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ROS Topics

This page is a description of all the topics we are using (or plan to use) on the sub.



Sensors

/orientation

Message: geometry_msgs/Quaternion

The current orientation of the sub, given as a quaternion. Any code wanting to know the sub's orientation should use this topic, not /orientation/rpy.

/pretty/orientation

Message: robosub/Euler

The current orientation of the sub, given in roll, pitch, yaw. This is meant just for human readability of the sub's orientation, code should use the /orientation topic.

/depth

Message: std_msgs/Float32
The current depth of the sub.

Movement

/thruster

Message: robosub/thruster

Dynamic array of commands going to the thrusters. Order of the thrusters is dependent on their order in the settings file.

/control

Message: robosub/control

Send messages to this topic to move the sub around, the control system subscribes to this topic.

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/joystick driver

Message: robosub/joystick This is the raw joystick state, published by the joystick driver. Shows the current state of all axes and buttons on the joystick.

/gamepad_driver

Message: robosub/gamepad This is the raw gamepad state, published by the gamepad driver. Shows the current state of all axes and buttons on the gamepad.

Vision

/camera/(left|right|bottom)/image

Message: wfov camera msgs/WFOVImage

Images from our cameras.

/vision/buoy/(red|green|yellow)

Message: robosub/visionPosArray

Describes where the buoy is in the sub's view.

/vision/start_gate

Message: robosub/visionPosArray

Describes how many posts of the start gate can be seen and where they are located in the sub's view.

/vision/navigate_pass

Message: robosub/visionPosArray

Describes where the yellow channel is in the sub's view.

/vision/bins

Message: robosub/visionPosArray

Describes where the marker bins are in the sub's view.

/vision/torpedo_target

Message: robosub/visionPosArray

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Describes where the torpedo targets are in the sub's view.

/vision/octagon

Message: robosub/visionPosArray

Describes where the octagon is in the sub's view.

Hydrophones

/hydrophones/[Frequency]/deltas

Message: Duplicated for all frequencies in the pool. Contains the latest time deltas between the reference and other 3 hydrophones.

Header header duration d1 duration d2 duration d3

/hydrophones/[Frequency]/timestamps

Message: Duplicated for all frequencies in the pool. Contains the latest timestamps recorded by the system.

Header header
Time ref
Time t1
Time t2
Time t3

/hydrophones/[Frequency]/debug

Message: Used for debugging the hydrophone system.

Header header
Int64 frequency
Int64 avg_sig_strength
Float64 approx_angle

/hydrophones/[Frequency]/output/direction

Message: robosub/Euler

Used for sending the angle from the forward direction to the pinger. Roll will always be zero while

Pitch and Yaw should be filled out.

/hydrophones/[Frequency]/output/location

Message: geometry_msgs/Point

Used for sending the final result of the Trilaterization calculations.

From:

https://robosub.eecs.wsu.edu/wiki/ - Palouse RoboSub Technical Documentation

Permanent link:

https://robosub.eecs.wsu.edu/wiki/cs/topics_list/start?rev=1502834512

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