Introduction

Simulation is a logical place to start, as this is universally applicable. Whether you actually have a 0X-Delta robot or not, the 0X-Delta simulator is a great way to get started with ROS robot development. 0x-DELTA robot comes with a 3D model that can be used for development in 3D simulator such as Gazebo. Visualization of sensor like LIDAR on robot can be done in 3D visualization tools such as Rviz.

Understanding how to effectively operate 0x-DELTA robot in simulation is valuable whether you are is in the testing phase with software which is intended to ultimately deploy on a real 0x-DELTA robot, or you do not have one and are simply exploring the platform's capabilities.

Navigation is a follow-on to what is learned in the simulation, as navigation and map-making may be run in the simulated environment. However, this content is applicable to both the simulator and the real platform, if equipped with a laser scanner.

Videos:

1. ROS | GAZEBO | 0X-DELTA teleoperation using Interactive Marker and Obstacle Avoidance Application.

{youtube}AbW4d_DYHIo&feature=g-all-u{/youtube}

2. Frontier exploration using SLAM (Gmapping) with 0X-DELTA robot in simulation.

{youtube}zzmbcBxhUSM&feature=g-all-u{/youtube}

3. 0X-DELTA robot exploration.

{youtube}ifHtfHEVO5Q&feature=g-all-u{/youtube}

4. Navigating 0X-DELTA robot using move base node.

{youtube}E1lur720E4M&feature=g-all-u{/youtube}

5. 0X-DELTA multi-robot SLAM.

{youtube}X3mplniHikA&feature=g-all-u{/youtube}

6. Autonomous navigation of 0X-Delta Robot on merged map created by multiple 0X-Delta Robots.

{youtube}DMBkGUZ4BSU&feature=g-all-u{/youtube}