

Tech Note T4



Software and Firmware Upgrade of an Ivium Instrument

Ivium's own software IviumSoft is frequently upgraded with new features, often at a customer's request. When a new version of IviumSoft is available it is published on our website at: www.ivium.nl/Support. Here the new version can be downloaded as .zip file. The .zip file contains the IviumSoft.exe and whatever auxiliary files necessary. Note that this does NOT contain a full installation package, so using this file for a new installation is not possible.

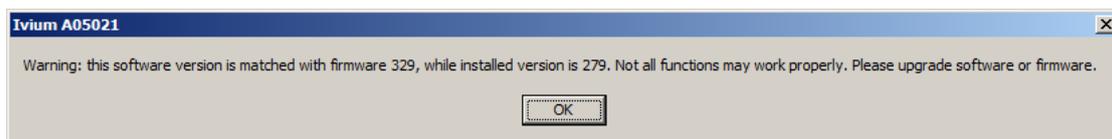
1. Software upgrade

To upgrade the IviumSoft, download the latest version of the software from www.ivium.nl/Support. Open the .zip file and copy all files (IviumSoft.exe, ivhid.dll, Fastscan.dll) to clipboard. Browse to your IviumStat file folder: \IviumStat, and paste (replace the files already there with the new ones).

Now your IviumSoft has been upgraded. After this proceed to upgrade the firmware of your instrument.

2. Firmware upgrade

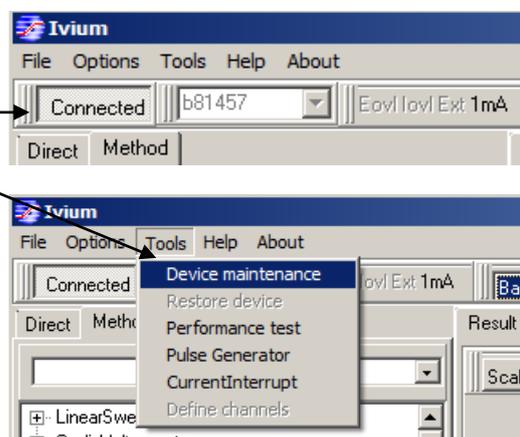
Ivium instruments are equipped with an internal micro PC that operates the electronics, and is used to store data during a HiSpeed experiment. This micro PC runs on firmware (=software) and the version of this firmware is specific to the version of IviumSoft that it communicates with. For correct communication (and operation) these versions need to match. That is why the IviumSoft checks the firmware version of the instrument when it is connected. If the versions do NOT match, a warning pops up:



When this pop-up is observed after connecting your instrument to the IviumSoft, the instrument firmware needs to be updated. The firmware is embedded in the IviumSoft to ensure that the correct firmware is always available.

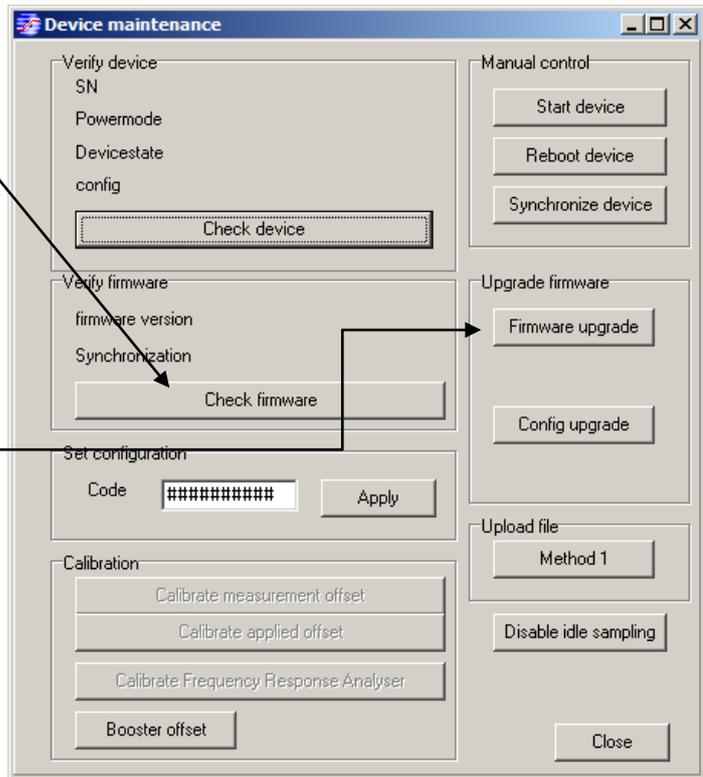
To upgrade the instrument firmware:

1. Connect your instrument in the IviumSoft
2. In the main menu bar go to Tools>Device maintenance. This will open a pop-up window.



3. In the pop-up window you can click on "Check firmware" to verify the number of the firmware version currently installed on your instrument¹.

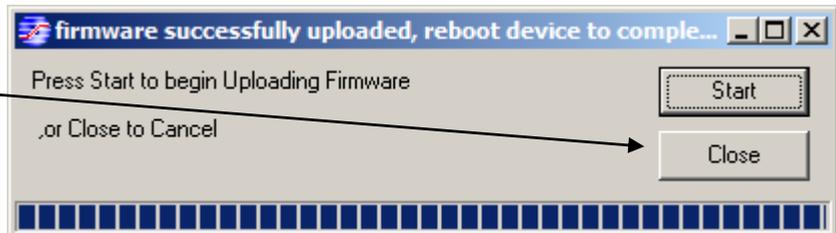
Then click on "Firmware upgrade". This will open a new pop-up window.



4. In this pop-up click "Start". The firmware will now start uploading.

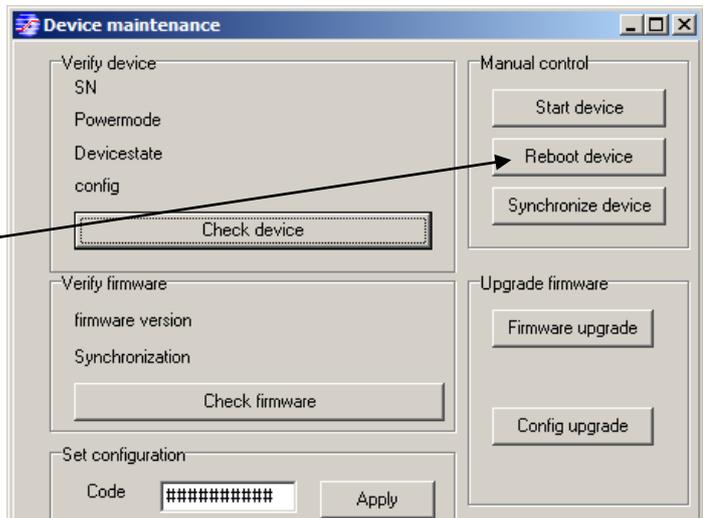


5. When finished click "Close".



6. Now the instrument needs to be rebooted to start the new firmware. Back in the Device maintenance window, click on "Reboot device"

After this close the IviumSoft.



¹The IviumStat also shows the firmware version at the bottom right of the display at the front of the instrument.

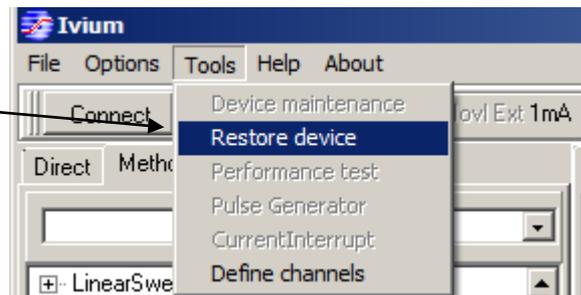
- Now start-up the IviumSoft and connect the instrument to the IviumSoft. The firmware has now been updated. It is possible to verify this in the Device maintenance window by checking firmware (see 3.). This should now display the new updated firmware number.

3. Troubleshooting: Recovering from an unresponsive instrument

If the connection process takes exceptionally long, the instrument fails to respond, or the firmware update fails, it is possible to recover the instrument. Please note that the recovery procedure is slightly different for each instrument.

CompactStat

- Remove the power adapter and the USB cable.
- Start the IviumSoft on your PC.
- Insert the USB cable.
- From the IviumSoft main menu, choose Tools>Restore device



- This will open a pop-up



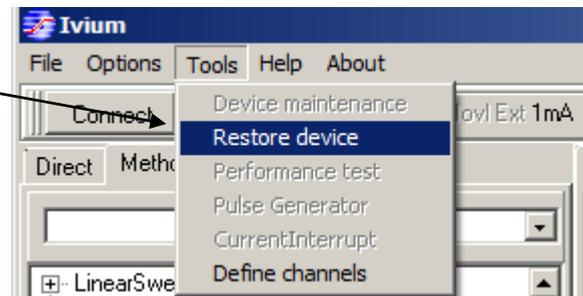
- Restore factory settings: reverts back to the original settings and calibration values.
- Restore factory firmware : sets the firmware back to the original release.
- Restore previous firmware : go back to the version before the last upgrade.

The last option is useful when recovering from a failed upgrade. If also the previous version was corrupt, the factory version can be used.

- Select "Restore previous firmware", click this option once. It will appear if nothing happens, but inside the instrument the internal micro PC is reset.
- Close the "Restore device" pop-up.
- Close the IviumSoft.
- Remove the USB cable and re-insert it.
- Now the CompactStat should be able to connect (again) in the IviumSoft, running on the previous firmware.
If this option fails, repeat the procedure from step 1, but in step 6. select "Restore factory firmware"
- If the restore function was executed because of a failed firmware upgrade, the firmware upgrade may now be re-attempted.

IviumStat

1. Switch off the IviumStat.
2. Start the IviumSoft on your PC.
3. Press the red "Disconnect" button at the front of the IviumStat
4. Now switch on the IviumStat. The red "Disconnect" button should be lit.
5. From the IviumSoft main menu, choose Tools>Restore device



6. This will open a pop-up



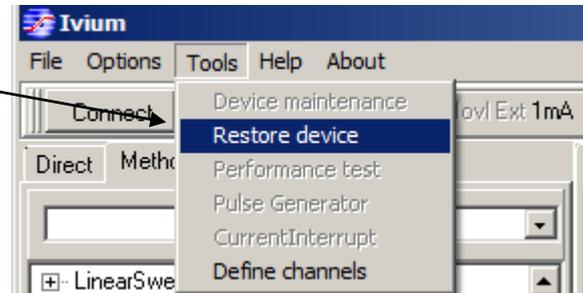
- Restore factory settings: reverts back to the original settings and calibration values.
- Restore factory firmware : sets the firmware back to the original release.
- Restore previous firmware : go back to the version before the last upgrade.

The last option is useful when recovering from a failed upgrade. If also the previous version was corrupt, the factory version can be used.

7. Select "Restore previous firmware", click this option once. It will appear if nothing happens, but inside the instrument the internal micro PC is reset.
8. Close the "Restore device" pop-up.
9. Close the IviumSoft.
10. Switch off the IviumStat.
11. Press the red "Disconnect" button at the front of the IviumStat.
12. Switch on the IviumStat (the "Disconnect" button at the front should not be lit anymore).
13. Now the IviumStat should start up again and be able to connect (again) in the IviumSoft, running on the previous firmware. In the display at the front of the IviumStat, at the bottom right, it should show the previous firmware version. If this option fails, repeat the procedure from step 1, but in step 6. select "Restore factory firmware"
14. If the restore function was executed because of a failed firmware upgrade, the firmware upgrade may now be re-attempted.

Vertex

1. Switch off the Vertex (remove the power adapter).
2. Start the IviumSoft on your PC.
3. (Insert the power adapter and) Push and hold the on-switch at the front of the Vertex until it lights up red. Then release the switch. This will put the Vertex in the restore mode.
4. From the IviumSoft main menu, choose Tools>Restore device



5. This will open a pop-up



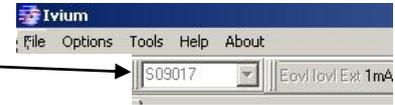
- Restore factory settings: reverts back to the original settings and calibration values.
- Restore factory firmware : sets the firmware back to the original release.
- Restore previous firmware : go back to the version before the last upgrade.

The last option is useful when recovering from a failed upgrade. If also the previous version was corrupt, the factory version can be used.

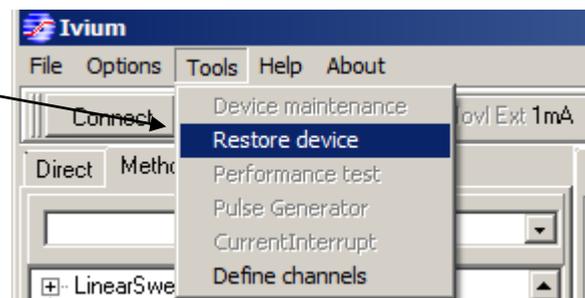
6. Select "Restore previous firmware", click this option once. It will appear if nothing happens, but inside the instrument the internal micro PC is reset.
7. Close the "Restore device" pop-up.
8. Close the IviumSoft.
9. Switch off the Vertex (remove the power adapter).
10. (Insert the power adapter and) Switch on the Vertex.
11. Now the Vertex should start up again and be able to connect (again) in the IviumSoft, running on the previous firmware.
If this option fails, repeat the procedure from step 1, but in step 6. select "Restore factory firmware"
12. If the restore function was executed because of a failed firmware upgrade, the firmware upgrade may now be re-attempted.

Ivium-n-Stat: Modules

1. Switch off the Ivium-n-Stat.
2. Start the IviumSoft on your PC.
3. Make a wire connection between the EMO and GND sockets at the back of the Ivium-n-Stat, for example using a banana-lead. This will enable the restore mode.
4. Switch on the Ivium-n-Stat (the LEDs will light up faint red).
5. In the serialnumber window select the channel to be restored.



6. From the IviumSoft main menu, choose Tools>Restore device



7. This will open a pop-up



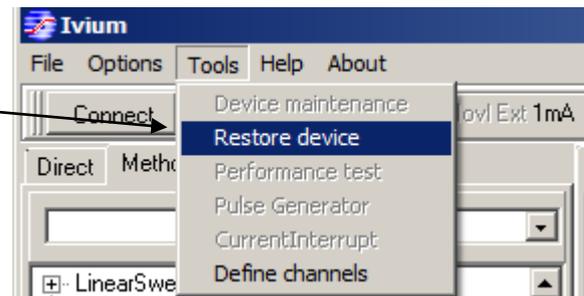
- Restore factory settings: reverts back to the original settings and calibration values.
- Restore factory firmware : sets the firmware back to the original release.
- Restore previous firmware : go back to the version before the last upgrade.

The last option is useful when recovering from a failed upgrade. If also the previous version was corrupt, the factory version can be used.

8. Select "Restore previous firmware", click this option once. It will appear if nothing happens, but inside the instrument the internal micro PC is reset.
9. Close the "Restore device" pop-up.
10. Close the IviumSoft.
11. Switch off the Ivium-n-Stat.
12. Remove the wire connection between teh EMO and GND.
13. Switch on the Ivium-n-Stat.
14. Now the restored channel should start up again and be able to connect (again) in the IviumSoft, running on the previous firmware.
If this option fails, repeat the procedure from step 1, but in step 6. select "Restore factory firmware"
15. If the restore function was executed because of a failed firmware upgrade, the firmware upgrade may now be re-attempted.

pocketSTAT

1. Remove the USB cable.
2. Start the IviumSoft on your PC.
3. Insert the USB cable.
4. From the IviumSoft main menu, choose Tools>Restore device



5. This will open a pop-up



Wait 10 s for the microPC to restart, then:

- Restore factory settings: reverts back to the original settings and calibration values.
- Restore factory firmware : sets the firmware back to the original release.
- Restore previous firmware : go back to the version before the last upgrade.

The last option is useful when recovering from a failed upgrade. If also the previous version was corrupt, the factory version can be used.

6. Select "Restore previous firmware", click this option once. It will appear if nothing happens, but inside the instrument the internal micro PC is reset.
7. Close the "Restore device" pop-up, and wait for 10 seconds.
8. Now the CompactStat should be able to connect (again) in the IviumSoft, running on the previous firmware.
If this option fails, repeat the procedure from step 1, but in step 6. select "Restore factory firmware"
9. If the restore function was executed because of a failed firmware upgrade, the firmware upgrade may now be re-attempted.