

Guides and Resources: Hardware - QBot 2e

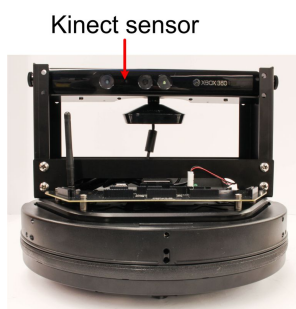
Camera

This document provides information on the QBot 2e's Kinect Camera.

Kinect RGB-D Camera

The Microsoft Kinect sensor is an integrated RGB camera and depth sensor used in a variety of experiments (Figure 1a). It's specifications are outlined in Table 1.

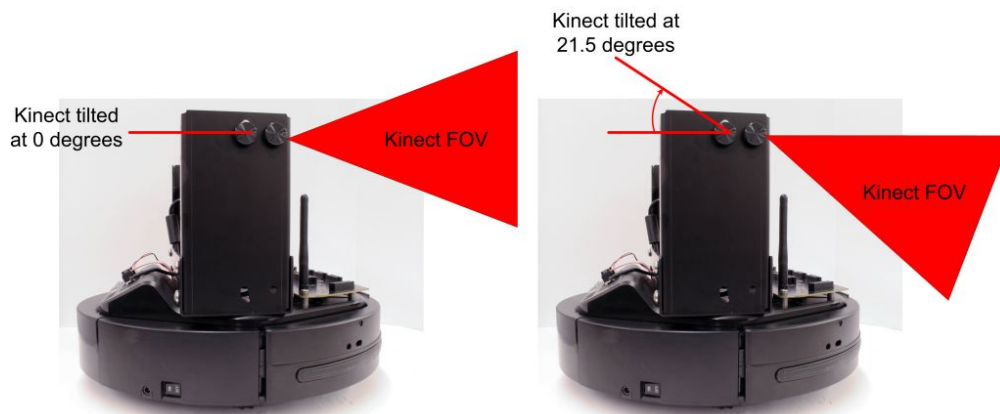
Table 1: Microsoft Kinect specifications	
Item	Description
Depth Sensing	11 bit depth sensing at 640x480, 0.5-6 m range
RGB Vision	640x480 @ 30 FPS



a. The QBot 2e with Kinect sensor



b. The QBot 2e Kinect thumb screws



c. The QBot 2e Kinect tilted at 0 degrees and 21.5 degrees

Figure 1 - The QBot 2e Kinect sensor

The QBot 2e Kinect is mounted on a structure that allows the Kinect to be oriented horizontally as well as tilted downward for various viewing positions. The QBot 2e Kinect structure has four thumb screws (two on each side) as shown in Figure 1b. To adjust the Kinect's viewing angle, loosen all of the thumb screws slightly but do not remove them all the way. Tilt the Kinect to the desired angle and tighten all of the thumb screws. The maximum and minimum angles are designed to allow the kinect to be oriented facing straight ahead (tilted at 0 degrees) as well as at an angle of 21.5 degrees such that the ground in front of the QBot 2e in the viewing angle as shown in Figure 1c.