Controllers

This page is for describing how to use the manual controllers we have for the sub.

Joystick

This is composed of two programs, joystick_driver and joystick_control. The joystick_driver reads the joystick and publishes the joystick's state to a topic, while joystick_control subscribes to this topic and publishes control messages.

Forward/back and left/right cause the sub to move forward/back, left/right as expected. Twisting the joystick controls the sub's yaw. The hat affects pitch and roll, while pulling the trigger resets the sub to a neutral orientation. The throttle is used for controlling the depth of the sub, with the min and max depths are controlled by settings in the parameter server.

Gamepad

This is composed of two programs, gamepad_driver and gamepad_control. The gamepad_driver reads the gamepad and publishes the gamepad's state to a topic, while gamepad_control subscribes to this topic and publishes control messages.

Forward/back and left/right on the left stick cause the sub to move forward/back, left/right. Left/right on the left stick controls the sub's yaw. The d-pad affects pitch and roll, while pressing the 'A' or 'X' button resets the sub to a neutral orientation. The triggers are used for controlling the depth of the sub. Unlike the Joystick, there are no min/max depth settings. The right trigger dives while the left trigger rises. The relative depth change is computed with the difference between the two triggers so there is no harm in pulling both triggers at the same time.