PSA Spectrum Analyzer Firmware Upgrade Procedure

Purpose

The purpose of this document is to provide a step-by-step procedure for obtaining and installing the latest revision of firmware into an Agilent PSA Series Spectrum Analyzer. The following process updates firmware for a PSA (E4440A, E4443A, E4445A, E4446A, E4448A).

Procedure

Be sure to follow all the parts of this procedure to complete this upgrade process:

[Check Known Problems List](#)

[Download the firmware update package into your PC](#)

[Install new firmware update package on your PC](#)

[Download the firmware from your PC into the PSA](#)

Requirements to Install Firmware

Microsoft Windows based Personal Computer with Local Area Network (LAN) card.

CD-ROM drive

Windows NT 4.0, Windows 98, Windows 2000, or Windows XP

Crossover cable if PC or analyzer is not connected to network.

Use a CAT, RJ45 cable with cross pinning, Agilent p/n 8121-0545

Download the firmware update package into your PC

1. Click on the PSA firmware package file to start the download.
A "Save As" dialogue text box will appear
 2. Select "**Save this program to disk**".
Select a temporary folder to save the firmware package in your computer.
The package needs to be in your local computer in order to extract the files.
 3. Start the upgrade process by printing out these instructions.
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Install new firmware update package on your PC

4. **Close all open or running applications by clicking Alt + Tab, selecting the running program and close.**
5. Go to the location where you saved the PSA firmware package. Double click on the executable file to extract the files.
The files will be extracted and installed in your PC.
6. If the "Update or Remove" screen appears, click "**Remove**". **Do not** use the "Update" feature.
If you removed an existing program, go back to step 5 to continue.
7. Follow the on screen instructions.
We recommend using the default directories and file names in this program.
8. Once the install wizard completes the download, press [Finish]
9. Load JVM (Java Virtual Machine) on your computer if needed.
You may be given an opportunity to load Java Virtual Machine (JVM) depending on your PC's operating system. JVM needs to be loaded in order to run the firmware update

program. The program cannot detect if JVM has been previously installed. If you have installed it before, you do not need to install it again.

Download the firmware from your PC into the PSA

10. Click on the “**PSA Series Update Program**” icon on your desktop
Or click Start, Programs, Agilent Firmware Updates, and then select PSA Series Update Program
 11. **Use the Help Screens and read the instructions carefully.**
The help screens are very important since some instruments will have LAN addresses and be connected to a LAN, other instruments will not, or the PC and the instrument may not share the same subnet. The help text will guide you through changing IP addresses if needed. The crossover cable procedure requires changing the IP address on both the PC and the PSA.
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Important Program Notes

- **Instrument Configuration**
The program will save the instrument configuration files after a directory is created. Please use the default directory. The program may not save the files correctly if a directory other than the default is used. This is a known problem. Creating the directory takes 15-20 seconds.
 - **Operating System May Need to be Loaded.**
The PSA may require the Operating System to be loaded to match the firmware. When the program asks you to choose components to be loaded, DO NOT uncheck the “operating system version, core firmware version” if the box is checked.
 - **External Keyboard vs. Keypad**
The PSA does not require the use of an external keyboard for the normal process. You will use the instrument **front panel keypad**. Disconnect the external keyboard if one is attached to the analyzer.
 - **Stopping Instrument Boot Process**
The instrument boot process needs to be stopped in order to download the new firmware. When the update program instructs you to stop the boot process, press the power switch off, then on. A message will appear on the analyzer as the boot process starts. This message reads: “To Discontinue, Press Any Key Within 2 Seconds”. When you see this message, repeatedly press any numeric key (0-9) on the analyzer’s keypad until the “Main Menu: Enter Command” prompt appears. Then follow the Firmware Update Program’s instructions for the keypad.
 - **How Long?**
The download process takes about 25 minutes once the LAN cable is connected and the instrument is communicating with the PC.
- WARNING!! Do not cycle instrument power or exit the update program once the firmware download has begun.**
- If for some reason the program is interrupted, you must perform the process for a nonfunctional instrument. Start the Firmware Update Software. Follow the procedure. The software will not be able to find the instrument. A check box for the Nonfunctional Instrument Process will appear. Check this box and follow the instructions. See Help for more information.
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Known Problems List

- **More options are available than will fit in memory.**

There are more measurement personality options available than will fit in the instrument memory. To load a new personality, you may need to delete an existing personality from memory and then load the one you want. The PSA Series Update Program will lead you through this process. See **“PSA Version List.pdf”** for more information.
 - **Update program may stop after attempting to create backup configuration files.**

Please use the default directory for saving the configuration files. The program may not save the files correctly if a directory other than the default is used.
 - **Update program may loose connection to analyzer after operating system upgrade when upgrading from firmware <A.03.0.0 to firmware revision ≥A.03.0.0.**

Older firmware did not include a gateway address. The gateway and subnet masks may need to be set after loading the new operating system (O.S.). If the update program loads the O.S. successfully but then loses communication when attempting to load the measurement personalities, check the analyzer’s gateway and subnet mask settings. Press System, Config I/O. The default value for the Subnet Mask is 255.255.0.0 and the default value for the Gateway is 0.0.0.0. Run the update program again to load the measurement personalities.
 - **The update program may not be able to connect to the instrument if a personal firewall is installed in the PC.**

The PC may not give the program permission to connect to the instrument via the update program if a personal firewall is installed in the PC. The firewall will need to be disabled in order to use the PC to update the analyzer.
 - **“Undefined Header” or “File Not Found” errors**

“Undefined Header” or “File Not Found” errors may occur when upgrading from older firmware revisions. In most cases, the PSA Upgrade Program can supply the missing information and files. If these errors should occur, just proceed with the upgrade.
 - **If the new software does not load successfully, please see the “PSA Update Troubleshooting Wizard” for help.**
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