

Introduction

This a mini user guide to the VIS IWS TM HK Parameter Chooser (parameter_chooser.py) program.

Prerequisites

- python3
- git

Installation: Online Deployment

TBD

Installation: Offline Deployment

The parameter chooser is currently bundled in with the TM HK Monitor program.

If this has not already been done then choose a location to untar the HKTM_monitor gzipped tar file and untar it.

```
tar xvfz HKTM_monitor.tar.gz
```

Parameter Chooser

This program does not require any conda environment to be set.

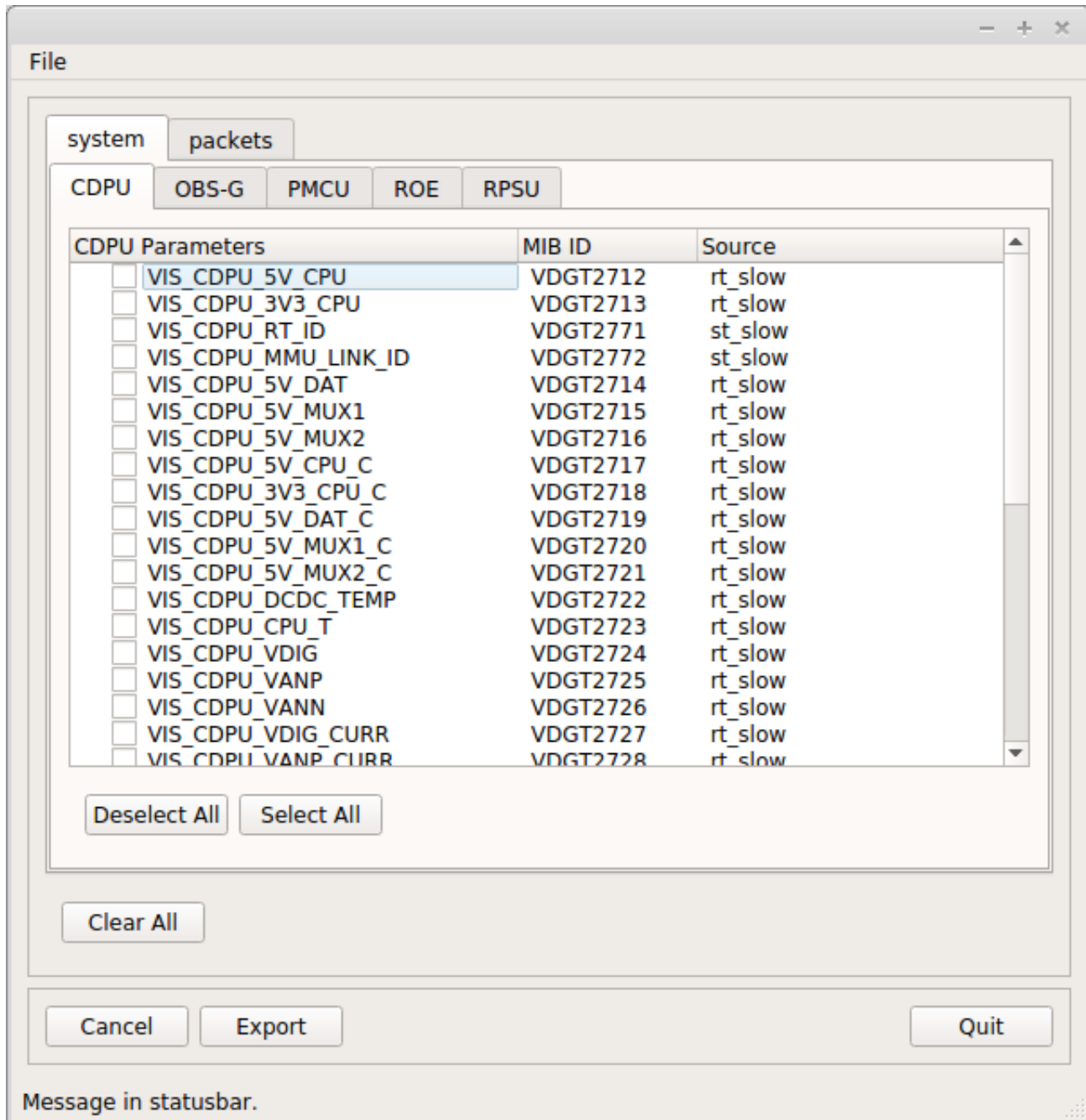
Launching

In an xterm change directory to where the program is installed. This document assumes that python3 is run using the `python` command. Use whatever command is required to run python3 on your system.

Launch the program:

```
python parameter_chooser.py
```

The main window will appear:



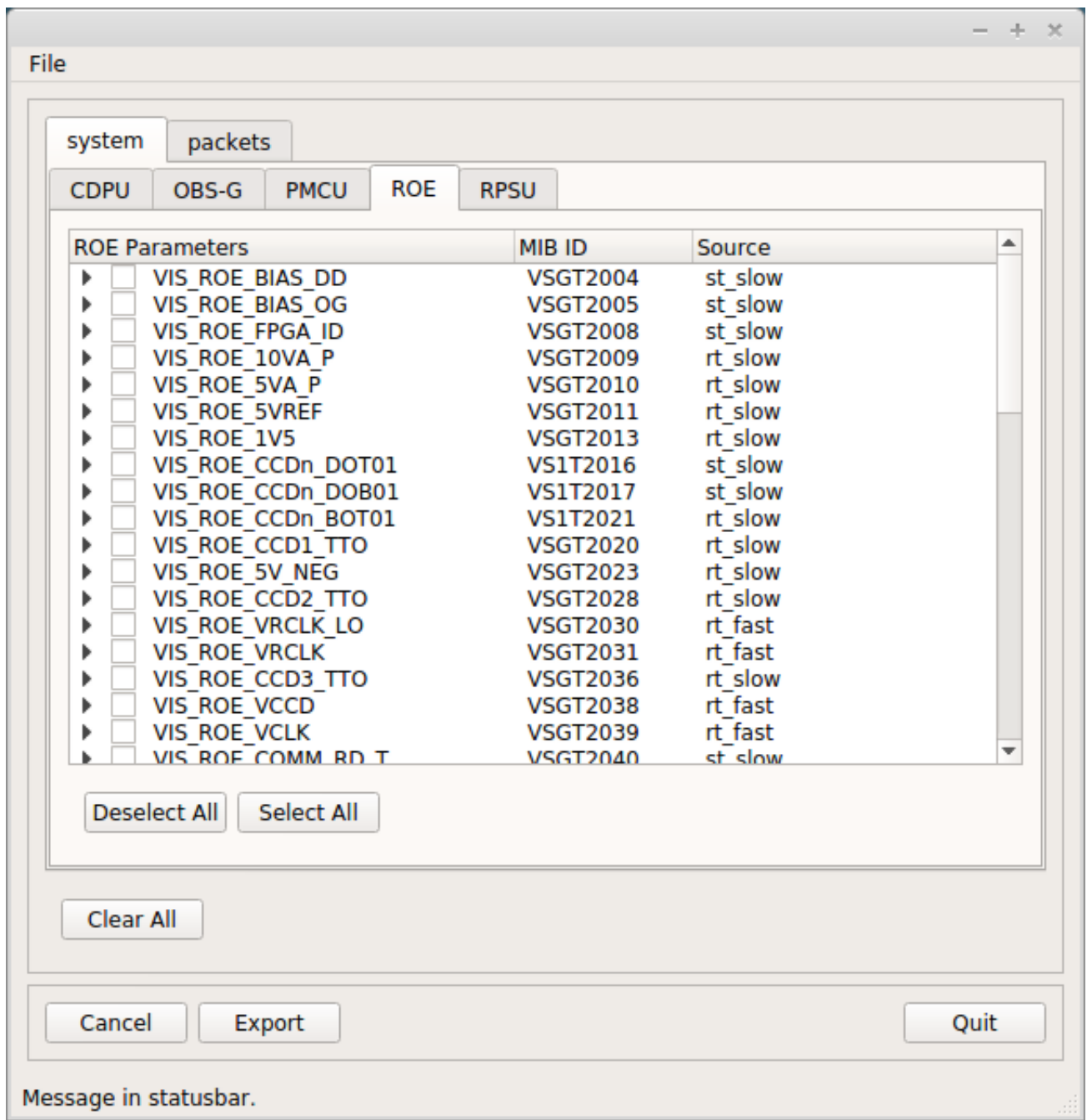
Operation

The top-level tab widget with tabs labelled **system** and **packets** allow the user to browse the HK parameters according to the system they refer to or by the HK telemetry packet in which they originate. These tabs are un-connected with each other: selecting parameters when the **system** tab is selected will not select the corresponding HK parameters in the **packets** tab. The same principle applies to exporting the selected HK parameters to a file.

Parameter Selection And Deselection

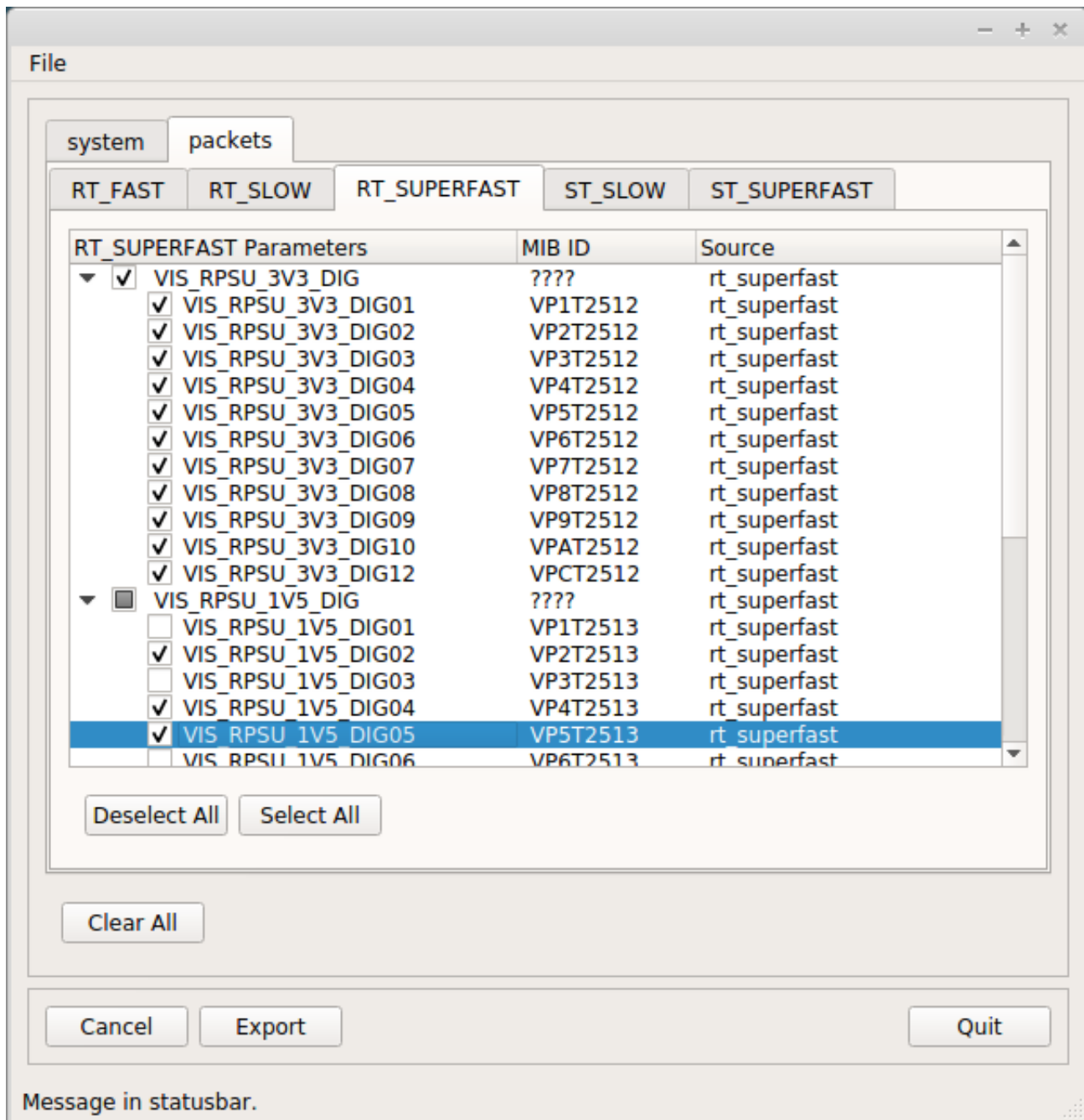
A parameter can be selected and de-selected by clicking the mouse in the tick box next to the parameter's

name. Some parameters are place-holders for multiple related HK parameters. This is shown by a disclosure arrow to the left of parameter and it's tick box.



All the parameters related to the place-holder can be selected by clicking the tick box. The related parameters can be revealed by clicking on the disclosure arrow. Individual parameters in a place-holder group can be selected. In this case the top tick box will change to a filled box to indicate this.

Note: Lines can be highlighted by clicking anywhere in the text. This has no effect on the operation of the program.



In each sub-tab there are 2 buttons: **Deselect All** and **Select All**.

The **Select All** button will select all the parameters in the currently displayed tab only.

The **Deselect All** button will deselect all the parameters in the currently displayed tab only.

The **Clear All** button below the tab widget will deselect all the parameters in all the sub-tabs of the currently selected main tab (**system** or **packets**) only. For example, if the **packets** main tab is selected then all the selected parameters in the sub-tabs *RT_FAST*, *RT_SLOW*, etc will be de-selected. The selected parameters in the sub-tabs of **system** will not be affected.

NOTE: A feature of the PyQt5 implementation of tick boxes leads to the situation where after using the **Deselect All** or **Clear All** buttons the place-holder tick box may still be indicating that some sub-parameters are selected (i.e. displaying a filled box). This is not actually the case and pressing the disclosure arrow for

that parameter will update the display correctly.

No use has yet been discovered for the **Cancel** button.

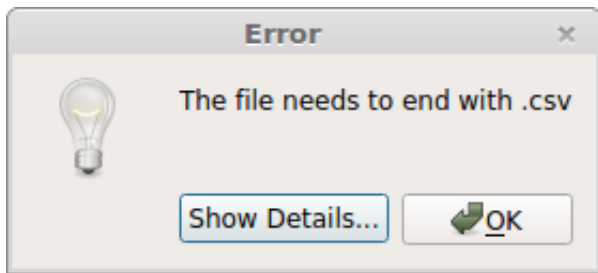
The **File** menu item is not yet operational.

To quit the program press the **Quit** button. This will bring up a dialog box confirming the decision to quit. Pressing **Cancel** in the dialog box will resume the program. Pressing **Quit** will quit the program.

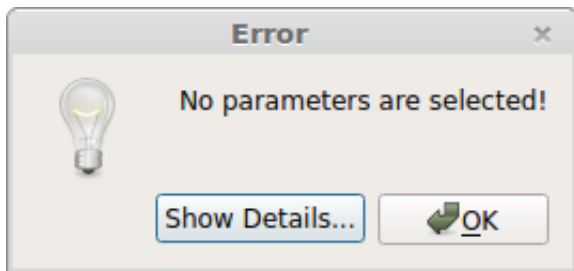
Parameter Export

The selected parameters can be saved to a csv file by clicking on the **Export** button. Clicking the **Export** button will bring up a standard PyQt5 file save dialog box if there are parameters selected. This gives the user a chance to navigate to a directory of their choice to save the parameters. The directory location will be remembered so that the next export of parameters will automatically selected the last used directory.

A valid filename must be entered with the file suffix '.csv'. If the filename is invalid then an error message box is displayed:



If no parameters have been selected then the user is alerted with another error message box:



All the parameters selected in all the sub-tabs will be exported. Again, the main tabs are un-connected. For example, if the **system** main tab is selected then all the selected parameters in the system sub-tabs (*CDPU*, *OBS-G*, etc) will be written to file.

Attempts to export the parameters to an existing file will bring up the standard PyQt5 over-write alert box.

Export Format

Currently the parameters are exported in an ASCII text csv format:

Parameter Name, Parameter MIB Id, Source

NOTE: The source field refers to which packet type the parameter originates from (i.e. rt_fast).

This can easily be adapted for any other future format required.

Future Work

- Adapt for multiple export formats with gui format selection.
- Maybe get the **File** menu functionality going.
- Adapt so that new configurations, parameters and windows can be defined for the TM TK Monitor program (it's original purpose in life).