Technical Notes

93-0000020 Remote Client

# Release Notes

See RELEASE.txt file

# User Manual

## HyPR 6000

### Datalogging

1. Plug the ENG-00000480 cable into your computer and into the HyPR Data port. The client currently requires this cable to function.
2. Start the software by double-clicking on 93-0000020.exe.
3. It should automatically connect to the cable, and the **Connect** button should be disabled.
4. Start data logging by checking Log Enable. Data entries should start scrolling in the **Remote Monitor** text box.
5. Check **Timestamp** to enable time stamping of log entries. The computer’s clock will be used to generate the time stamps.
6. Click the **Save As…** button and choose a location and file name for the log file. After clicking **Save**, log entries from that point on will be saved to the selected file.

### Remote Programming

1. Ensure you are connected to the HyPR (the **Connect** button will be disabled if so).
2. Under **Command Entry**, choose the register to program and click the **Write** radio button. For a list of programmable registers and their values, refer to the HyPR API document.
3. In the text box next to **Value**, enter the value to program. **Leave** **Delay** after and **Repetitions** at 0.1 and 1, respectively.
4. Click **Run.**
5. To verify the value was written, change **Write** to **Read** and click **Run**. Note: it may take 3 seconds for the Remote Monitor to see the updated value.

# Developer’s Guide

## Architecture

* Python
* GUI built with PySimpleGUI wrapping tkint
* Minimalmodbus library for RS485/Modbus
* Assumes a CP2102 serial device for RS485 to USB communication
* Kinda supports HyPR 6000 CAN bus, but I had problems building the EXE with CAN support so it’s commented out.

## Development Environment

PyCharm Community Edition v 2022.1.3 IDE or Visual Studio Code

### PyCharm

Open project: File->Open… [\\engineering\Software\Repository\93 - Solar Stik QC Firmware\93-0000020\_HyPR 6000 Client](file:///\\engineering\Software\Repository\93%20-%20Solar%20Stik%20QC%20Firmware\93-0000020_HyPR%206000%20Client)

Execute w/in IDE: Run->Run… 93-0000020.py

### Visual Studio Code

#### Initial setup

* Ctrl-Shift-P->Python: Select Interpreter.
* Select Python 3.8.2 (‘vent’: venv)

Execute by pressing the Play button in the top right of the VSC window. Graphical user interface, application

Description automatically generated

## Create executable

1. Make sure pyinstaller is installed: With project open in PyCharm, open Terminal. Type “pip install pyinstaller”

Graphical user interface, text, application, Word

Description automatically generated

1. Make sure the \_\_version\_\_ string in 93.0000020.py is incremented to the next version according to Semantic Versioning 2.0.
2. In the Terminal, type “pyinstaller -F 93-0000020.py”

Graphical user interface, text, application

Description automatically generated

After a while, it should end with “Building EXE from ECE-00.toc completed successfully” and the new 93-0000020.exe should be in your “dist” folder:

Graphical user interface, text, application

Description automatically generated

1. Set the file version info.
   1. Update file\_version\_info.txt as applicable.
   2. Run pyi-set\_version file\_version\_info.txt dist\93-0000020.exe
   3. See <https://pyinstaller.readthedocs.io/en/stable/usage.html#cmdoption-version-file> for more information.
2. Copy executable to \qms\product information\93 – Solar Stik QC Test Firmware\93-0000020 Remote Client, archiving the previous version.

## Troubleshooting

### Visual Studio Code

#### Activate.ps1 cannot be loaded

PS N:\Software\Repository\93 - Solar Stik QC Firmware\93-0000020\_Remote\_Client> & "n:/Software/Repository/93 - Solar Stik QC Firmware/93-0000020\_Remote\_Client/venv/Scripts/Activate.ps1"

& : File N:\Software\Repository\93 - Solar Stik QC Firmware\93-0000020\_Remote\_Client\venv\Scripts\Activate.ps1 cannot be loaded because running scripts is disabled on this system. For more information, see about\_Execution\_Policies at https:/go.microsoft.com/fwlink/?LinkID=135170.

Run Windows PowerShell as an Administrator, run the command

Set-ExecutionPolicy -ExecutionPolicy RemoteSigned

The repeat the previous attempt.

##### ModuleNotFoundError: No module named 'xxx’

ModuleNotFoundError: No module named 'PySimpleGUI'

1. Make sure you are running in your virtual environment (venv).
2. Install the missing module with

py -m pip install PySimpleGUI

See also https://stackoverflow.com/questions/56658553/module-not-found-error-in-vs-code-despite-the-fact-that-i-installed-it

## Versioning

Uses [Semantic Versioning](https://semver.org/)

Set version info in 93-000020.py’s \_\_version\_\_ string and file\_version\_info.txt.

# Document History

|  |  |  |
| --- | --- | --- |
| Date | Version | Person |
| 2022-03-14 | Draft | Brian Alano |
| 2022-11-03 | Updated for Remote Client V1.4.0 | Brian Alano |