

Chapter 3: Chassis control command issuance

(based on ROS messages)

3.1 Preparatory matters

(Note: the stile needs to be set up in case of accidents)

1. Open the terminal: `candump can0` and enter the command to see if the communication between the controller and the chassis is normal.

```
t@t-Default-string:~$ candump can0
can0 502 [8] 02 00 00 01 F4 01 F4 F0
can0 500 [8] 02 00 00 00 00 00 00 00
can0 501 [8] 02 00 00 00 00 00 00 00
can0 505 [8] 00 01 00 00 20 00 14 00
can0 506 [8] 00 00 00 00 00 00 00 00
can0 101 [8] 01 00 00 00 00 00 00 00
can0 103 [8] 01 04 00 00 00 00 00 00
can0 104 [0]
can0 102 [8] 01 00 00 01 F4 00 00 00
can0 100 [8] 01 00 00 00 00 1F 00 00
can0 105 [8] 00 01 00 00 00 00 00 00
can0 507 [8] 00 00 00 00 00 00 00 00
can0 509 [8] 00 00 00 00 00 00 00 00
can0 511 [8] 00 00 00 00 00 00 00 00
can0 512 [8] 1C B6 70 33 20 00 8C 00
can0 502 [8] 02 00 00 01 F4 01 F4 F0
can0 500 [8] 02 00 00 00 00 00 00 00
```

如过没有出现can0, can1, 表示can驱动启动失败

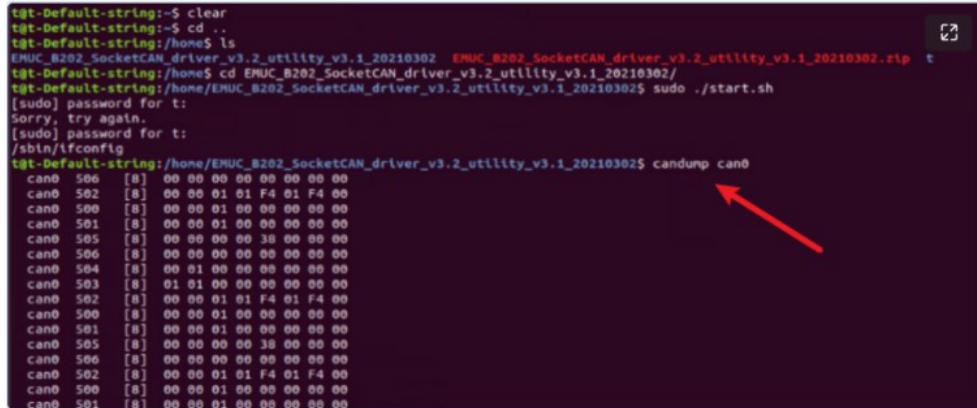
- 如果是晨曜工控机, 请执行以下

- 1 在该目录~/Downloas/B202下执行
- 2 `sudo ./start_2p.sh`
- 3 输入密码: 12345678

```
cheny@chenyys-Miso-6180G:~$ cd Downloads/
cheny@chenyys-Miso-6180G:~/Downloads$ ls
automore  automore_20210111.bag  automore_220111.pcd  boundary_test.sh  ccrwata-setting_ar.clp  cert.pem  key.pem  novatel_us  W2021A-Linux-ads_64-470_63.01.run  other  oster_time_sync  SDK
cheny@chenyys-Miso-6180G:~/Downloads$ cd B202/
cheny@chenyys-Miso-6180G:~/Downloads/B202$ ls
mmuc2socketcan.ko  mmuc2socketcan_installation_guide_20210304.pdf  mmuc2_64  M0070.md  release_note.txt  start_2p.sh
start_2_4p_相同波特率.sh  start_2p.sh  start_4p_不同波特率.sh
cheny@chenyys-Miso-6180G:~/Downloads/B202$ sudo ./start_2p.sh
```

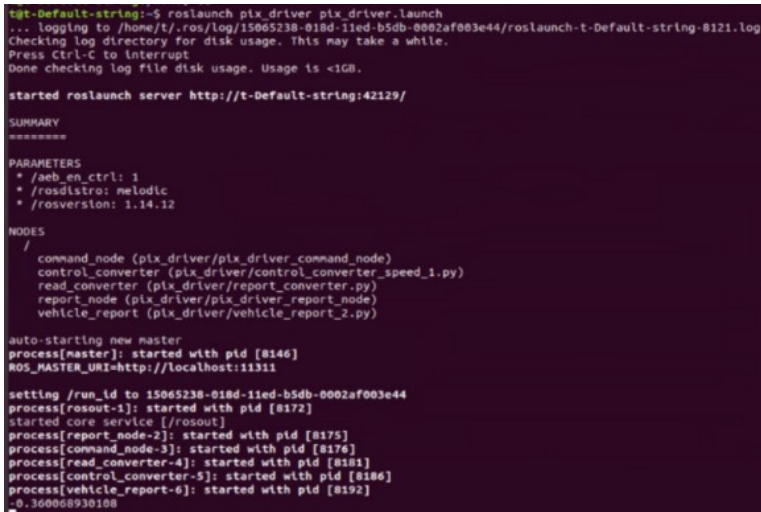
- 如果是集合诚工控机，请执行以下

```
1  在该目录/home/EMUC_B202_SocketCAN_driver_v3.2_utility_v3.1_20210302下执行
2  sudo ./start.sh
3  输入密码: 11111111
```



```
tgt-Default-string:~$ clear
tgt-Default-string:~$ cd ..
tgt-Default-string:/home$ ls
EMUC_B202_SocketCAN_driver_v3.2_utility_v3.1_20210302  EMUC_B202_SocketCAN_driver_v3.2_utility_v3.1_20210302.zip
tgt-Default-string:/home$ cd EMUC_B202_SocketCAN_driver_v3.2_utility_v3.1_20210302/
tgt-Default-string:/home/EMUC_B202_SocketCAN_driver_v3.2_utility_v3.1_20210302$ sudo ./start.sh
[sudo] password for t:
Sorry, try again.
[sudo] password for t:
/sbin/lfdconfig
tgt-Default-string:/home/EMUC_B202_SocketCAN_driver_v3.2_utility_v3.1_20210302$ candump can0
can0 506 [8] 00 00 00 00 00 00 00 00
can0 502 [8] 00 00 01 01 F4 01 F4 00
can0 500 [8] 00 00 01 00 00 00 00 00
can0 501 [8] 00 00 01 00 00 00 00 00
can0 505 [8] 00 00 00 00 38 00 00 00
can0 506 [8] 00 00 00 00 00 00 00 00
can0 504 [8] 00 01 00 00 00 00 00 00
can0 503 [8] 01 01 00 00 00 00 00 00
can0 502 [8] 00 00 01 01 F4 01 F4 00
can0 500 [8] 00 00 01 00 00 00 00 00
can0 501 [8] 00 00 01 00 00 00 00 00
can0 505 [8] 00 00 00 00 38 00 00 00
can0 506 [8] 00 00 00 00 00 00 00 00
can0 502 [8] 00 00 01 01 F4 01 F4 00
can0 500 [8] 00 00 01 00 00 00 00 00
can0 501 [8] 00 00 01 00 00 00 00 00
```

2. Start pix_driver: roslaunch pix_driver pix_driver.launch



```
tgt-Default-string:~$ roslaunch pix_driver pix_driver.launch
... logging to /home/t/.ros/log/15065238-018d-11ed-b5db-0002af003e44/roslaunch-t-Default-string-8121.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://t-Default-string:42129/

SUMMARY
*****
PARAMETERS
 * /web_en_ctrl: 1
 * /roslsro: melodic
 * /rosversion: 1.14.12

NODES
 /
  command_node (pix_driver/pix_driver_command_node)
  control_converter (pix_driver/control_converter_speed_1.py)
  read_converter (pix_driver/report_converter.py)
  report_node (pix_driver/pix_driver_report_node)
  vehicle_report (pix_driver/vehicle_report_2.py)

auto-starting new master
process[master]: started with pid [8146]
ROS_MASTER_URI=http://localhost:11311

setting /run_id to 15065238-018d-11ed-b5db-0002af003e44
process[rosout-1]: started with pid [8172]
started core service [/rosout]
process[report_node-2]: started with pid [8175]
process[command_node-3]: started with pid [8174]
process[read_converter-4]: started with pid [8181]
process[control_converter-5]: started with pid [8186]
process[vehicle_report-6]: started with pid [8192]
-0.360068930108
```

3. Launch socketcan_bridge: roslaunch socketcan_bridge socketcan_bridge.launch

```

t-Default-string:/$ roslaunch socketcan_bridge socketcan_bridge.launch
... logging to /home/t/.ros/log/951dc378-0185-11ed-b5db-0802af083e44/roslaunch-t-Default-string-7321.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://t-Default-string:33965/

SUMMARY
-----
PARAMETERS
 * /rostdistro: melodic
 * /rosversion: 1.14.12
 * /socketcan_bridge/can_device: can0

NODES
 /
  socketcan_bridge (socketcan_bridge/socketcan_bridge_node)

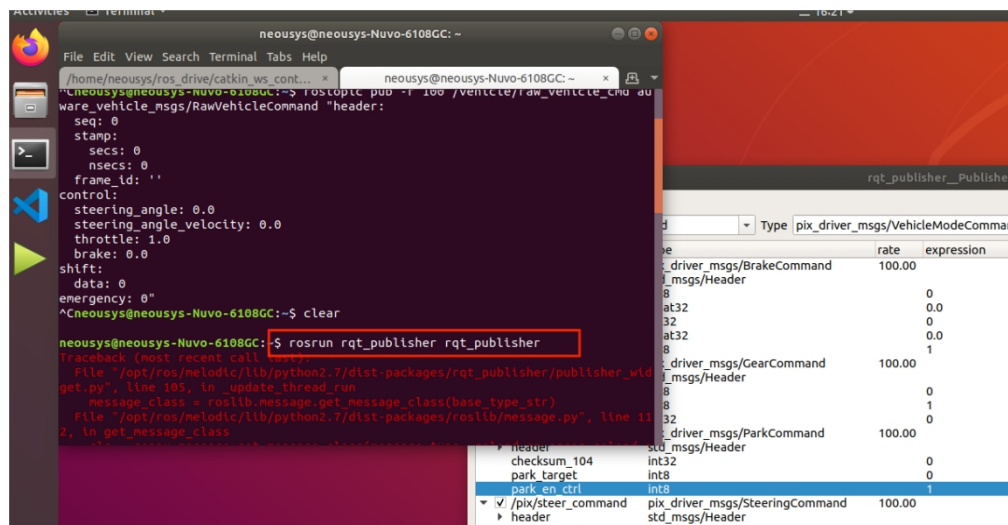
ROS_MASTER_URI=http://localhost:11311

process[socketcan_bridge-1]: started with pid [7351]
[INFO] [1657593204.404556611]: Successfully connected to can0.

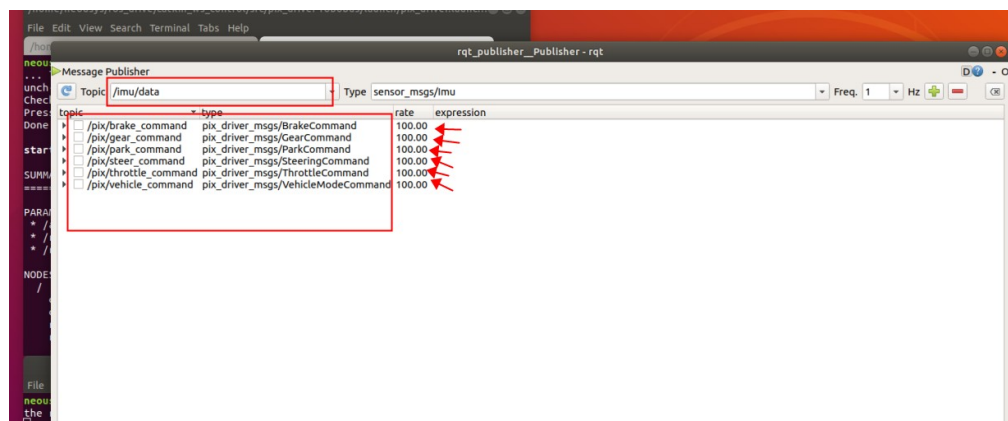
```

3.2 Speed, steering, brakes.

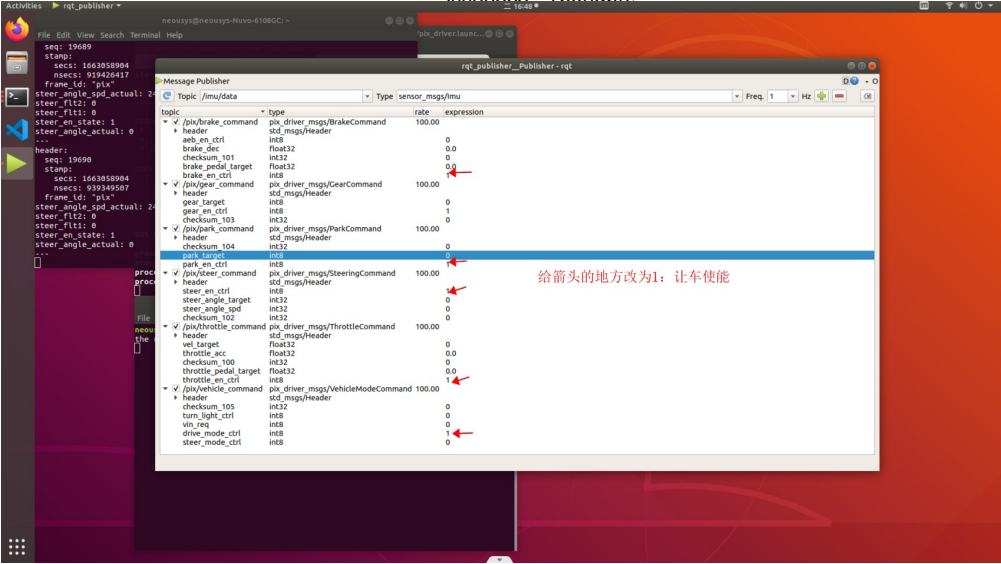
Start the ros tool: `roslaunch rqt_publisher rqt_publisher`



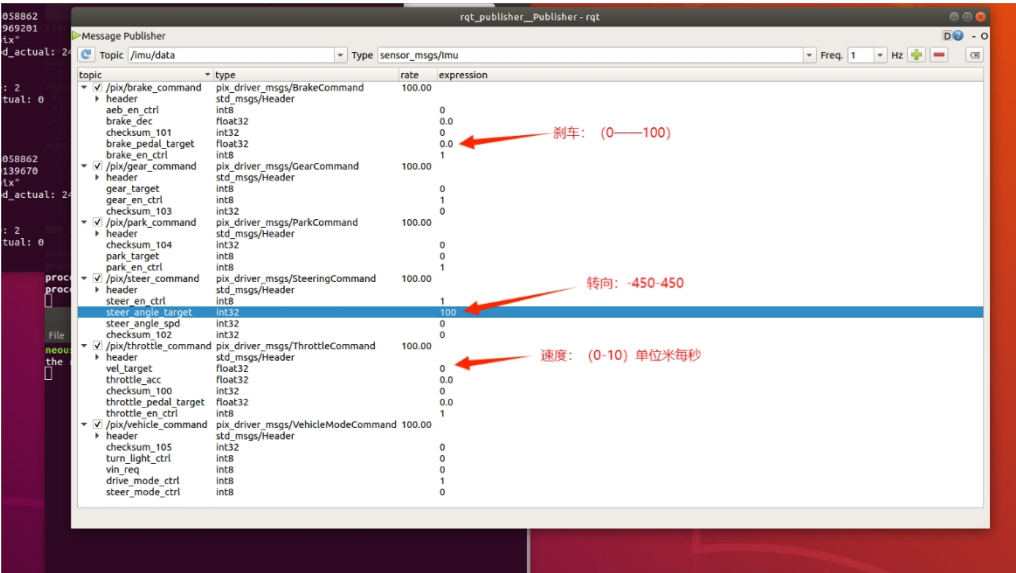
Topic add the following topics: `brake_command` `gear_command` `park_command` `throttle_command` `vehicle_command` then rate to 100



And then enable the



Give the speed or steering or braking value.



Remote control decentralization: gear-N, self-driving, speed



3.3 Parking, gears

Enter the value of the gear or park, decentralization

