

Intel Realsense Guide

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*Note: This is for general use and should suffice in most cases. For some use cases (e.g. SLAM algorithms), specific driver versions might be required.

Assumption: Using Ubuntu 16.04/18.04/20.04

Installation (proved to work on D400 series, L515, as of Dec 2021)

1. Build Intel Realsense SDK from source
 - Go to [Releases](#), download **v2.45.0** source code in the Asset dropdown menu
 - Check secure boot status:
 - `dmesg | grep -i secure`
 - If secure boot was enabled, disable it by entering BIOS and disable secure boot
 - For Intel NUC, press F2 continuously during boot to enter BIOS
 - Follow [Linux Ubuntu Installation](#) to build the downloaded SDK from source
 - To test whether installation has succeeded, type in command
 - `realsense-viewer`
2. Build Realsense ROS driver from source
 - Go to [Releases](#), download v2.3.0 source code to your catkin_ws
 - Follow **Method 2 - Step 2** in the readme of [realsense2_camera](#) Github repo.

Common Questions

1. How to turn on IMU: If you're using D435i or L515 (both have an IMU), set these parameters to stream the IMU data:
 - a. `<arg name="gyro_fps" default="200"/>`
 - b. `<arg name="accel_fps" default="200"/>`
 - c. `<arg name="enable_gyro" default="true"/>`
 - d. `<arg name="enable_accel" default="true"/>`
 - e. `<arg name="unite_imu_method" default="linear_interpolation"/>`
2. L515 can't stream any frames while using default launch file: This is likely because the colored frame size doesn't match any supported sizes. Setting the following parameters should work (and some other sizes are also supported):
 - a. `<arg name="color_width" default="1280"/>`
 - b. `<arg name="color_height" default="720"/>`
3. L515 only streams a small point cloud: Set the following parameter to get more points
 - a. `<arg name="allow_no_texture_points" default="true"/>`
4. Are IMU and camera frames aligned: For D435i, each IMU sample is multiplied internally by the extrinsic matrix. So, they share a coordinate frame. [\[ref\]](#)
5. Timestamps of IMU and camera don't match:

- a. Check the version of the realsense ROS driver. V2.2.22 and above have resolved this issue.
 - b. If you have a lower version, add the patch as described in realsense_ros issue [#1684](#)
- 6.