QUANSER
INNOVATE·EDUCATE

Guides and Resources: Basic IO - QBot 2

Cameras

This document will summarize how to read data from the QBot 2's Kinect RGB-D camera.

Reading from the Cameras

Note: Ensure that your QBot 2 is powered ON and that a connection has been established to it. Follow the steps under Charging Vehicle Batteries and Communicating with the QBot 2 in the Research Studio Setup Guide.

Note: Ensure that you have read and understood all the safety procedures and guidelines regarding charging Lithium Polymer batteries as well as guidelines on using the QBot 2 in a safe manner outlined in the Research Studio Setup Guide. If you have any concerns or questions, please contact Quanser technical support (tech@quanser.com).

Note: Safety eye glasses should always be worn, even outside the net.

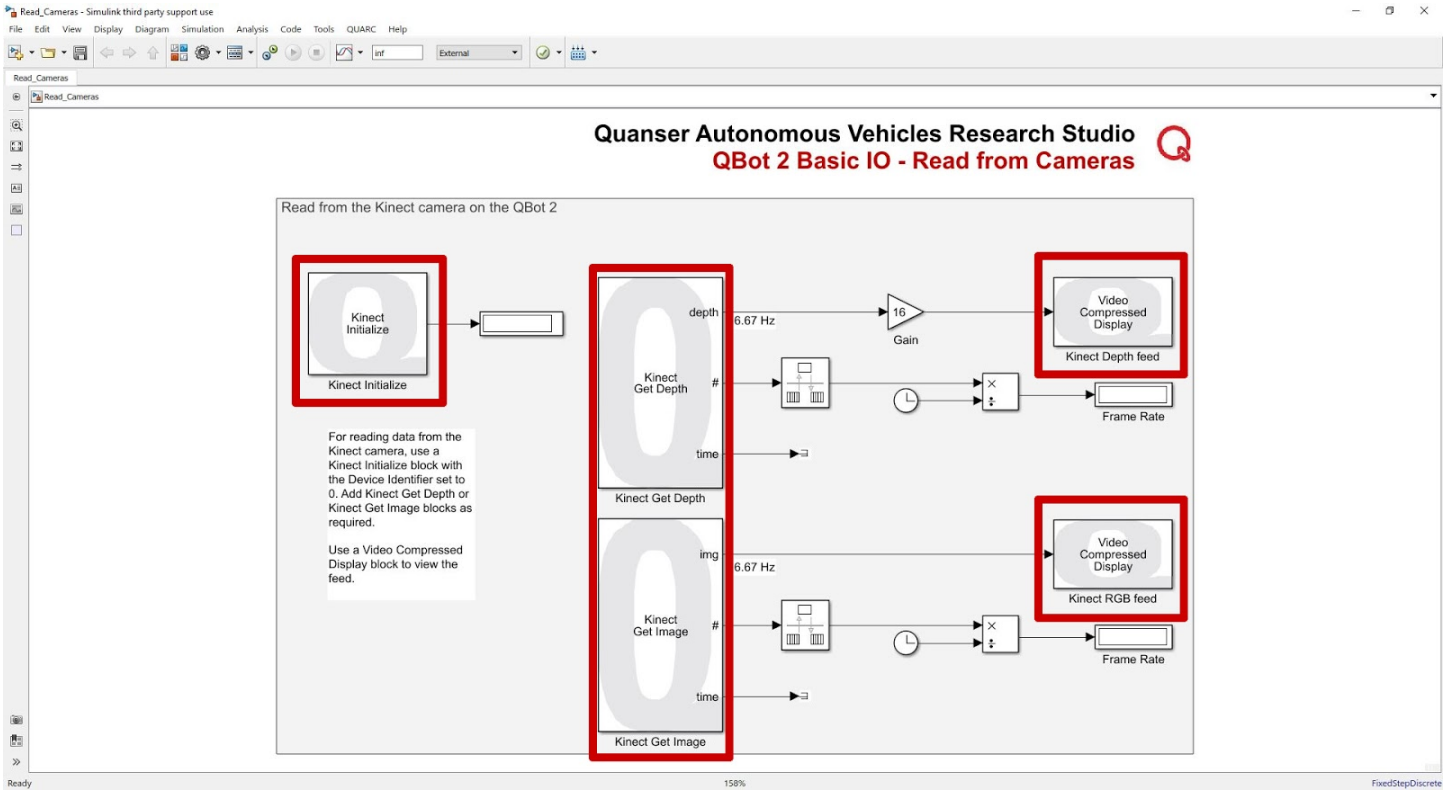


Figure 1: Read_Cameras.slx model, highlighting the Kinect Initialize, Kinect Get Depth, Kinect Get Image and Video Compressed Display blocks

1. Under the Guides and Resources > Basic IO > QBot 2 > Software folder, open Read_Cameras.slx (Figure 1)

Note: For the latest documentation and controllers, please visit Autonomous Vehicles Research Studio Resources.

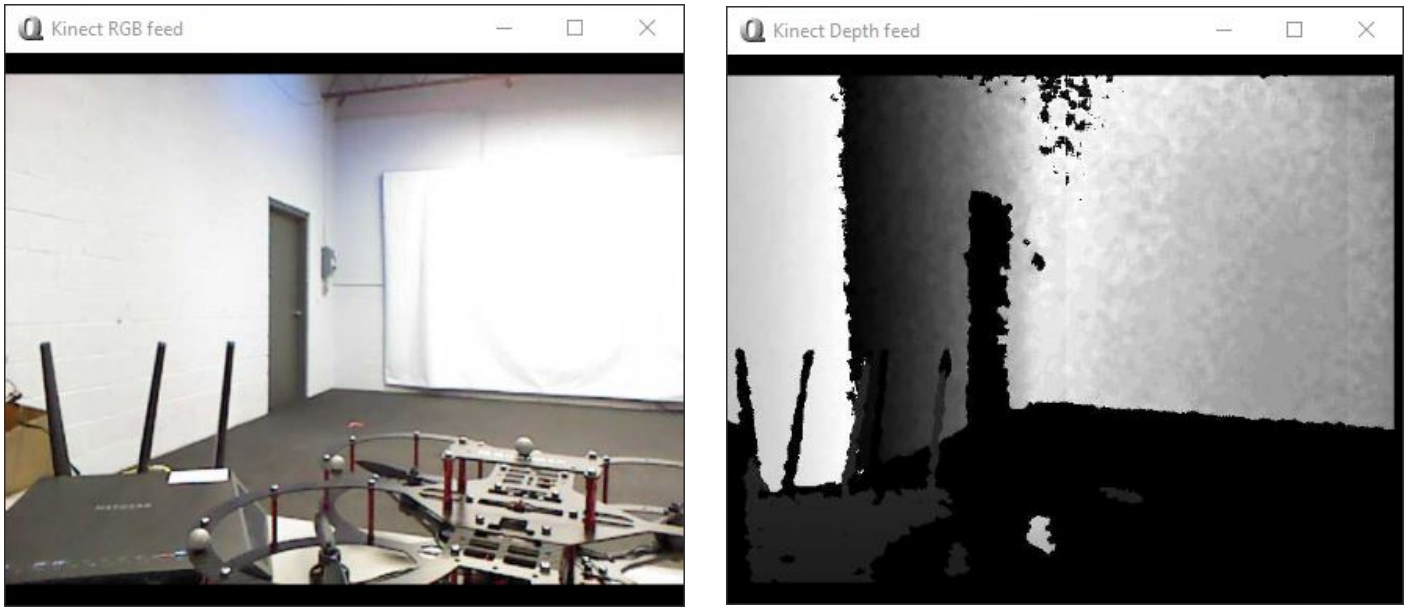
Autonomous Vehicles Research Studio Resources weblink:
https://www.quanser.com/products/autonomous-vehicles-research-studio/

2. Under Model Configuration Settings, enter the correct QDrone hostname.

Note: See the QBot 2 IO Check section in the Research Studio Setup Guide for more information.

3. Build the model (QUARC menu > Build).
4. Start the model (QUARC menu > Start).
5. The QBot 2 will emit a sequence of beeps, which signifies that the model has started running.
6. Ensure that safety glasses are worn. Enter the workspace and move the QBot 2. The Kinect RGB feed display (Figure 3a) should show the camera feed from the Kinect on the QBot 2 (Figure 2). The Kinect Depth feed display (Figure 3b) should show the camera feed from the Kinect on the QBot 2.

Figure 2: Kinect Camera on the QBot 2



a. RGB image b. Depth image

Figure 3: Camera feed from the QBot 2

7. Stop the model.

This completes a tutorial on how to capture images/videos from the QDrone. More information on configuring the Video Capture and Video Display blocks can be found under Guides and Resources > Concepts.