



Updating Firmware of Agilent 8453 UV-vis systems

Purpose

The objective of this note is to enable users of the Agilent 8453 UV-vis systems to update the modules' firmware. Updating the firmware might be necessary due to

- new released firmware revisions (new features, bug fixing)
- replacing the main board (repair)

This note reflects the following firmware revisions:

Agilent 8453 UV-vis systems:	A.03.xx for ChemStation A.06.0x, A.07.0x and A.08.0x
Agilent 8453 UV-vis systems:	A.02.50 for ChemStation A.05.0x
Agilent 8453 UV-vis systems:	A.01.50 for ChemStation A.02.0x
Control module:	A.01.53
Update Utility:	4.0

NOTE

The screens in this note may show older firmware revisions than listed above.

Select the topic of interest:

- “Firmware Description” on page 2
- “Firmware Updates” on page 3
- “Updates from the Webpage” on page 4
- “Update Firmware using the Control Module” on page 5
- “Update Firmware using the PC Utility” on page 8

General Information

Firmware Description

The firmware of the instrument consists of two independent sections:

- a non-instrument specific section, called **resident** system,
- an instrument specific section, called **main** system.

The control module (G1819A) firmware has just one main firmware.

Resident System

Its properties are:

- the complete communication capabilities (GPIB, CAN, LAN and RS-232C),
- memory management,
- ability to update the firmware of the main system.

Main System

This main section of the firmware is **module specific**. Its properties are:

- the complete communication capabilities (GPIB, CAN, LAN and RS-232C),
- memory management,
- ability to update the firmware of the resident system.
- In addition the main system comprises the instrument functions that are divided into common functions like
 - run synchronization through APG remote
 - error handling,
 - diagnostic functions,
 - or module specific functions.

Firmware Updates

Table 1

File naming convention of firmware

Module	Type of firmware	Name
8453 and 8453E	Main	1103Avvv.DLB
8453 and 8453E	Resident	RES_v_vv.DLB RES_v_vv.DLD (for rev 1.0x)
Control Module	Main	UVyvvvll.BIN

where

- vvv is the revision number, for example 330 is revision 3.30
- y is the product version, for example A or B
- ll is the language, either ml (multilanguage, english/french) or ch (chinese).

NOTE

Update of main system can be done in the resident system only (except the control module).

Update of the resident system can be done in the main system only.

Firmware updates can be done using your user interface:

- “Update Firmware using the Control Module” on page 5 with files from a PC-card or
- “Update Firmware using the PC Utility” on page 8 with Agilent ChemStation and files from floppy/hard disk

Updates from the Webpage

New firmware revisions are provided via the Hewlett Packard web page

<http://www.agilent.com>

Products - Chemical Analysis - Technical Support

or

http://www.chem.agilent.com/scripts/cag_firmware.asp

- A firmware history document (PDF) describes the changes.
- This note (PDF) that describes the download and update process.
- One file that includes all firmware files for all modules and the PC Update Utility and above two PDF documents.
- Individuell firmware files, which include the module specific main/resident firmware plus this document.

All files are zipped (self-extracting EXE files) to assure complete downloads to your PC. After download, run the file from your explorer to extract the files to a local directory, default is C:\EXTRACT\.

8453 firmware files	default\fwupgrad\UV
document files (PDF)	default\fwupgrad\UV
G1819A control module	default\fwupgrad\UV
PC Update Utility	default\FWUPGRAD

Update Firmware using the Control Module

- “Updating the Control Module firmware” on page 5
- “Updating the 8453 system firmware” on page 6

Updating the Control Module firmware

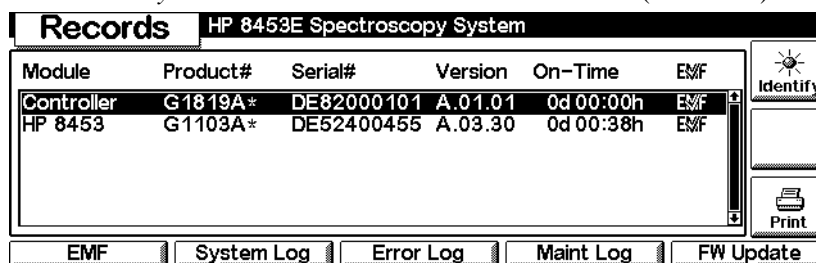
WARNING

Do not update control modules holding firmware version A.01.01 (serial number starting with DE820xxxxx) to any later version, because the control module hardware is not compatible with the current control module firmware releases.

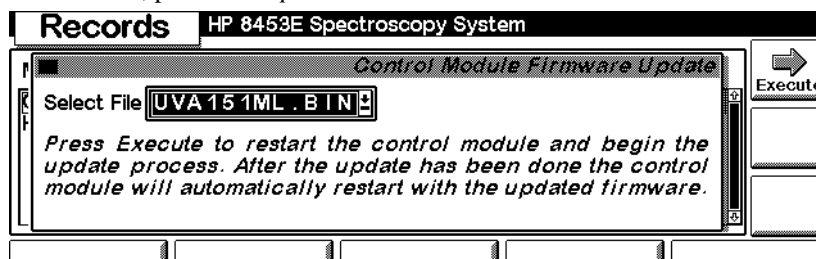
NOTE

The control module firmware can be updated from a PCMCIA card only. The procedure below shows an firmware upgrade example based on the file UVA151ML.BIN. However, it applies to any file UVA???ML.BIN.

- 1 Copy the UVA???ML.BIN file from the directory \UV to your PC card's root directory, for download refer to “Updates from the Webpage” on page 4.
- 2 Insert the PC card into the control module and restart the control module by pressing *m*-key and *Restart* on Analysis screen.
- 3 Press *Views-System-Records* and select the control module (Controller).



- 4 If the revision of the control module listed above is below the revision you have downloaded, press *FW-Update*.



Update Firmware using the Control Module

- 5 Select file UVA???ML.BIN or above and press *Enter, Execute* and confirm the next screen. The control module will be updated now.

NOTE

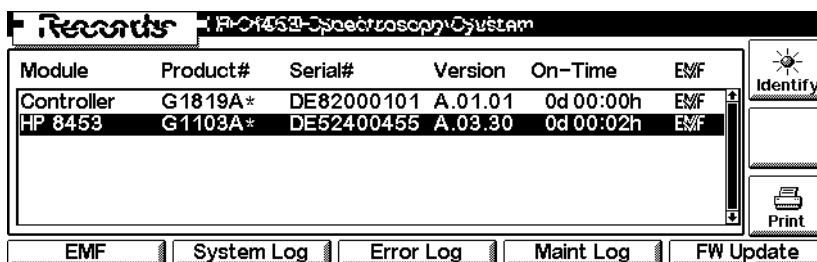
DO NOT interrupt the update process. Otherwise the control module cannot be used anymore. In such a case please contact your Hewlett-Packard support provider for help.

NOTE

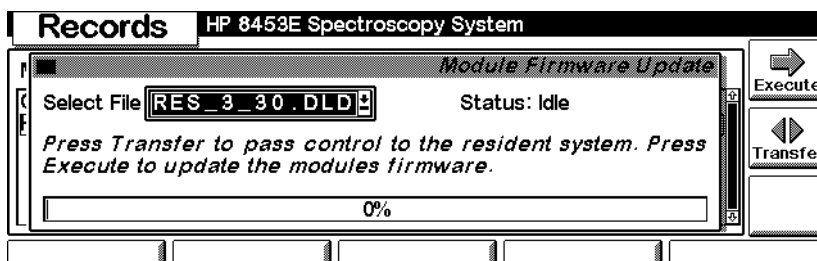
The control module will boot twice during the update process.

Updating the 8453 system firmware

- 1 Copy the DLB files (main and resident) to your PC card's root directory. For download refer to "Updates from the Webpage" on page 4.
- 2 Insert the PC card into the control module and restart the control module by pressing *m-key* and *Restart* on Analysis screen.
- 3 Press *Views-System-Records* and select the module you want to update.



- 4 Press *FW-Update* to open the following screen.



- 5 Select file RESA380.DLD or above and press *Enter, Execute* and confirm the next screen. The module will update the "Resident System" on page 2 now.

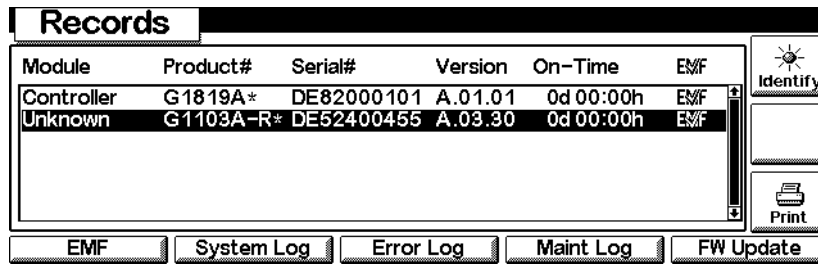
NOTE

The revision of the resident system must be updated with certain main firmware revisions (e.g. 3.3x) only, refer to the *firmware history* document. The revision number can be obtained when the module has been switched into the "Resident System" on page 2 mode, see below.

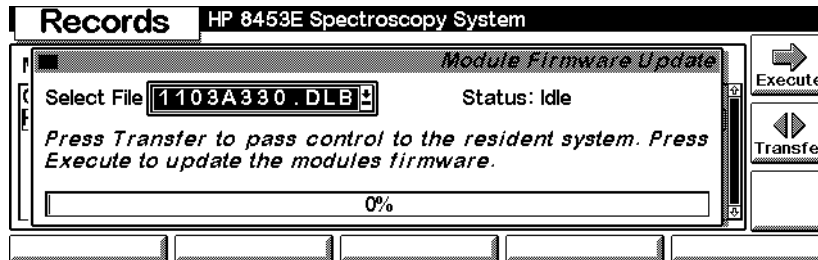
- 6 When completed, press the *Transfer* button. The module will turn now into the "Resident System" on page 2 mode (Status-LED flashes yellow) and the control module restarts.
- 7 Press *Views-System-Records* and select the module you want to update again. The

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 Update Firmware using the Control Module

list shows the module as "Generic"..



8 Press *FW-Update* to open the following screen.



9 Select module specific file 1103avvv.dlb

The firmware files have following naming convention:

<product #><revision>.DLB, for example 1103a330.dlb

10 Press *Enter*, *Execute* and confirm the next screen. The module will update the "Main System" on page 2 now.

11 When the update has completed, press the *Transfer* button. The module will return into the "Main System" on page 2 mode now and the control module restarts.

Update Firmware using the PC Utility

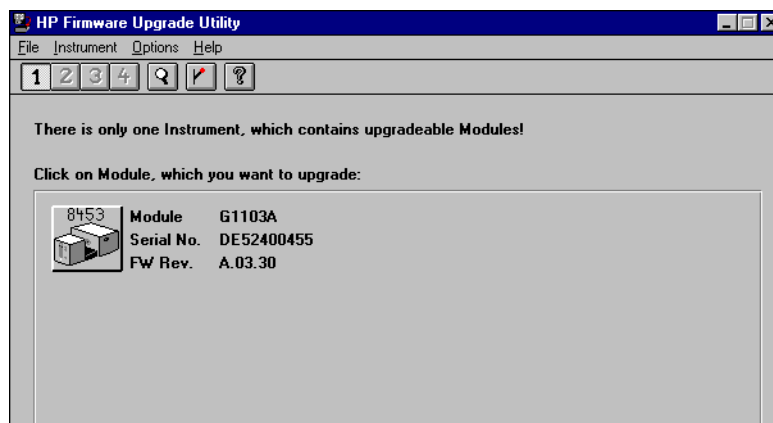
- The PC Update Utility version 4.0 allows the update of Agilent 8453 system firmware via GPIB or LAN.
- The Control Module (G1819A) can be updated with a PC card only, refer to “Update Firmware using the Control Module” on page 5.

Installation of the Firmware Update Utility

- A properly installed UV ChemStation is required
- Download the firmware file to your PC, refer “Updates from the Webpage” on page 4.

Using the Firmware Update Utility

- 1 Start FWUPGRAD.EXE from the directory \FWUPGRAD.
- 2 For all modules identified under a certain instrument number the program displays an icon, the product number of the instrument, the serial number and main system firmware revisions.

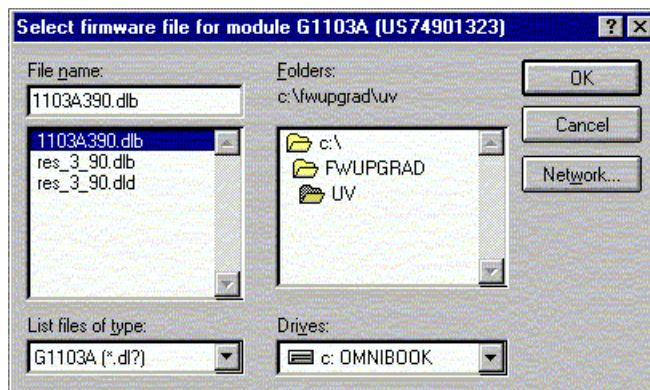


- 3 If you have several instruments configured, you can select with the **1, 2, 3, 4** buttons or the Instrument menu the group of modules that is associated with the appropriate instrument number.
- 4 Click on the module (you want to update) to start the download process for the

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Update Firmware using the PC Utility

associated instrument module.




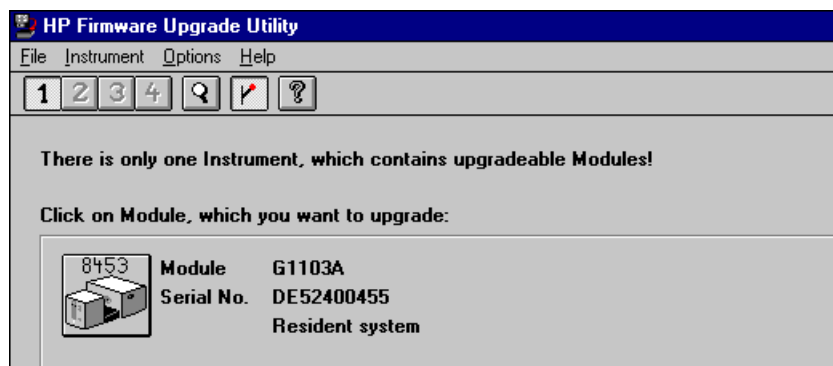
- 5 Select the appropriate firmware file in the directory \UV
The firmware files have following naming convention:
<product #><revision>.DLB, for example 1103a390.dlb
- 6 Press *OK*.
The complete update process (download + wait times) will take approx.
2 minutes.

NOTE

If you are upgrading from firmware revision A.01.0X, the utility will automatically select the resident system first. Then the main system will be upgraded without further messages. In this case steps 7 to 11 of the procedure can be skipped.

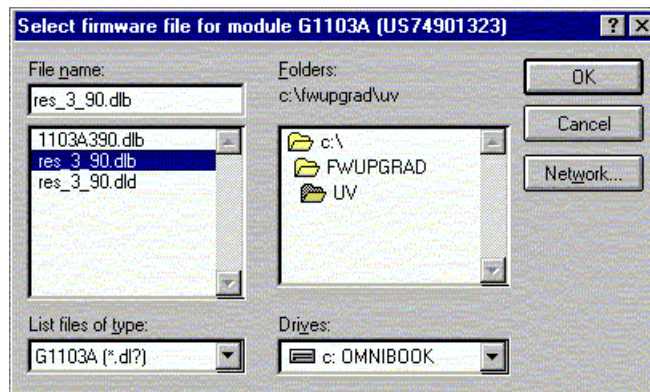
At the end of the download procedure the new firmware revision is displayed.

- 7 Select  to upgrade the “Resident System” on page 2 (required for updates from revisions below 3.3X to revision 3.3X and above).



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Update Firmware using the PC Utility


- 8 Click on the module (you want to update) to start the download process for the associated instrument module.



- 9 Select the resident firmware file res_?_??.dlb in the directory \UV.
- 10 Press *OK*.

NOTE

The resident firmware revision cannot be displayed by the utility.

- 11 Select  to switch back to “Main System” on page 2 mode.
- 12 Quit the utility. The update has been completed.