Brief summary TRC to test with a robot in manual mode

(turtle remote control by keyboard)

1. Switches and button

1. on/off. Red is on.

2. in / out of field. Green is enabled. If 'out of field' (red), the robot will not move.
3. remote emergency stop on/off (remotes in backpack office).
4. restore backup. (5 sec=restore, we don't use it in this instruction).
5. Not used

Turn the robot on and switch the robot in field. This button is also used to reset localization. Point the robot toward where it should score (and parallel to the sidelines) when switching it to in field.

Note: The 'X' in 'devpcX' in the explanation below will be your devpc number, so for example 'devpc24'.

2. Connect to the robocup-network

Open a terminal: ctrl-alt-t

robocup@devpcX *$* sudo su

root@devpcX # robocup_network

check the online status:

root@devpcX # turtles_online

or ***root@devpcX #*** ping turtle(x) or ***root@devpcX #*** p(x) with (x) = 1 to 6, so for example 'p4'

3. Make, build and copy the correct Matlab software to turtle(s)

Open a second terminal ctrl-alt-t or split screen in terminator.

Log in as superuser   *robocup@devpcX $* sudo su

Start Matlab   *root@devpcX #* matlab

Open the calibration GUI   in Matlab   >>calgui

Select in the GUI under *generic* the used Team, Field, and Goal.

Make and build (make & compile the software for the selected options; use build_sim_all to build software for the simulator and build_all for the real robots):

>>make_all_install; build_all;

Copy the compiled code to selected online turtle:

>>copy_all turtle(x)   with (x)=1 to 6 or multiple, so for example: 'copy_all turtle235' to copy the software to robots 2, 3 and 5
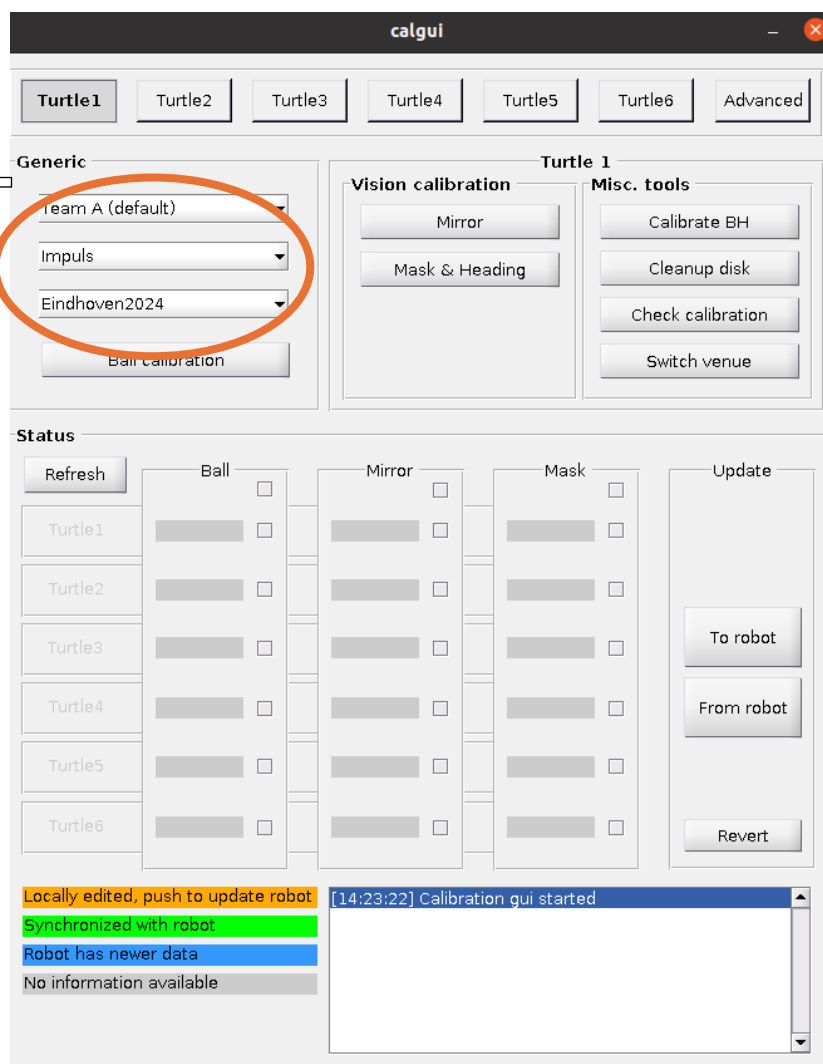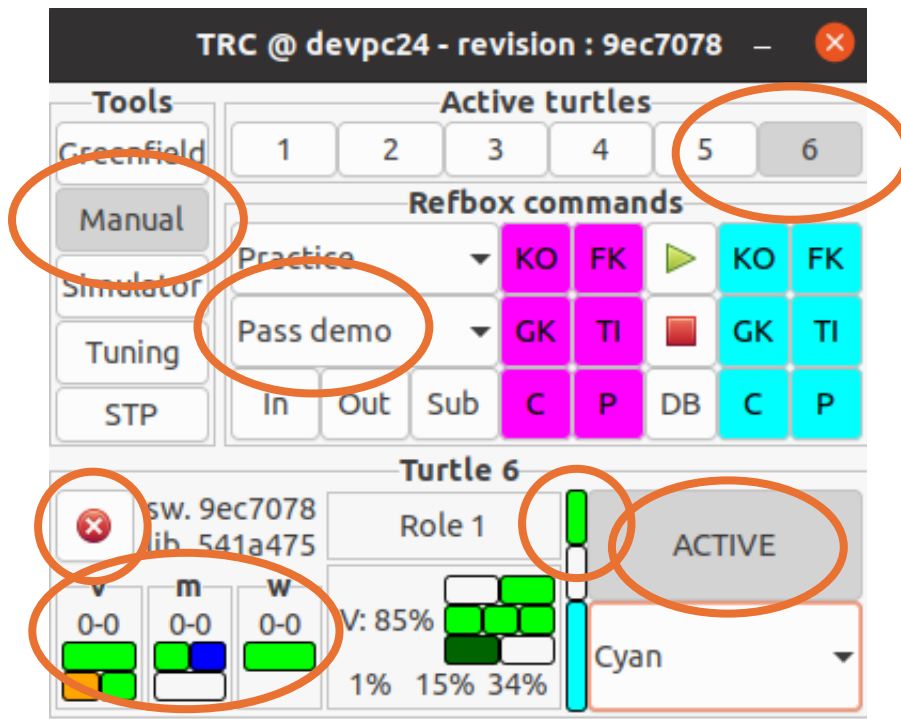
4. Start the TRC and test with a robot in manual mode

4.1 TRC

> Open a terminal and log in as superuser. **robocup@devpcX** $ sudo su
>
> **Start the Turtle Remote Control (TRC)** **robocup@devpcX** $ trc

In the section Active turtles, click on the number(s) of the robot(s) you want to test with. Then, a section for that specific robot will appear. In that section, start the software on the robot by clicking the green checkmark; it can be stopped later by clicking the same button again when it shows a cross like in the figure above.

Vision (v), Strategy (first colored indicator under m), Motion (second indicator under m) and World-model (w) should be green. Motion can also be blue when the robot is controlled in manual mode. Also check if the in/ out of field indicator (next to the robot's role) button is green. If not, also check its status on the real robot and switch it if necessary (see step 1 in this document).

Make sure the robot has an active role. Depending on the selected role assigner mode in the Refbox commands section (in the figure above it is Pass demo), different options are available for the robot. For moving the robot in manual mode, it's only important that the robot is **not** inactive.

4.2 Manual mode

Select Manual in the Tools section (top left) of the TRC to open the window shown below. In the Control section (top left), select the robot. Then press the Start button (and later the same button when it shows Stop like in the figure below.
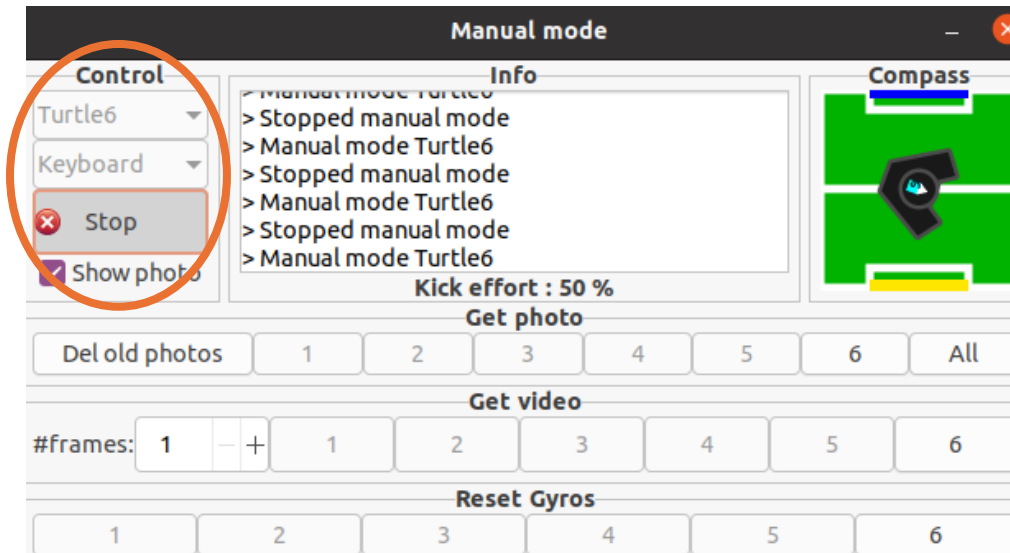
You can now control the robot with the keyboard. Hover the mouse over the Start/Stop button and the commands (also shown below) will appear.