QDrone 2 – Hardware Test

Cameras

What to expect in Camera Tests?

QDrone 2 has 4 cameras for a 360 view, a bottom facing camera and a depth camera in the front. This will guide you through those cameras and running a camera check or are through testing cameras individually in case of issues.

Cameras

QDrone 2 has 3 different type of cameras. As shown in figure 1. One forward facing RGB and depth camera, three side and back wide angle cameras and finally a downward facing greyscale camera (seen from the bottom ot the drone).

Forward-facing RGBD camera (RealSense)

Side and back 8MP RGB cameras

Downward-facing 1MP greyscale camera

Figure 1. Cameras in QDrone 2

Camera Test – MATLAB/Simulink

Open the QD2_cameras_2021a.slx file (figure 2) from the same folder containing this file.

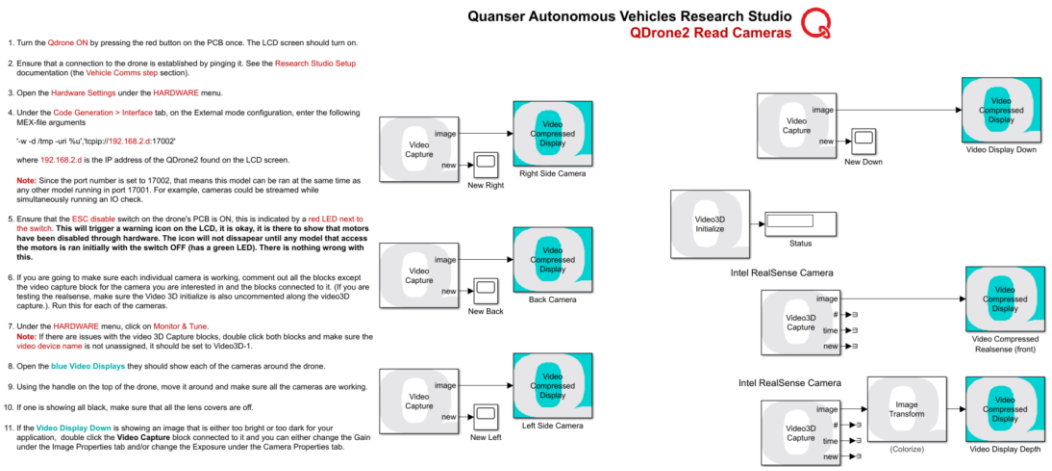

Figure 2. Read Cameras model

Follow the instructions on the left of the the Simulink model. It guides you through testing all cameras and how to change the model in case you want to test each camera individually.

If you are testing all cameras, your output should look like figure 3. The down facing camera is grayscale, both sides and back cameras are wide angle cameras and the realsense camera at the front of the drone will show an RGB and depth mapping of the same scene.

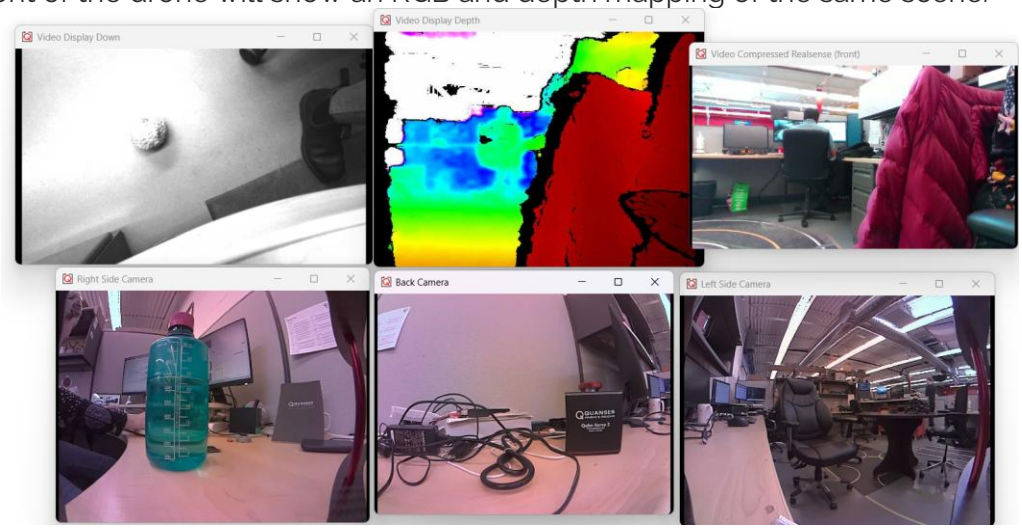

Figure 3. Model outputs

In case you encounter the error in figure 4 when running your model, make sure to double click the Video 3D capture blocks and make sure the video decivice name is not set up as unassigned (figure 5).

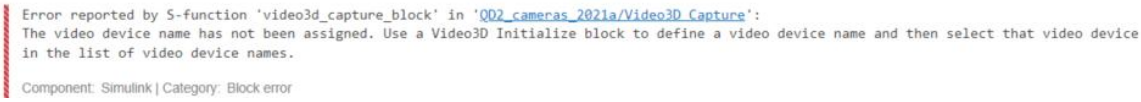

Figure 4. Compilation error on the video 3D Capture block

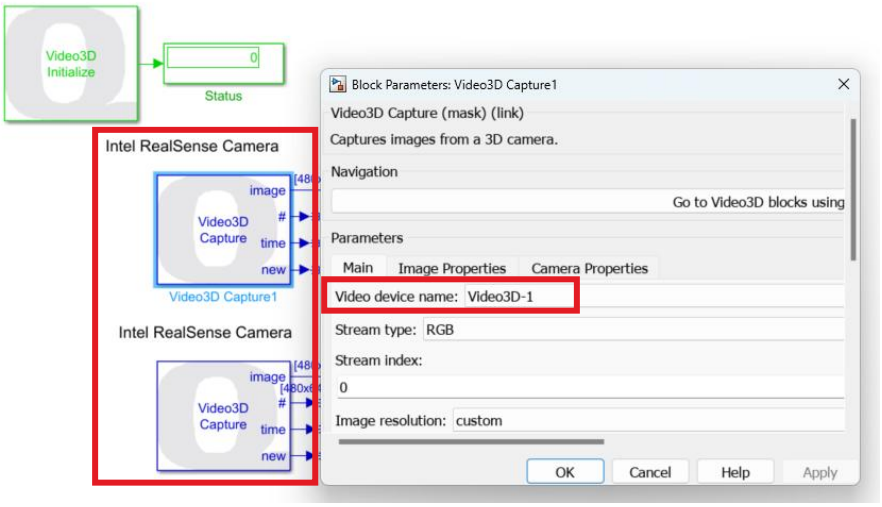

Figure 5. Setting video devices properly