

sqmutil: SQM Utility : Perl script

Description

The sqmutil.pl (SQM Utility) Perl script IS for use with the Unihedron "connected" Sky Quality Meter products has been tested under Linux and Windows.

This script can be used to get data from various SQM USB, Ethernet, or RS232 computer connected devices.

The following is a screenshot of the sqmutil.pl program:

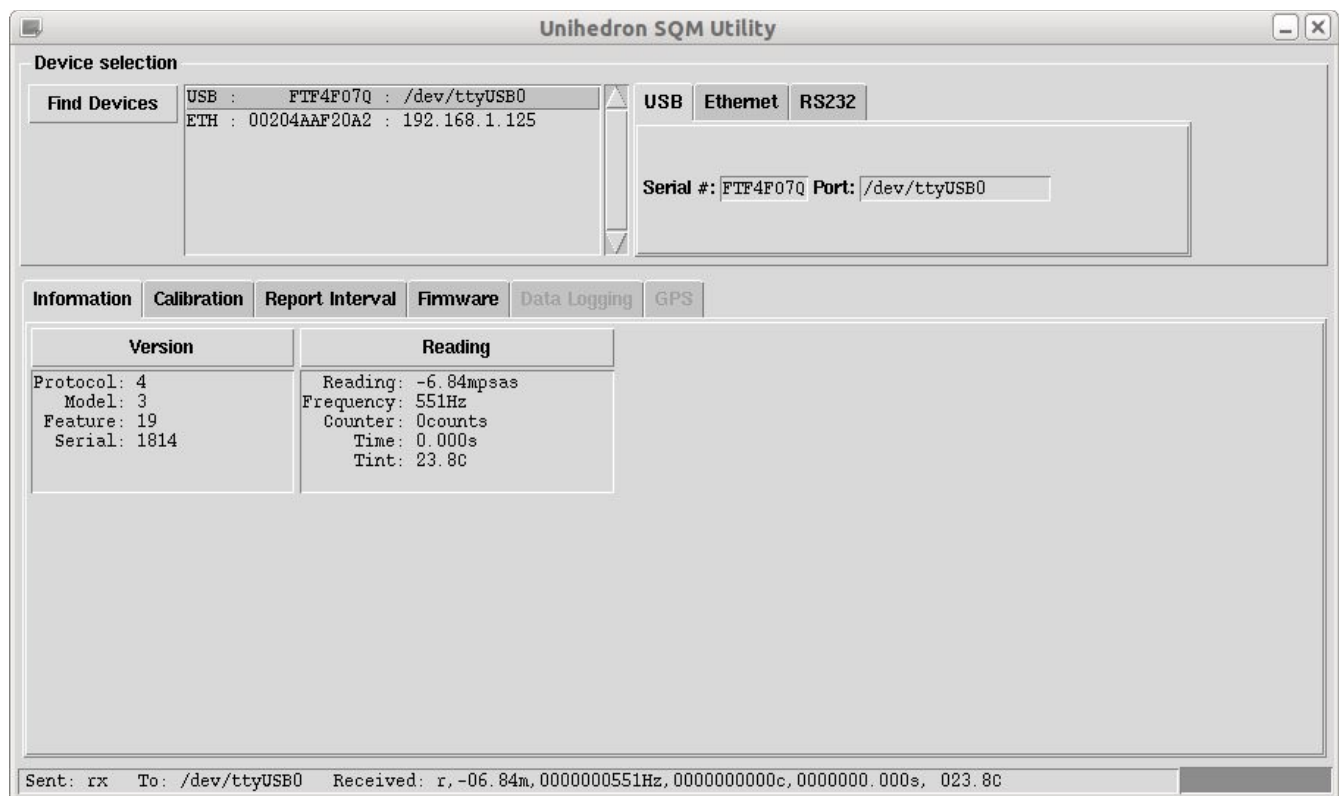


Illustration 1: sqmutil.pl screenshot

Features

- 1) Automatically identify USB or Ethernet models connected to the computer
- 2) Connect to USB/Ethernet/RS232 models
- 3) Retrieve Version information for the selected model
- 4) Retrieve Reading details from the selected model
- 5) Gather calibration information
- 6) Set interval report parameters for certain models
- 7) Update SQM firmware
- 8) Set datalogging parameters for DL model
- 9) Configure (Set calibration) (with `-config` command line option)

General requirements:

The following Perl modules may have to be additionally installed:

- 1) Tk
- 2) Tk::StrfClock

Windows requirements:

Strawberry Perl has proven to be easy to install, however, Activstate Perl may also work.

Various Perl modules through the CPAN interface such as:

- 1) Win32::TieRegistry
- 2) Win32::SerialPort

Linux requirements:

Perl (usually installed with most distributions) .

There may be a requirement to install `libx11-dev` which can usually be done from the distribution repository or software center.

Various Perl modules through the CPAN interface such as:

- 1) Device::SerialPort

Installation

Windows installation

The Perl programming language is required to make this script work. it is a free open source programming language.

Install the latest version of Strawberry Perl from this site:

<http://strawberryperl.com/>

Strawberry Perl is a distribution of Perl that seems to work best for the requirements of the SQM-LE Perl script. Strawberry Perl comes complete with a working version of CPAN (required for other modules).

From the START menu, select:

Programs

Strawberry Perl

Tools

CPAN Client

and then type in the terminal box:

```
install Tk
install Tk::StrfClock
install Win32::TieRegistry
install Win32::SerialPort
```

If you encounter "make test" errors, the PATH to Perl may be wrong, **reboot** or check the "test" error and ensure the DOS PATH environment variable contains the correct entry.

During the installation, if asked, answer “yes” to installing the few other supporting packages.

If Win32::SerialPort fails to install, then search in C:\strawberry\... for serialport.pm, then manually copy SerialPort.pm into C:\strawberry\perl\site\lib\Win32 (create Win32 directory if necessary). And, search and copy CommPort.pm into C:\strawberry\perl\site\lib\Win32API (create Win32API directory if necessary).

When done with CPAN, type:

```
quit
```

Linux Installation

Perl should already be installed on most Linux distributions.

CPAN can be run as superuser so that the modules are available to all users.

Start CPAN as superuser then type:

```
install Tk
install Tk::StrfClock
install Device::SerialPort
```

Operation

Test operation

From a DOS terminal window, type:

```
perl sqmutil.pl
```

You should see the sqmultil.pl GUI screen start up. Then any connected USB or Ethernet SQM devices should be displayed in the devices window.

Select the device that you would like to work with.

Press the "Version" button, and a reply from the device should show the Unit version information.

You should be able to press the "Reading" button to collect the current unit darkness reading.

Datalogging

The datalogging tab shows all the options available to the SQM-LU-DL unit.

Steps required to access the datalogging features:

- 1) Select the desired unit from the devices window on the top left side of the sqmutil.pl GUI screen.
- 2) Select the "Information" (left side under device selection window).
- 3) Click the "Version" button. The datalogging tab should become enabled
- 4) Click the "Data Logging" tab.

Set the unit time

- 1) Press the SET button in the Device Clock area
- 2) The unit time in the upper box should contain the time at which you pressed the Set button. The lower date time value is the current date-time.
- 3) Press the "Refresh" button on the far right to ensure that the unit has accepted the time that was set.
- 4) You can unplug the SQM for a while and plug it back in then check the time by simply hitting "Refresh" to ensure that the time has been maintained.

Note: The unit maintains time by drawing power from a large capacitor which was charged while the unit has been powered. This capacitor is very large and requires about 2 hours charging time to maintain the time in an non-powered unit for a few days.