



Frequently, recording the weight from a scale is desired for review or graphing at a later date. This activity is often referred to as data logging.

Most PT instruments are able to transmit the weight via. Serial communications and this can be logged to a file and later accessed for review or graphing.

## Software

With the use of special software, called a software wedge, the weight data can be inserted into various applications like spread sheets. PT does not sell this software, it is available from companies such as Win Wedge, TWedge, 232Key, WedgeLink but to mention a few. They all have their pros and cons and careful selection should find an option to meet your specific needs. PT does not provide any support for third party wedge software.

If all that is required is to log data and may be view it on a graph, then this can be done from a command line or more simply with a free terminal application and a spreadsheet program.

Terminal applications tested are Real Term for Windows

(<https://sourceforge.net/projects/realterm/>) and Cute Com-ng for Linux/Mac.

(<https://github.com/develersrl/cutecom-ng/blob/master/README.md>). Apps are also available for Android and iOS phones and tablets.

## Instrument Configuration

PT instruments with a serial port all can be configured for continuous weight output. The Azure range of instruments can additionally be configured to send the weight in response to a command received through the serial port.

For instrument configuration, refer to the manual and enter the serial port settings. Set the type of output desired, example data formats are provided in the manual. Select appropriate baud rate, data length, parity settings. Slower baud rates are less prone to transmission errors, especially over longer distances. Slow baud rates may also limit the number of weight updates per second transmitted. For instance at 2400 baud the update rate may be a little under 20 readings per second.

Typical output from an instrument could be;

[STX][STATUS][SIGN][DISPLAYED WEIGHT VALUE][CR][LF]

Examples:

S+000123.4	(weight is stable and 123.4)
D+000123.4	(weight is dynamic and 123.4)
+	(Over load)
-	(Under load)
O	(ADC out error)

## Connecting the instrument

If the logging device (PC) has a RS232C port, you can connect the weighing instrument with a null modem cable such as the [A-CAB-232-DB9](#) from PT. If the logging device (PC/mobile) only has USB ports the above serial cable can be paired with a USB adapter [A-CAB-232-USB](#) From PT. Some instruments have RS485 also, and this can be used with a RS485-USB cable such as the [A-CAB-485-USB](#) from PT.





## Logging data with the software

I will run through logging data with Realterm, other software operates similarly.

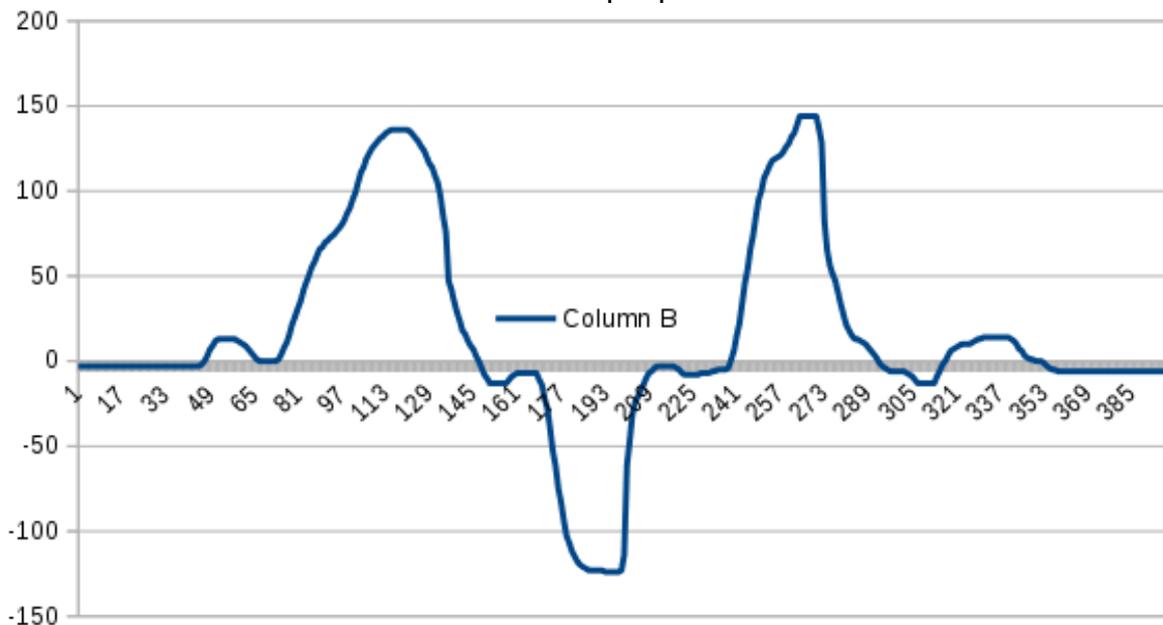
After starting the software

1. set the COM port to be the com port with the cable connecting the weighing instrument as above. If using a USB adapter windows will assign a virtual com port and it may be necessary to look in Control Panel - Devices to see what COM port is assigned.
2. Set the baud rate, parity and stop bits to be the same as set in the instrument.
3. Set flow control to NONE or OFF.

You should then be able to CONNECT and view the data streaming in and if desired save to file.

## Importing and displaying the weights

The data logged to file can be imported into spread sheet applications such as Libreoffice Calc, Microsoft office Excel or similar. Below is an example plot of data from Libreoffice.



Assuming the captured data is saved to a file captureLoadcell.txt.

Right click the file and open with LibreOffice Calc. The import dialogue will present the opportunity to import the right 9 characters as weight.

The file can also be imported into Excel or LibreOffice Calc with all characters and a formula used to extract the weight data.

Import the file captureLoadcell.txt into column A,

enter in column B the formula =VALUE(RIGHT(A1,9)) and copy down to take the right 9 characters of text and convert to a number for graphing.

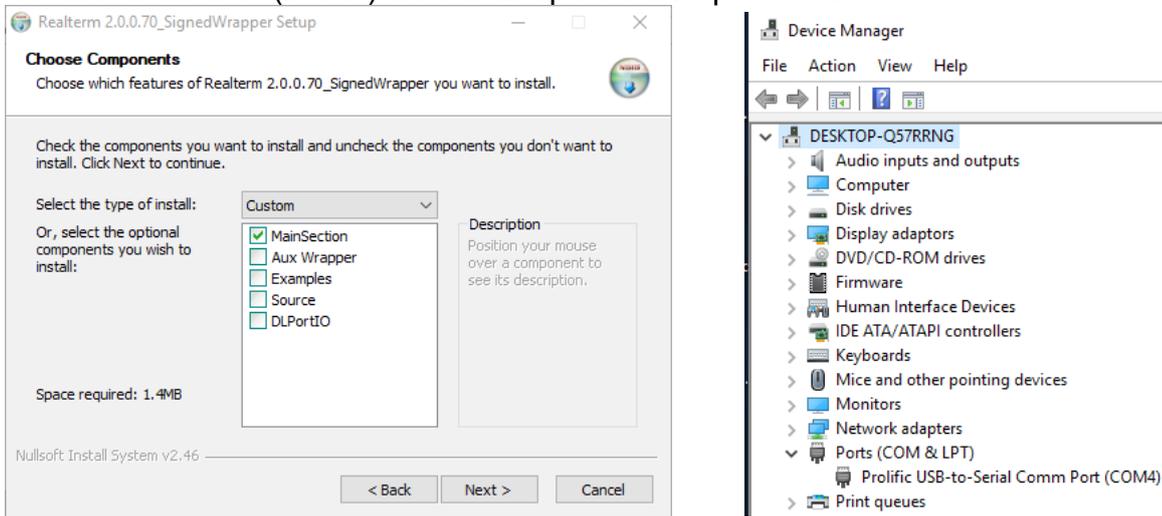
If you have recorded a timestamp, that can also be used for graphing.



## Installing Realterm on Windows

After downloading the file double click to install. During the install you should be prompted for an administrator password. If you are not prompted, return to the down loaded file and right-click>Run as Administrator to install.

At the install window (below) un-tick all options except the first.



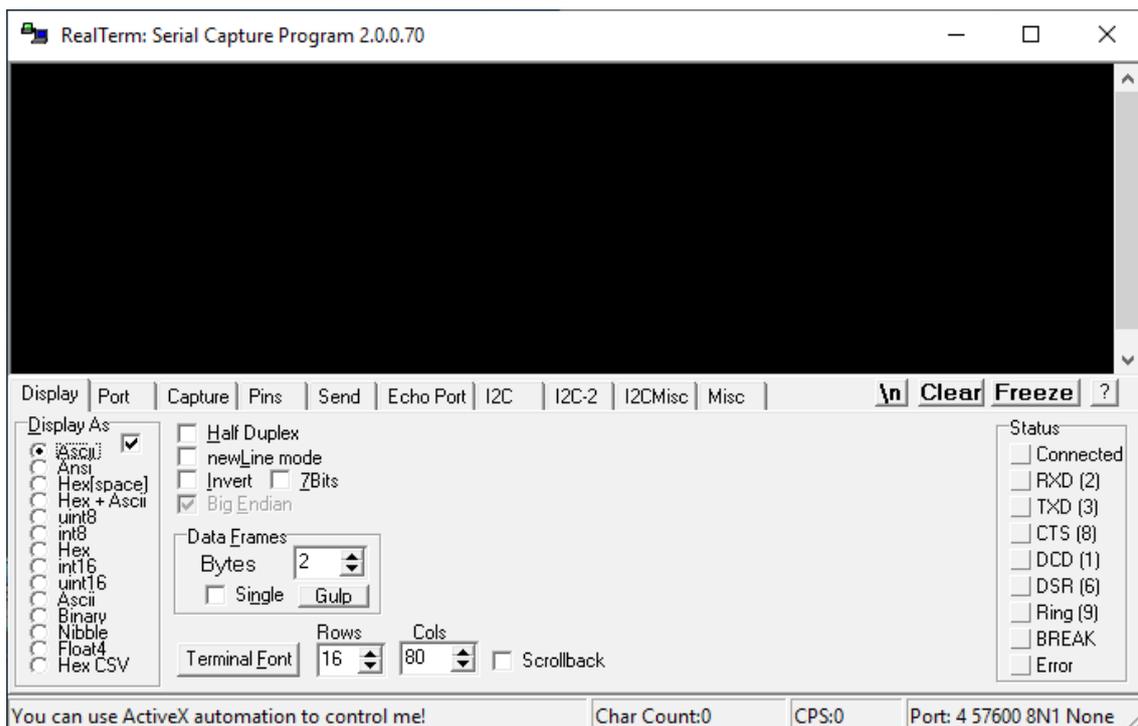
When Realterm is installed it will be in C:\program files (x86)\BEL\realterm\

If a program item is not added to your menu, right-click on realterm.exe in C:\program files (x86)\BEL\realterm\ and click send to > desktop (create shortcut).

Connect the PT device to the RS232C port or USB-RS232C adapter and start Realterm. If no serial port is present (i.e. the USB-RS232C adapter is not plugged in you will get an error.

To check for serial ports on your computer, open the Device Manager and look under ports. Windows automatically installs the driver for the PT USB-RS232C adapter, shown above right as COM4.

When Realterm opens you will see the window

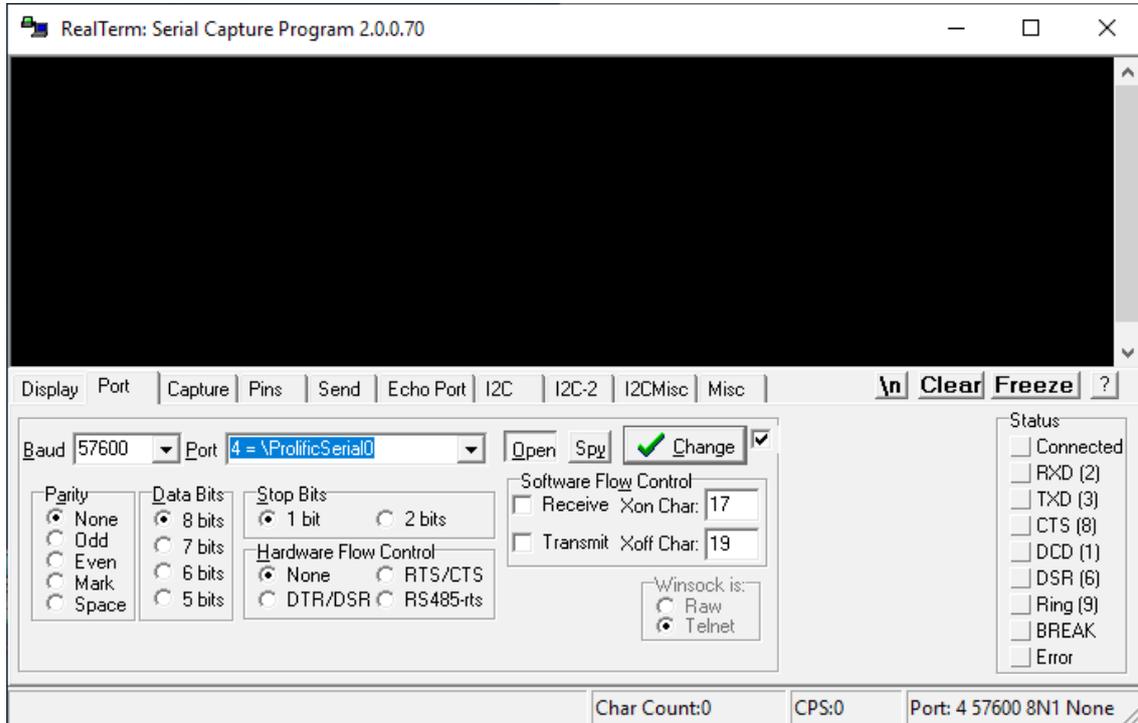




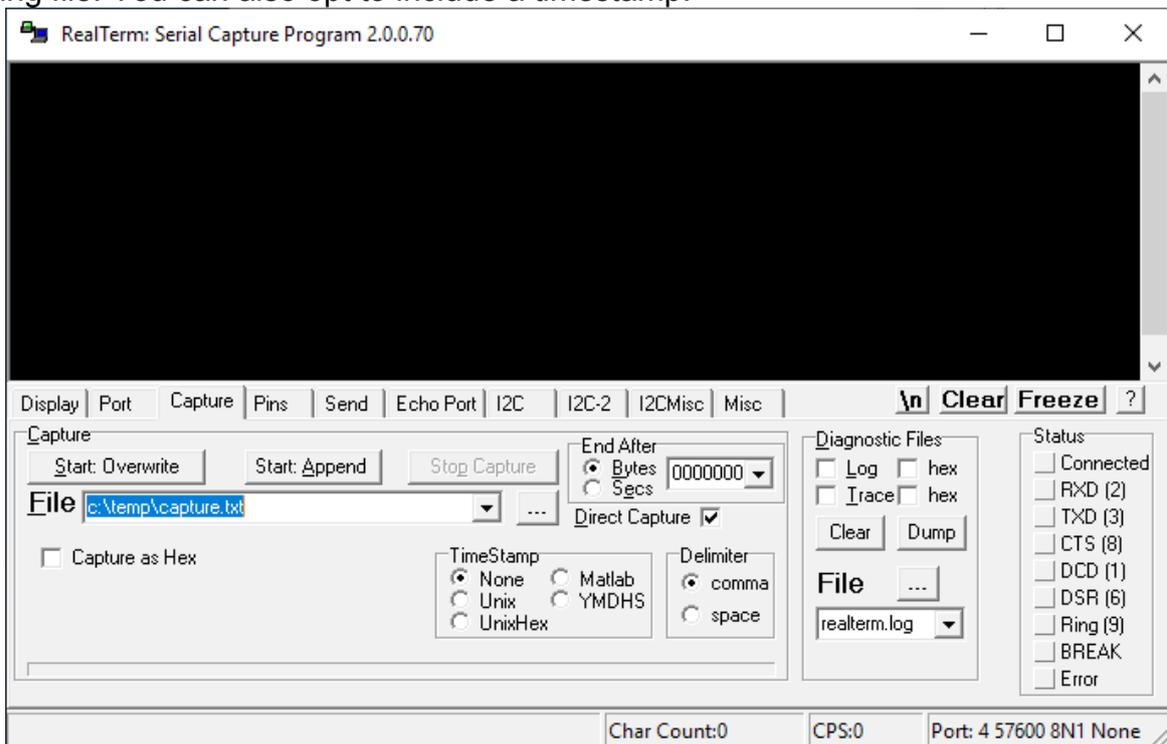
# TN 18.220 Simple Data Logging

Technical Support

Click the Port tab. Set the Port to match the Port with the instrument attached. Set the Baud, Parity, Data bits and Stop bits to match the settings in the PT instrument sending the weight data. Make sure Hardware flow control is none and there are no settings for Software flow control. Click Open to open the communications port. You should see weight data arriving in the Display tab.



To log the data click the Capture tab, trying to use the default path shown could result in an I/O error 103. Set a path in your user directory. You can overwrite an existing file or append (add on the end) of an existing file. You can also opt to include a timestamp.

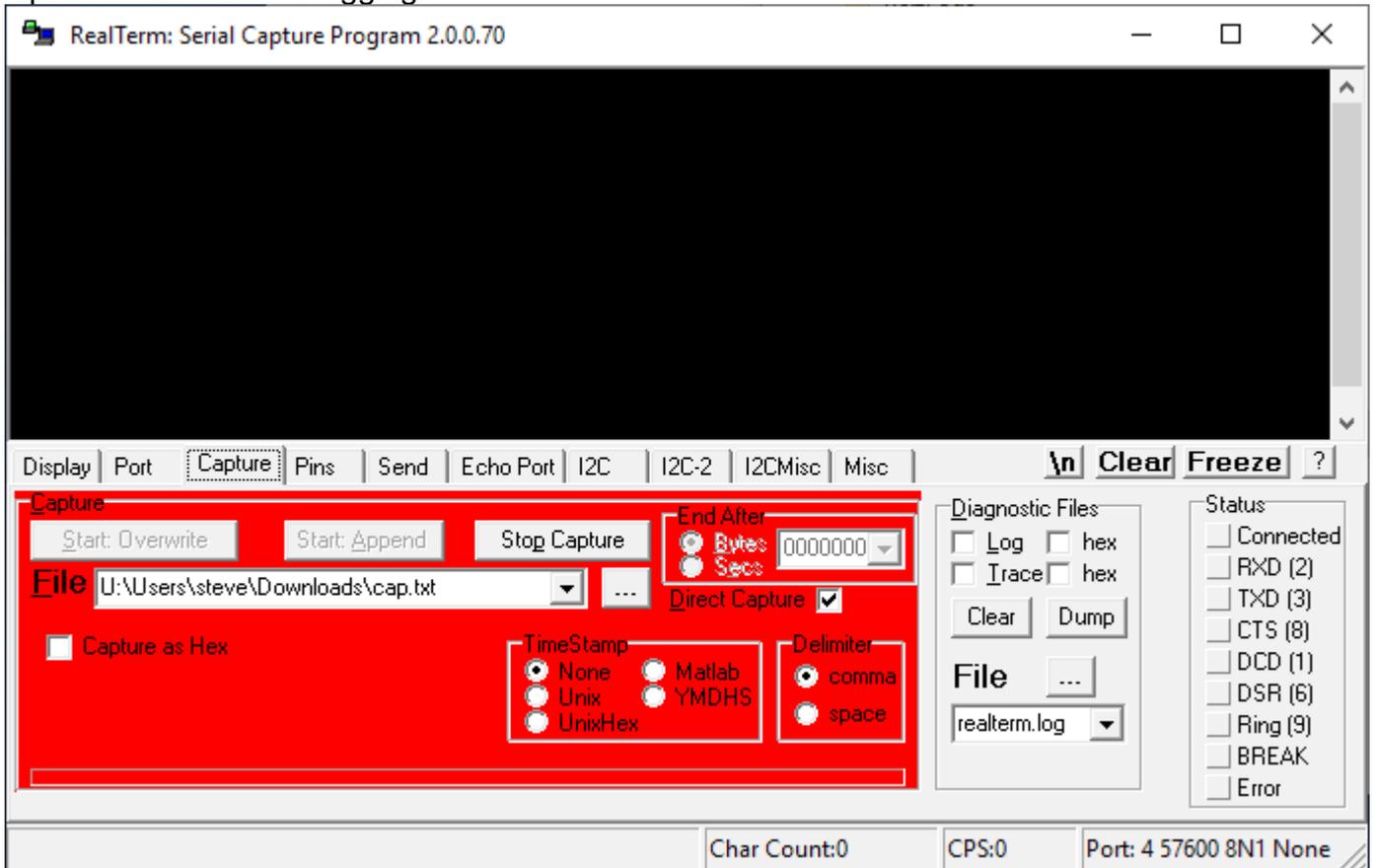




# TN 18.220 Simple Data Logging

Technical Support

Click Start overwrite or Start append to start logging. The screen changes as below, click Stop capture to discontinue logging.



Realterm can be used also to communicate with the PT Azure range of devices with serial ports to obtain readings on demand (send R) or using BSI for more advanced functions. Refer to the manual for the specific device.