

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 or greater, Windows 98, Windows 2000, 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. Download the executable file to start the firmware upgrade procedure.
A "Save As" dialogue text box will appear. This will allow you to store the Firmware Upgrade Executable in a directory of your choice.
 2. Print out these instructions.
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Install new firmware update package on your PC

3. **Close all open or running applications by clicking Alt + Tab, selecting the running program and close.**
4. Go to the location where you saved the update software. Double click on the executable file to extract the files.
This will extract the files and install the update software on your PC.
5. If the "Update or Remove" screen appears, click "Remove".
6. Follow the on screen instructions.
We recommend using the default directories and file names in this program.
Once the install wizard completes the download, press [Finish]
7. **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

8. Click on Start, Programs, Agilent Firmware Updates, and then select PSA Series Update Program.

You must 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.

Important Program Notes

- **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.
 - **Instrument Configuration**
The program will save the instrument configuration files after a directory is created. Creating the directory takes 15-20 seconds.
 - **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**.
 - **Stopping Instrument Boot Process**
The instrument boot process needs to be stopped in order to download the new firmware. 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, repeatably 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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Troubleshooting Measurement Personality Installation

Option 266, 8566/68B Code Compatibility, is not compatible with all measurement personalities:

If you install the PSA Update program with option 266, all measurement personality options not compatible with option 266 will be removed during the update process. Conversely, installing the PSA Update program without option 266 will uninstall the Option 266 Compatibility option.

Access the Personality Information screen in the PSA by pressing:

System
More
More
Personality

If a “No” appears in the Licensed column for the personality that you are trying to install:

- a. Enter your license key number for the option:

Press the following keys:

Return
More
Licensing
Option

The alpha editor will now appear.

Use the alpha editor to enter the letters (upper-case) and the front-panel numeric keys to enter the option number of the personality you are installing.

Your entry will appear in the active function area of the display. If you make a typing error, use the backspace key to correct the mistake.

Press **Enter** when finished.

Press **License Key** and enter the license key number.

Use the alpha editor and the front-panel numeric keys to enter the hexadecimal license key number listed on the license key certificate.

Check the license key number you have entered.

Press **Enter**.

Press **Activate License**

- b. If you do not have a license key for the option, contact your Agilent Representative or your nearest Agilent Sales and Service Office.

If the measurement personality is not listed:

- a. The firmware for the personality was not installed with the firmware update. Install the measurement personality by starting with the “Download the firmware from your PC into the PSA” step . If the operating system and firmware update installed correctly, you will not need to install them again.
- b. Not all the measurement personalities that are available for the PSA will fit in the instrument’s memory. The program will automatically check the option box for all personalities currently installed in the instrument. You may need to uncheck an existing option box to install your new option. See “**PSA_Version_List.pdf**” for measurement personality file sizes.

If the measurement personality is still not installing:

Try re-installing the firmware on your analyzer and selecting all options that you would like loaded in your instrument.

Contact your nearest Agilent Technologies Sales and Service Office for assistance.

www.agilent.com/find/assist

1-800-452-4844 (8am-8pm EST)

Please provide the following information:

Model Number: E4440A, E4443A, E4445A, E4446A, or E4448A

Serial Number:

State that you are having trouble installing a measurement personality.

Known Problems List

- Serial Numbers <US42070000: 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.

- Serial Numbers ≤US40420306: Firmware update from A.01.08 or A.01.09 may cause calibration failure.

To determine if the analyzer will have this problem, press the following keys:

System, More, Show Hdwr

If the Second LO Rev. is an "a", the analyzer needs to have the Second LO Assembly's header information corrected.

The problem is corrected by remotely connecting to the analyzer and executing a few SCPI commands to correct the header information. This process is described in the E4440A-01 Service Note. You may either perform the procedure or return your analyzer to Agilent Technologies for the update. See

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