

Technical Note

Updating N4L Instrument Firmware

All N4L measurement instruments can be updated at any time by uploading new firmware from a PC that is connected to the instruments Serial/RS232, USB or LAN port. The installation process takes approximately 5 minutes and will not affect calibration data, so re-calibration is not required after a firmware upgrade new firmware files are available free of charge via the N4L website (www.newtons4th.com).

CommView2 PC software is required to perform the firmware upgrade, this is available free of charge from the Support section of our website.

Upgrade Descriptor files.

The PSM1700, PSM1735, PSM220x and PSM375x series phase sensitive multimeters, the SLM3505, and the PPA5xx/15xx, PPA25/26xx, PPA35xx, PPA45xx and PPA55xx series power analyzers use an "Upgrade Descriptor" file that can be installed into the associated product using the CommView2 PC software.

Setting the Baud rate.

When using Serial/RS232 to perform the firmware upgrade it is essential that the PC and the Instrument are transmitting and receiving data at the same baud rate. Therefore, when selecting the Serial/RS232 option on the instrument the baud rate must be set to 19200.

Firmware Update Procedure.

- A. Extract the firmware zip file into a named folder that can easily be found later e.g. C:\N4L firmware\PPA55_2_105.
- B. Now connect the SLM / PPA unit to your PC with an RS232, USB or LAN cable. Note: Not all options are fitted to all models. On the instrument press the "Remote" button and select the Interface option that agrees with the cable to be used.
- C. Open up the N4L software program "CommView2" which will be used for firmware installation. (Other N4L SW programs can also be used for firmware upgrade but we recommend that CommView2 is used because this program does not attempt any additional communication).
- D. Click on "Configure" and then select connection from the drop down menu.
- E. The "Connect" window is displayed. Select the Interface option and where appropriate the correct COM port and Baud Rate. Click on "Connect".
- F. Once connected, type "*idn?" into the command bar and press "enter". The instruments details should be returned from the instrument. E.g. "NEWTONS4TH, PPA5530,165-04188,2.105".
- G. From the software options select: Instrument > Upgrade firmware.
- H. Now a windows explorer style window should be open. At the bottom right hand side of this window select "Upgrade Descriptor" from the drop down menu.
- I. In the main window locate and select the folder that you made earlier i.e. C:\N4L firmware\PPA55_2_105.
- J. When the correct folder is selected, a series of *.UPG upgrade files should be visible (e.g. PPA5530_2_105.UPG) (Note: if *.UPG files are not visible, check that the upgrade descriptor option is still selected in the files of type window).
- K. Dependent on the type and model of instrument being updated, the files may be *.UPG or *.UPX
- L. Select the appropriate *.UPG file for your instrument configuration (both model and language if the product is a PPA or SLM series) and then click on the "open" button.
- M. A "Firmware files List" window will be displayed. Click on "Accept".
- N. An "Upgrade Firmware" window will be displayed, and the instrument display will go blank. The firmware will begin to upload, and you will see a progress bar as each of the program sections is installed. When it is complete, the instrument will automatically re-boot with the new firmware. Click on "Finished" in the "Upgrade Firmware" window. The PC software can now be closed.

History files including a chronological list of firmware changes may be included with new firmware files or can be requested at any time from N4L.

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