

HUSKY Setup

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Swift Console

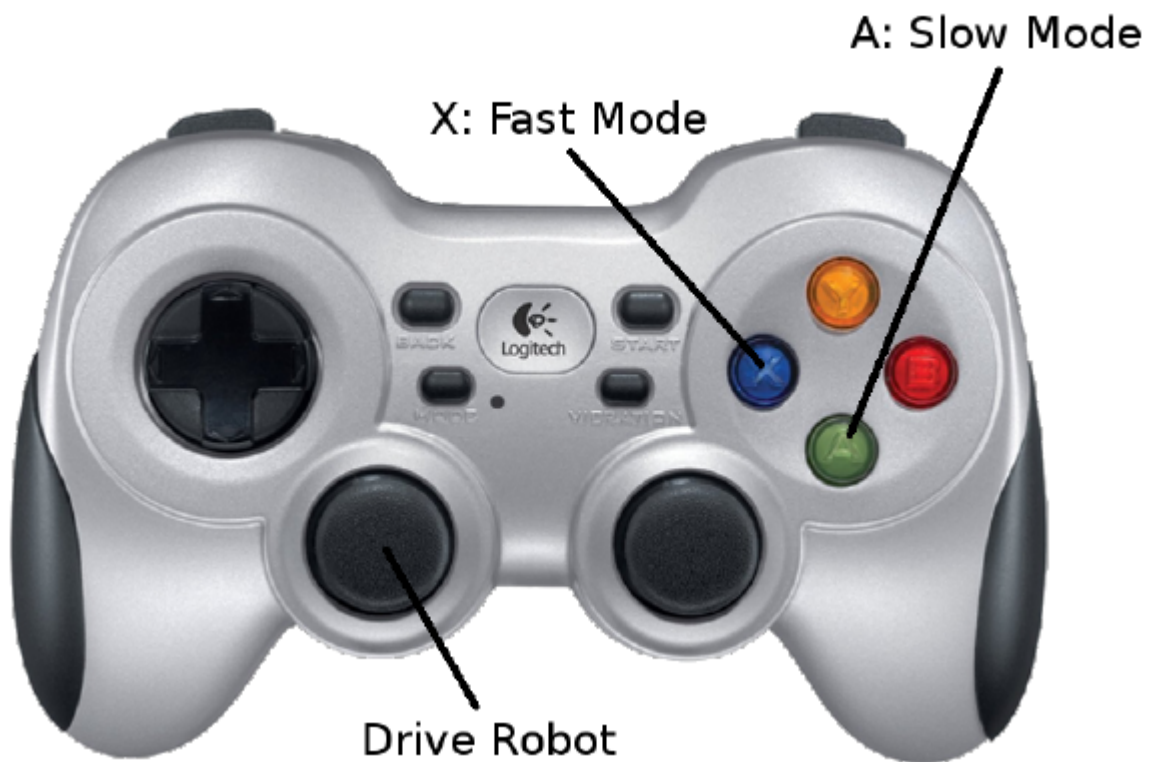
HUSKY Setup

Safety Inspection

1. Inspect for loose connections on HUSKY, tighten the connections if present or remove if not required.
2. Inspect for undesirable obstacles, remove them if present.
3. Stand 2-3m away while starting initially
4. Always have HUSKY within your supervision while driving to avoid clashing with rocks and even with your self !

Turning On HUSKY

1. If battery not present or fully discharged remove the battery door and connect the battery power cable into the MCU(Just match colors).
2. Turn on the Husky by pressing on circular button it will illuminate blue.
3. Release all emergency stop controls on the Husky(turn the E-Stop clockwise) and the Key anti clockwise. The "COMM" light should illuminate green.
4. Use the gamepad to control Husky's motion. Kindly note you can move the HUSKY at variable speed by slowing moving the left hand joystick.



Network Configuration HUSKY

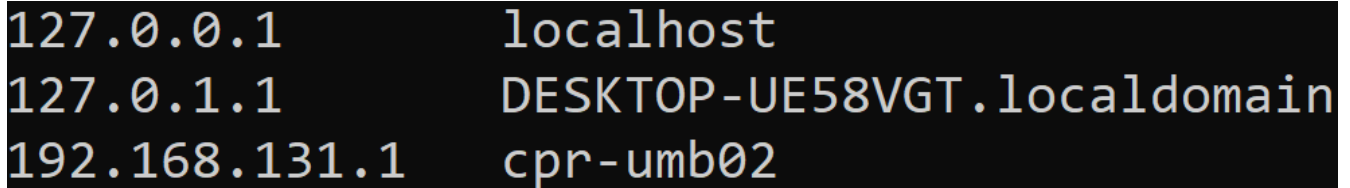
PARAMETER	VALUE
Robot Static IP	192.168.131.1
Robot Hostname	cpr-umb02
Robot Username	administrator
Robot Password	clearpath
Serial Number	a200-0483
ARK IP	192.168.132.111
Front Hokuyo UST10LX IP	192.168.132.21
Rear Hokuyo UST10LX IP	192.168.132.22
SwiftNav IP	192.168.0.222
Access Point Radio IP	192.168.131.51
Access Point Radio Username	admin
Access Point Radio Password	clearpath
Access Point SSID	UMB02 Husky

Communicating With HUSKY

Please check if in Ubuntu on your local computer, has the following configuration, instruction as follows;

```
sudo nano /etc/hosts
```

The output should look something like below image, kindly note the last line in this image is the most important.



```
127.0.0.1      localhost
127.0.1.1      DESKTOP-UE58VGT.localdomain
192.168.131.1  cpr-umb02
```

If its not present kindly type that line in, once done press Ctrl+x then you will promoted with a message to save the file Yes or No, type Y and press Enter.

Setup for communication is now complete.

To communicate directly with the robot PC, you can SSH in. It will be necessary to SSH into the robot for tasks such as installing, modifying or removing software and files on the robot. Note that you will not be able to use GUI tools such as rviz over an SSH connection:

```
ssh administrator@192.168.131.1
```

OR

```
ssh administrator@cpr-umb02
```

In order to use rviz and other visualization tools, you must declare the robot as master, and set the user computer IP. In a console on the user pc, type:

```
export ROS_MASTER_URI=http://cpr-umb02:11311
```

You should then be able to view a list of topics published by the robot with:

```
rostopic list
```

It will be necessary to declare the robot as master in every new terminal window.

To ease communications between the robot and your computer, you can also add a similar entry in the robot's computer, pointing at one or more development computers.

Setting Up Sensors

Instructions for setting up and reading from sensors on the HUSKY.

Velodyne - LIDAR

Swiftnav - GPS

There are 2 ways to capture data;

1. Using the software called Swift console
2. Using the terminal

Terminal

Using *rosvbag* to *record* and play the gps data.

1. Make a folder into your local computer and enter that folder:

Type following code in your Terminal

```
$ mkdir GPS_DATA_<SITE_NAME>
```

```
$ cd GPS_DATA_<SITE_NAME>
```

2. Start recording the GPS data:

Type following code in your Terminal:

```
$ rosvbag record -o -<filename> /piksi/navsatfix_best_fix
```

To stop recording enter "ctrl+c"

Then you could see the data file in the folder created in step 1

You could read the bag file you just record via

```
$ rosvbag play <filename.bag> --topic /piksi/navsatfix_best_fix
```

Once completed you can also change your bag file to txt/xls/csv file.

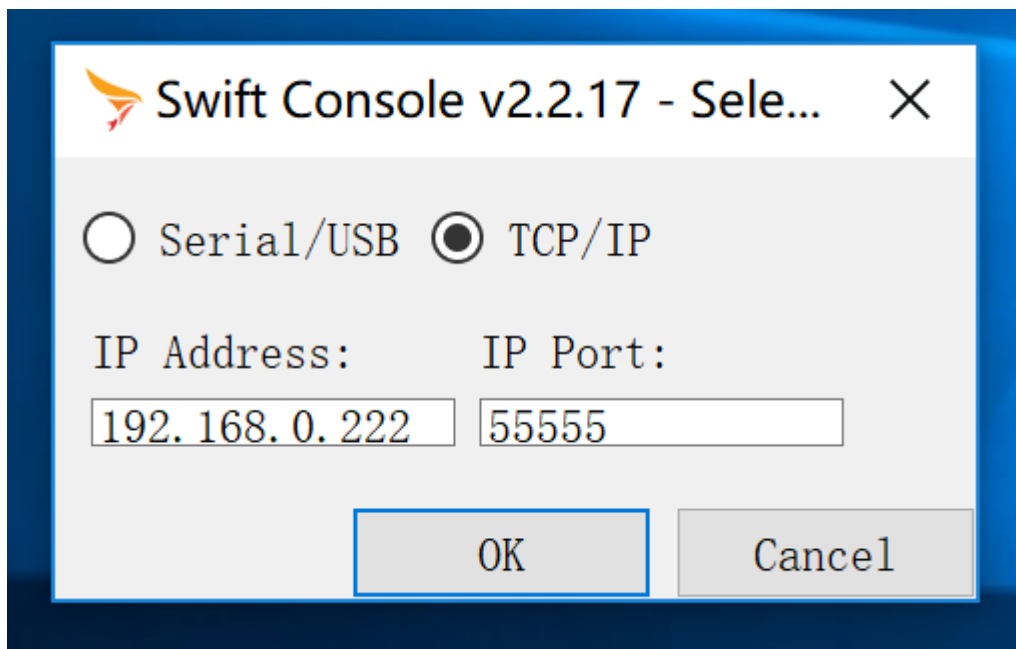
```
$ rostopic echo -b filename.bag -p /piksi/navsatfix_best_fix > filename.<fileformat>
```

Swift Console

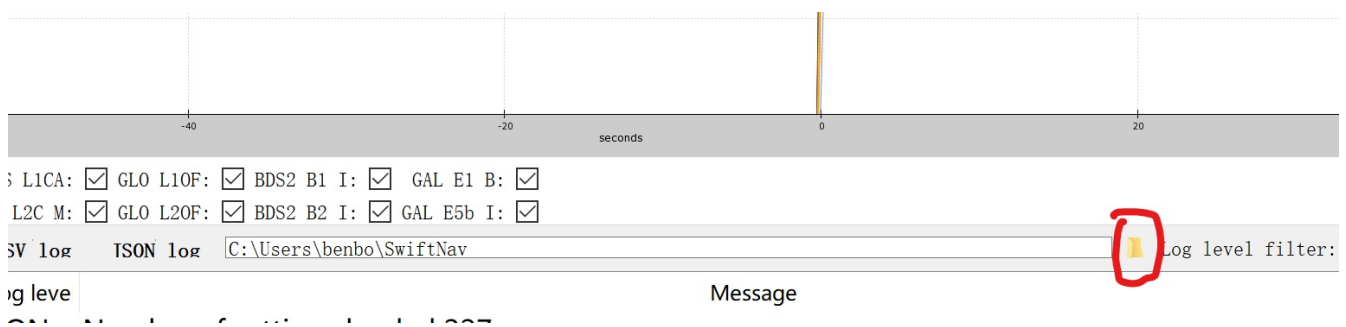
1. Open the Swift Console:



2. Choose TCP/IP mode and click OK:



2. Click the folder icon to select a folder and choose your desired location to save data:



3. After selecting the folder, click the 'CSV log' button to start recording data, click again to end recording.



row Legend: ☒ GPS L1CA: ☒ GLO L1OF: ☒ BDS2 B1 I: ☒ GAL E1 B: ☒

GPS L2C M: ☒ GLO L20F: ☒ BDS2 B2 I: ☒ GAL E5b I: ☒

* Console Log CSV log TSON log C:\Users\benbo\SwiftNav

ost timestamp	Log leve
---------------	----------

ar 25 2019... CON... Number of settings loaded 227

```

ar 25 2010 CON Loaded settings yaml file from path C:\DPOCDA_1\1\CSW\IETM_1\1\CSW\IETC_1\1\

```

4. You should be able to see 3 CSV files inside your folder you choose; Baseline, Position and Velocity.