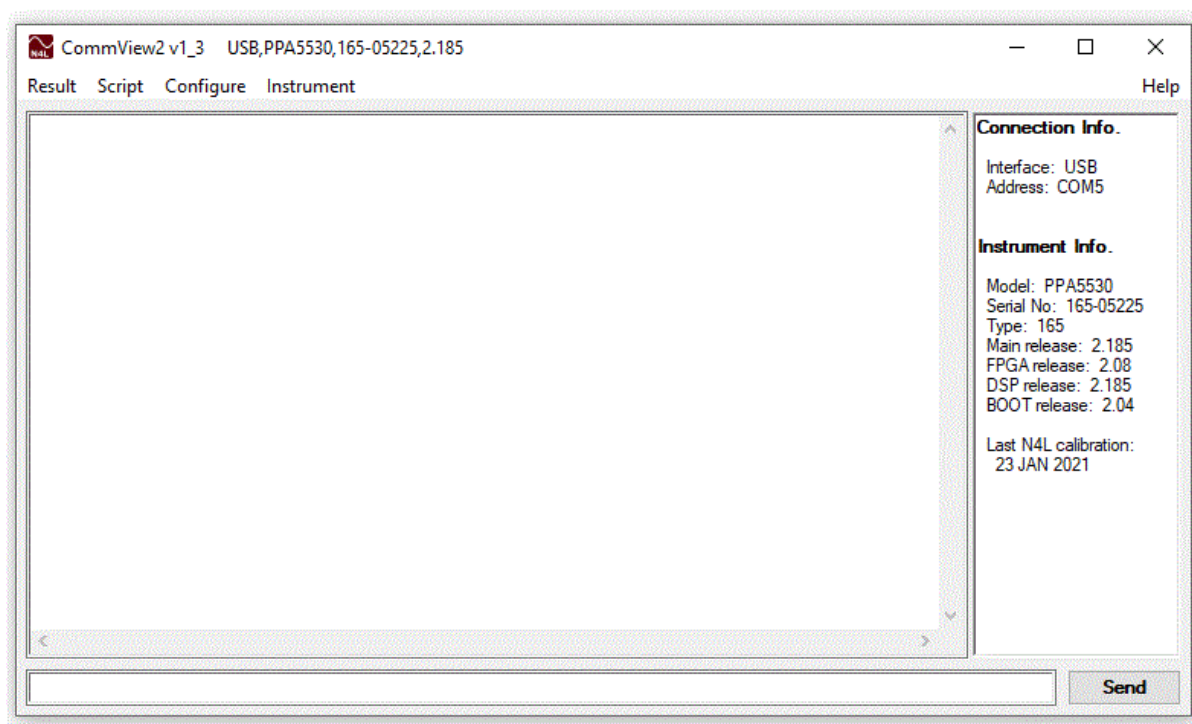




Newton4th Ltd

CommView2

User Manual



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Document Title: CommView2 User Manual v2.0

Document Release Date: 16th March 2021

Software version on release date: v1.3

Document Ref: D000260 issue 02

ABOUT THIS MANUAL

N4L CommView2 Software is a self-contained executable software program for use with all N4L instrumentation.

Accordingly, this manual first describes the general features and specification of the software as a whole; and then describes the individual functions in detail.

Each function is described in turn, in its own chapter, with details of the principles on which it is based, how to use it, the options available, display options etc.

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1 Introduction

1.1 Introduction to CommView2

N4L CommView2 is a self-contained executable software program written in C++ using the Microsoft win32 graphics set.

CommView2 has the ability to connect to all N4L instruments via Serial/RS232 and where fitted USB & LAN.

CommView2 allows strings to be sent and received between a PC and the instrument. The strings can be viewed in a window and optionally stored in a file. Data received from the instruments may be displayed in normal scientific notation with an identifying label.

CommView2 may be used interactively or may execute a series of commands automatically from a prepared text file.

CommView2 may be used to upgrade the firmware in any N4L instrument when new firmware is released.

This guide was written using a PPA5530.

1.2 Minimum Requirements

The minimum requirements to run the CommView2 Software are as follows:

- Windows XP (Service Pack 3) or later
- At least 1GHz Processor
- Minimum of 1GB RAM
- 10MB of Hard Drive space.

2 Getting Started

2.1 Download

As with all N4L Software, it is available for free download from our website. See <https://resources.newtons4th.com/manuals/> for more details.

Once registered and your account has been activated you will have access to the software downloads section.

2.2 Installation

Wherever possible, at N4L we try to develop software that enables the engineer to be ready and performing tests as soon as possible. With this in mind, we have made CommView2's installation method as simple as possible.

To install CommView2, simply download the .exe file onto your PC's hard drive or an external drive such as a USB memory stick and run it straight away.

Before the software can connect, the instrument must be ready to accept the connection. To prepare your instrument for connection with CommView2, ensure the unit is powered on and the cables are connected.

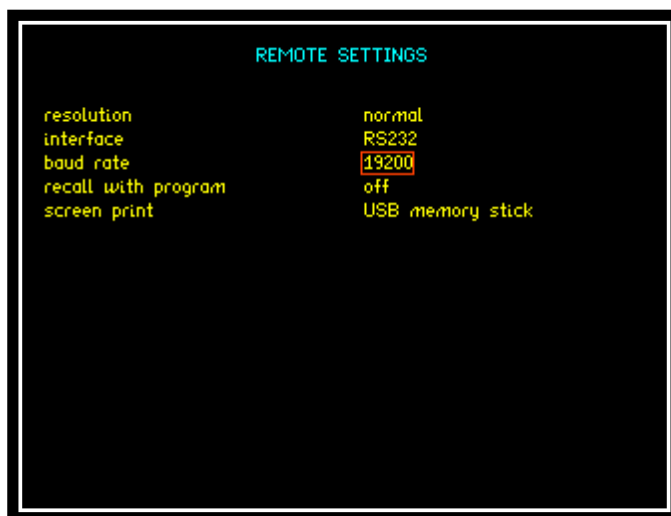
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REMOTE SETTINGS

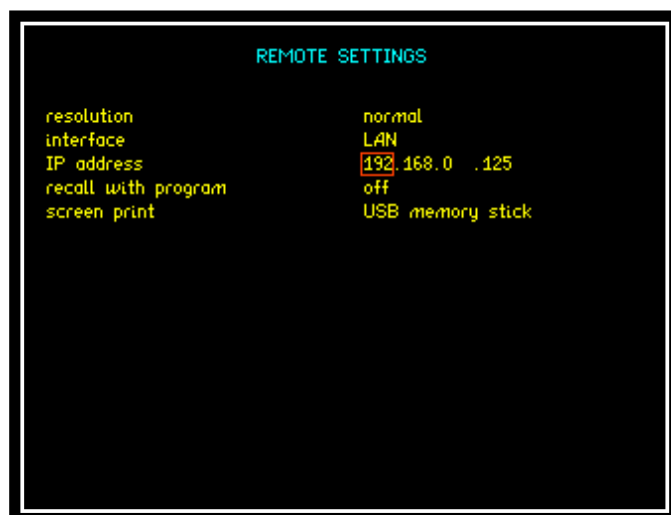
resolution          normal
interface           RS232
recall with program of USB
screen print        US  LAN  floppy stick
                   GPIB

```

If you select RS232, you will need to additionally set the Baud Rate of the cable you intend to use.



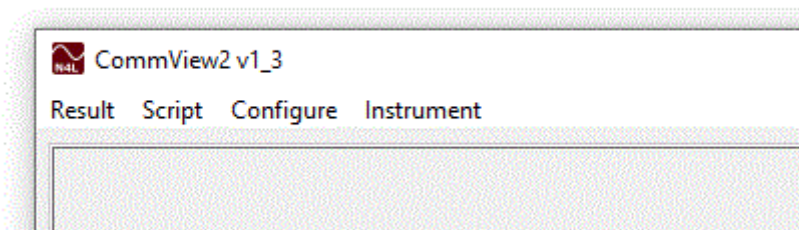
For LAN you'll need to set an IP Address for the Instrument.



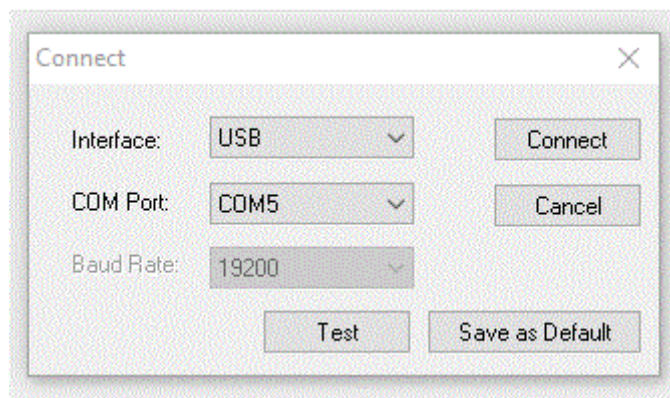
Please note that the GPIB option (where available) is for connecting the instrument to other equipment, and not for communicating with N4L software.

3.2 Connecting to your Instrument

To begin connecting to the instrument, click on [Configure](#):



Now click in [Connection](#). This brings up the communications window where you'll set up how you're connecting to the instrument:



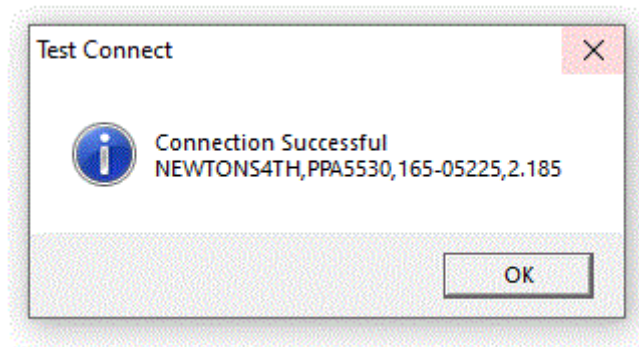
Note: When first opening the software the *Connect* window is displayed automatically.

Enter the instruments communication details by selecting the communication method (Serial, USB or LAN).

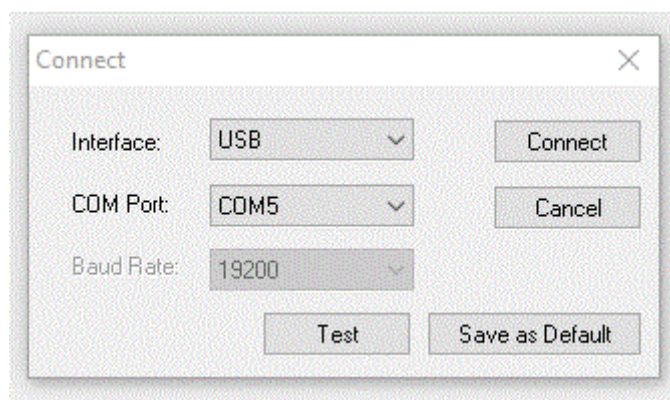
If you selected *LAN* you'll need to enter the same IP as you set your unit to.

If you selected *USB* or *Serial* you'll need to select the COM port that windows assigned to your cable. Additionally, if you select *Serial* you'll need to set your cable's Baud Rate.

To check the connection settings are correct, press the [Test](#) button to attempt a connection. This will then bring up a message telling you if the connection was successful.



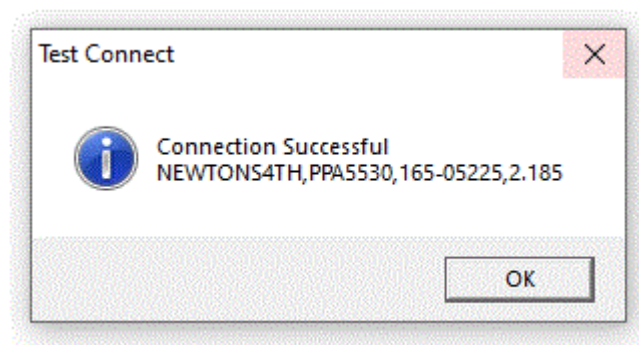
A warning message will appear if the connection process failed. Check that the details entered on the *Connect* screen are correct and that the instrument is connected correctly to the PC etc. Repeat the above steps to obtain a successful connection.



Press the *Connect* button to connect with the instrument.

Note:

If you want CommView2 to remember your current connection settings and reload every time you open the connection window, you can do so by pressing the *Save as Default* button.

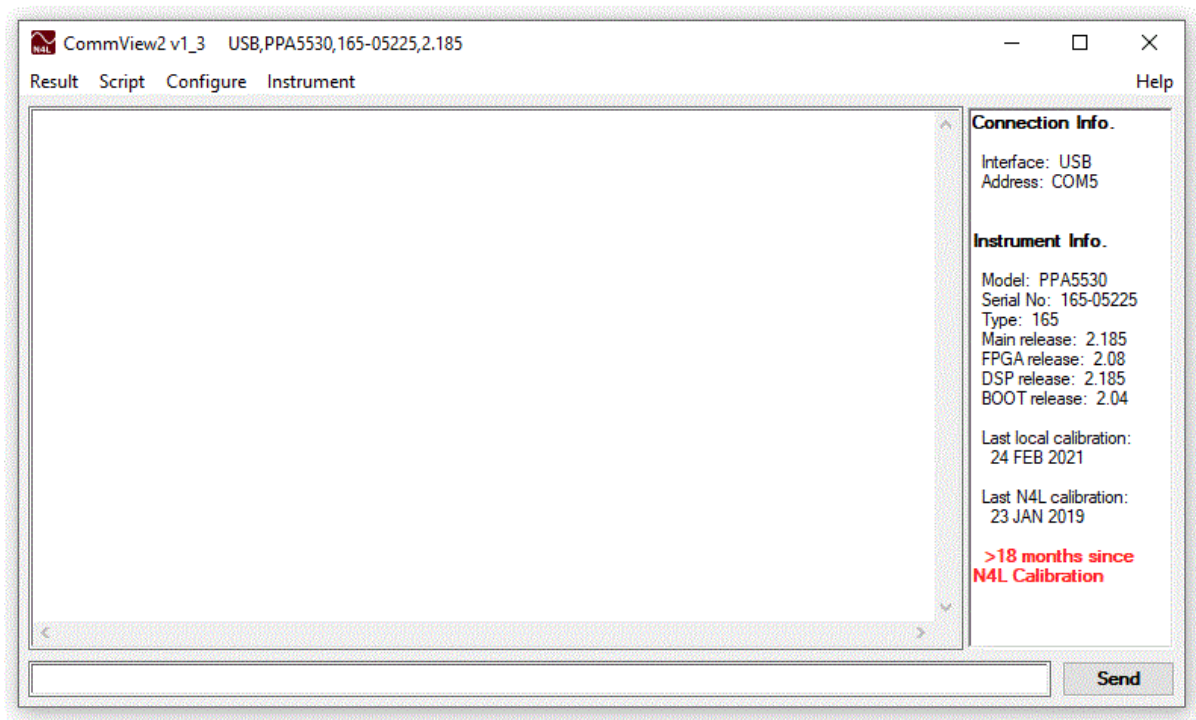


Click *OK* to connect to the instrument.

4 Instrument Details

Clicking **OK** to connect to the instrument displays the instruments details.

The interface used, Instrument model, serial number and firmware version are displayed in the top left hand corner of the software window. The right hand side of the window will also be updated with details of the instrument.



Connection Info.

This section details the interface option used to connect to the instrument and the address of the Comport (or IP address when LAN is selected) on the computer.

Instrument Info.

In this section details of the Instrument model and serial number are displayed. Also displayed are the versions of firmware code installed of the programmable devices within the instrument.

Calibration info.

This information varies between instruments.

PPA5xx, PPA15xx, PPA35xx, PPA45xx and PPA55xx:

The date of the most recent calibration and adjustment procedure performed in the N4L Calibration Facility is always displayed.

Additionally, details will also be displayed if a more recent calibration has been performed using a locally based Calibration Lab.

Note:

The Calibration procedure performed in many Calibration labs is to check the instrument against the specified limits. The N4L calibration procedure also performs adjustments to optimise all of the parameters included in the calibration specification.

For this reason, an advisory message is displayed if the time since the previous N4L calibration exceeds 18 months.

All other instruments:

Only the date of the previous N4L calibration is displayed. No local calibration date or advisory message is displayed.

5 Interactive mode.

The simplest form of operation is interactive mode where individual commands can be typed in and sent. The sent command and any reply received are displayed in the results window.

To use interactive mode, ensure that no script file is open, then type a command into the command window. The command window is at the bottom of the CommView2 software window to the left of the *Send* button. Press *return* or click on *Send* to send the command. Any reply that is received will be displayed in the results window.

The same command may be resent by pressing *return* again or by clicking on *Send*.

A previous command may be reloaded ready to be resent by highlighting the relevant line in the results window. This command may then be sent as it is or edited first.

If a reply is received in the format of comma separated values, the results are converted to scientific notation and displayed in a series of values that can be given labels. Labels may be entered by clicking on the name adjacent to the value. Any labels that have been entered are stored with the configuration.

6 Other button Functions:

6.1 Result Button.

Details of commands sent to the instrument and any returned data are displayed in the *Result* window.

The commands and returned data when running scripts are also displayed in the *Result* window.

The information displayed in the Results window can be cleared by selecting [Clear Results Window](#).

The information displayed in the Results window can be saved to a named file by selecting [Save to File](#).

To read data into another program such as "Excel", clear the results window, send the command to read the data, wait for the results to appear then save the results as a named file using the *Result* menu. The stored file may be imported into other applications as CSV (comma separated variables) format.

The [Convert Binary](#) option is enabled by default. When enabled the replies from the instrument are automatically converted from binary data to "real numbers". In a majority of cases it is preferable to display this meaningful data but in a few situations it would be useful for the User to deselect this option. For example, the large transfer of scope data using the CAPTUR? Command.

6.2 Script Button.

Strings to be sent to the instrument can be stored in a "script file" and executed automatically. The script file is created with any text editor and includes two types of lines (interpreted by the first character on each line):

lines beginning with " are sent to the instrument.

lines beginning with # are commands for CommVIEW2

format	arguments	effect
"text	string	send text to instrument
#label,i,name	i = result index name = string	overwrites label associated with results value [n]
#pause,t	t = delay in s	delay by real number seconds
#wait,text		display text string and wait for a key press (discard key press)
#beep		sound beeper on PC
#reply,t	t = timeout in s	wait for a reply using a specified timeout
#flush		discard any received characters.
;		
;text		comment

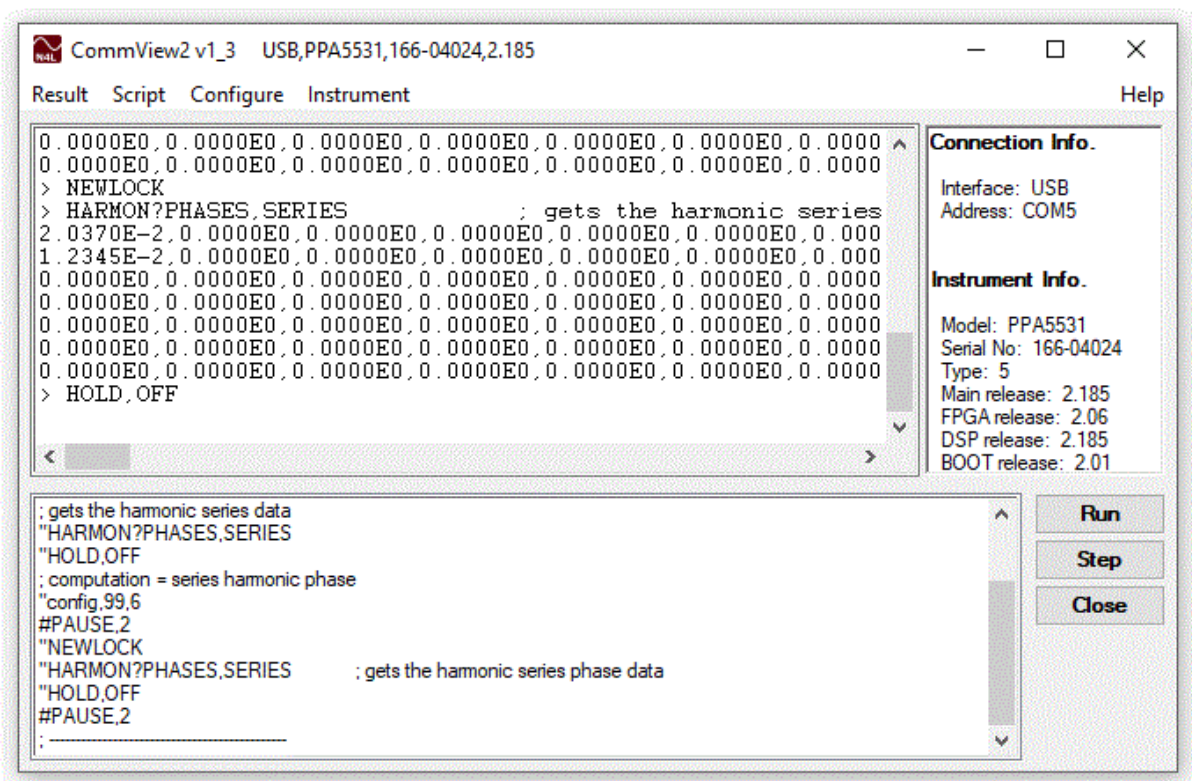
Note that any “query command” sent to the instrument that (ends with a question mark) will have a default reply timeout of 3 seconds. This can be overridden by following the command with a reply, t eg:

“gainph? *waits 3 seconds for a reply*

“gainph?

#reply,5 *override default timeout, wait 5 seconds*

Click on the “[Script](#)” button and select the required script file:



The script will be loaded into the lower CommView2 window and 3 buttons are displayed. The full script can be performed by clicking on the [Run](#) button. The upper window will be updating with the Commands and returned data whilst the script is running. Using the [Step](#) button will step through the script one line at a time. The upper window will be updated each time the step button is pressed and the data returned. Clicking on the [Close](#) button closes the script and the CommView2 window returns to the normal layout.

6.3 Instrument button.

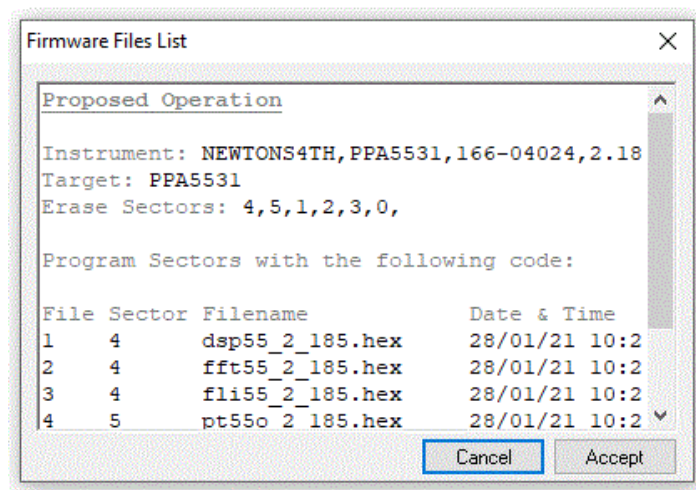
This button allows the firmware in the connected instrument to be upgraded.

The latest firmware for all instruments can be downloaded directly from the N4L website.

Having already connected to the instrument, click on [Instrument](#) to locate the required firmware files from the Desktop or Files area.

Select the appropriate Upgrade Descriptor for the instrument. For example: PPA5530_2_185.upx or PSM1735_1_61.UPG

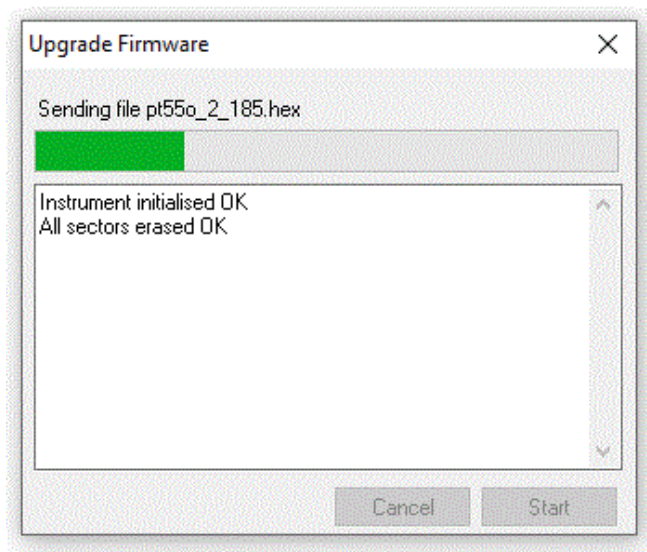
Clicking on the required [Upgrade Descriptor](#) will display the Firmware Files list window:



Note: If any of the files are in red text then there is a problem with the stored files. They should be downloaded again from the website to resolve the problem.

Click on [Accept](#) to continue with the firmware upgrade.

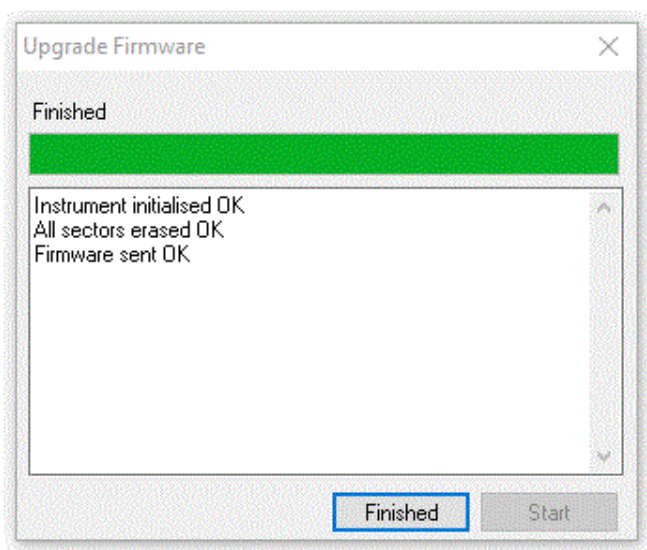
The instrument screen will go blank and the Upgrade Firmware window is displayed:



The green bar will gradually extend across the software window. The file name above the bar is constantly updated to indicate the file that is being installed on to the instrument.

The upgrade procedure will take around 5 minutes using a USB interface and several minutes longer if using Serial/RS232 or LAN.

On completion the instrument will bleep several times, the display will reboot and the software window will display Finished.



To complete the upgrade click *Finished*.

Preventing Upgrade Failures:

On a few extremely rare occasions a failure might occur during the upgrade procedure.

Should this happen a message will appear in the software window. DO NOT do anything on the instrument or completely close down the CommView2 software.

The Comms link between the software and the instrument should still be ok so click on the button to close the Upgrade Firmware window. Now click on the *Instrument* button again and repeat the upgrade procedure. The firmware upgrade procedure should be completed successfully at the second attempt.

Help prevent download failures by:

Do not run other applications on the PC that could interrupt the upgrade process.

Do not operate other equipment that could interfere with the comms link between the PC and instrument.

Note:

There is a N4L Technical Note on Upgrading Instrument firmware available on Request from the N4L office. This gives a more detailed explanation of the firmware upgrade procedure.

7 Troubleshooting

Check the following if there are issues connecting to the instrument:

Are the instrument and software set to the same interface option?

For Serial/RS232 connections is the Baud Rate in the software and on the instrument set to 19200?

For Serial/RS232 connections are a Null Modem cable AND a USB-to-Serial convertor (e.g. ATEN UC-232A) being used.

For LAN connections is exactly the same IP address entered on the instrument and in the software.

For LAN connections the LAN port may need to be enabled. Please contact the N4L office for guidance.

For USB connections ensure that there is no USB Memory stick plugged into the front USB port.

For USB connections check the routing of the USB cable to keep it away from power cables and other sources of electrical interference which could cause comms issues between the PC and instrument.

If using the USB option on the PC for the first time, the USB drivers may need to be updated. Please contact the N4L office for the drivers and update instructions.

8 Contact Details

If you require any further assistance with the operation of C please do not hesitate to contact your local distributor or N4L:

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