底盘控制指令下发

Issuance of Chassis Control Commands

（基于 ROS 消息）

（Based on ROS messages）

A、准备事项 Preparations

（注意：需要把底盘架起来，以防出现意外）

（Note: The chassis needs to be erected to prevent accidents）

1. 打开终端：candump can0，输入指令查看工控机与底盘通讯是否正常

Open the terminal: candump can0, enter the command to check whether the communication between the IPC and the chassis is normal

如果没有出现 CAN0，CAN1，则表示 CAN 驱动启动失败

If Can0 and can1 do not appear, it means that the CAN driver failed to start

(1)集合诚工控机 JHCTECH Industrial Personal Computer
- 在该目录/home/EMUC_B202_SocketCAN_driver_v3.2_utility_v3.1_20210302 下执行；Operating directory:/home/EMUC_B202_SocketCAN_driver_v3.2_utility_v3.1_20210302
- sudo ./start.sh ；
- 输入密码：11111111 ；input Password：11111111

```
t@t-Default-string:~$ candump can0
SIOCGIFINDEX: No such device
t@t-Default-string:~$ cd /home/EMUC_B202_SocketCAN_driver_v3.2_utility_v3.1_2021
0302/
t@t-Default-string:/home/EMUC_B202_SocketCAN_driver_v3.2_utility_v3.1_20210302$
sudo ./start.sh
[sudo] password for t:          密码11111111
/sbin/ifconfig
t@t-Default-string:/home/EMUC_B202_SocketCAN_driver_v3.2_utility_v3.1_20210302$
candump can0
  can0  502  [8]  00 00 01 01 F4 01 F4 00
  can0  501  [8]  00 00 01 00 00 00 00 00
  can0  500  [8]  00 00 01 00 00 00 00 00
  can0  505  [8]  00 00 00 00 38 00 12 00
```

(2)宸耀工控机 Neousys Industrial Personal Computer
- 在该目录~/Downloas/B202 下执行； Operating directory:Downloas/B202
- sudo ./start_2p.sh；
- 输入密码：12345678；Input Password：12345678；


```
neousys@neousys-Nuvo-6108GC:~$ cd Downloads/
neousys@neousys-Nuvo-6108GC:~/Downloads$ ls
autoware  autoware-20210515.bag  autoware-220515.pcd      boundary_test.osm  ccremote-setting_pc.zip  cert.pem  key.pem  novatel_ws  NVIDIA-Linux-x86_64-470.63.01.run  other  ouster_time_sync  SDK
neousys@neousys-Nuvo-6108GC:~/Downloads$ cd B202/
neousys@neousys-Nuvo-6108GC:~/Downloads/B202$ ls
           emuc2socketcan.ko                              emucd_64    HOWTO.md    Release_Note.txt    start_2p.sh
           EMUC-B202_SocketCAN_Installation_Guide_20210304.pdf  end.sh    Makefile    start_2_4p_相同波特率.sh    start-4p_不同波特率.sh
neousys@neousys-Nuvo-6108GC:~/Downloads/B202$ sudo ./start_2
start_2_4p_相同波特率.sh  start_2p.sh
neousys@neousys-Nuvo-6108GC:~/Downloads/B202$ sudo ./start_2p.sh
```

2. 启动 pix_driver：roslaunch pix_driver pix_driver.launch


```
t@t-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
 * /aeb_en_ctrl: 1
 * /rosdistro: 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 [8176]
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. 启动 socketcan_bridge：roslaunch socketcan_bridge socketcan_bridge.launch

3.1 速度、转向、刹车 Speed, steering, brakes
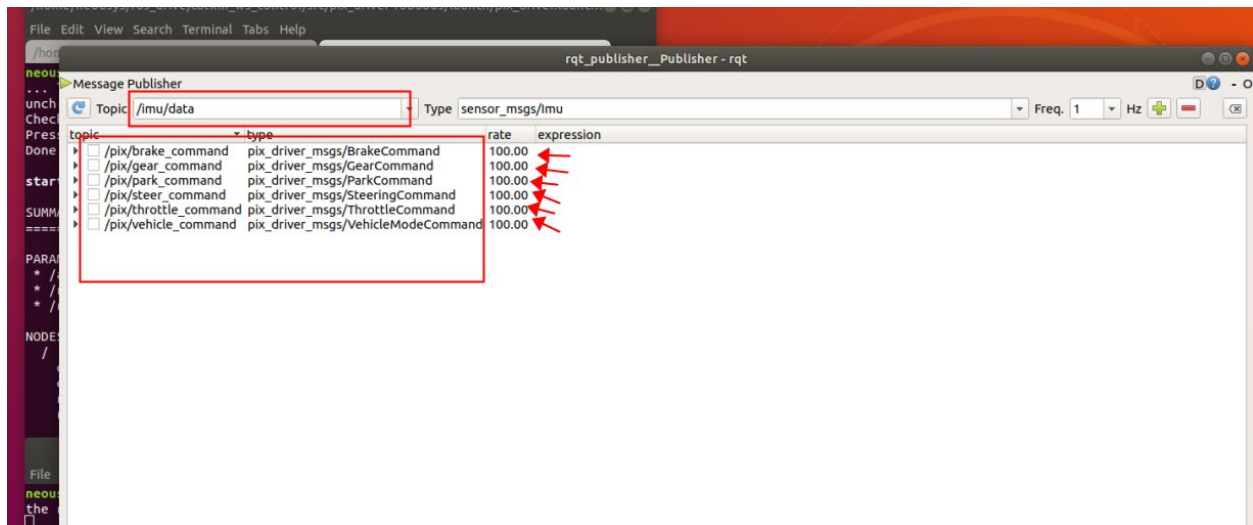
启动 ros 工具：rosrun rqt_publisher rqt_publisher

Start the ros tool: rosrun rqt_publisher rqt_publisher
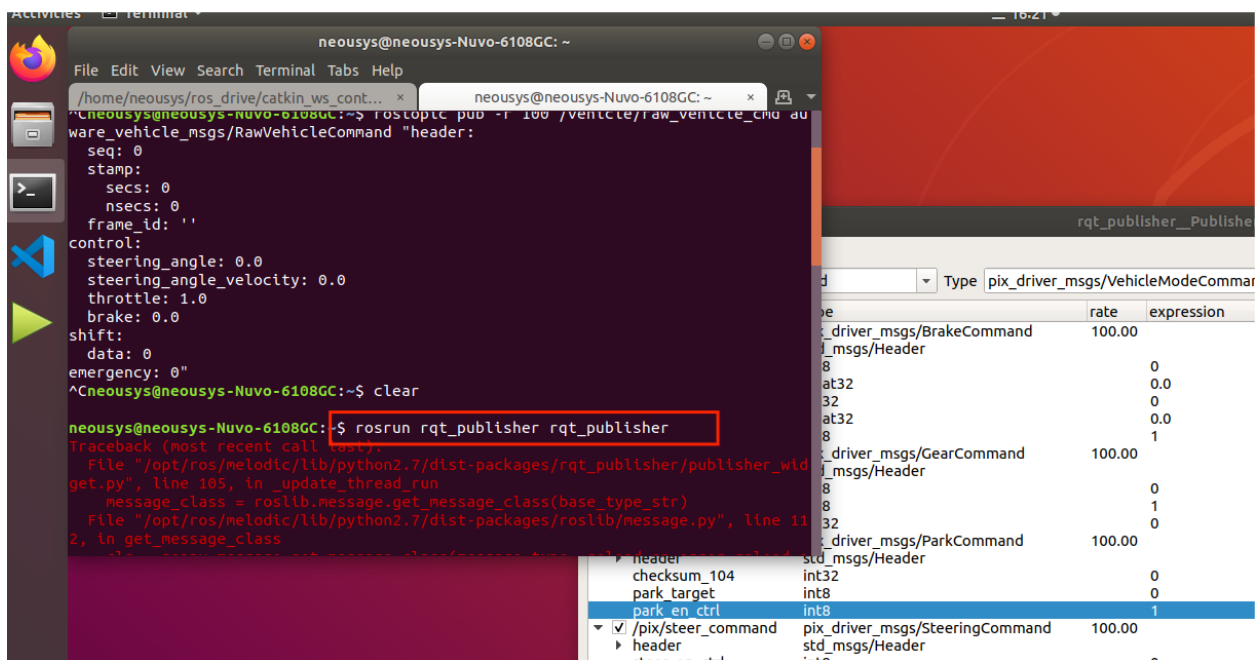
Topic 添加以下话题：brake_command gear_command park_command throttle_command vehicle_command 然后 rate 改为 100

Add the following message to Topic: brake_command gear_command park_command throttle_command vehicle_command.
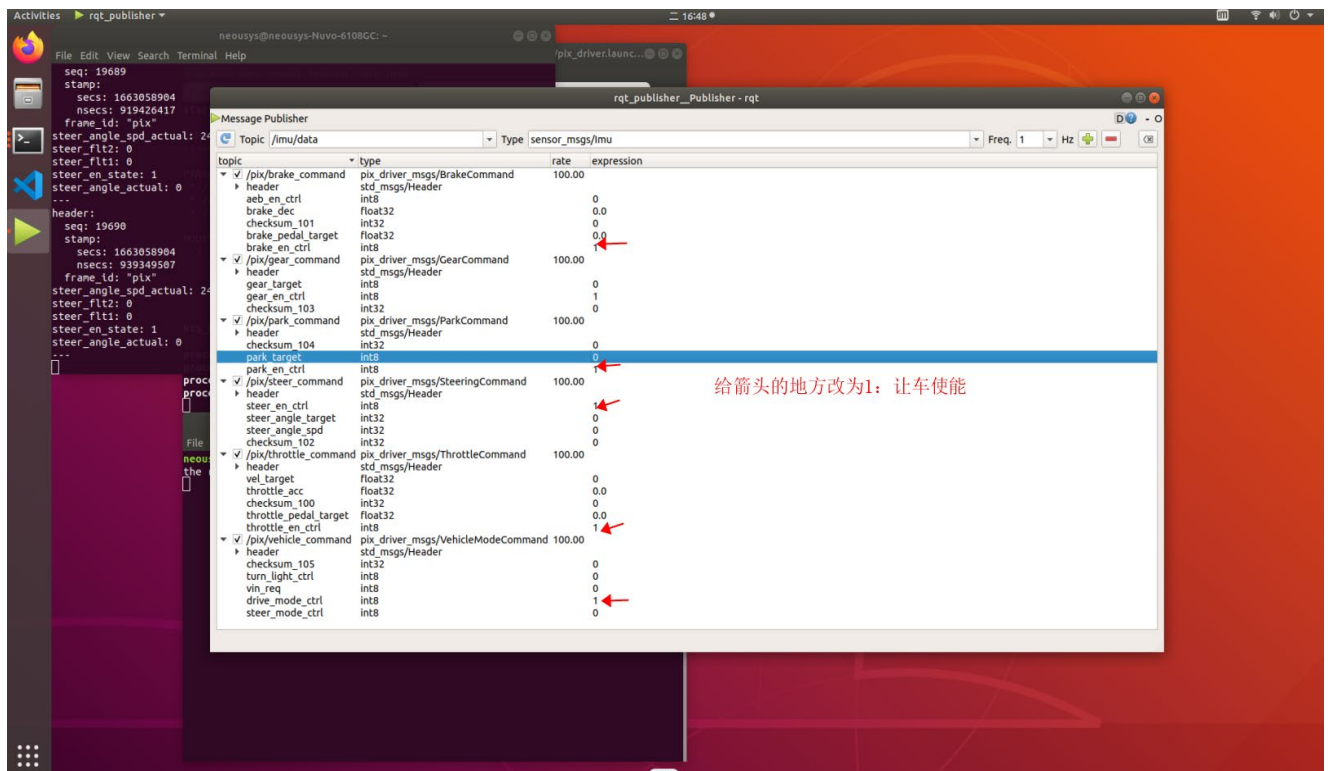
And please change the rate to 100

然后给车使能 Then enable the chassis

给箭头的地方改为 1，让车使能

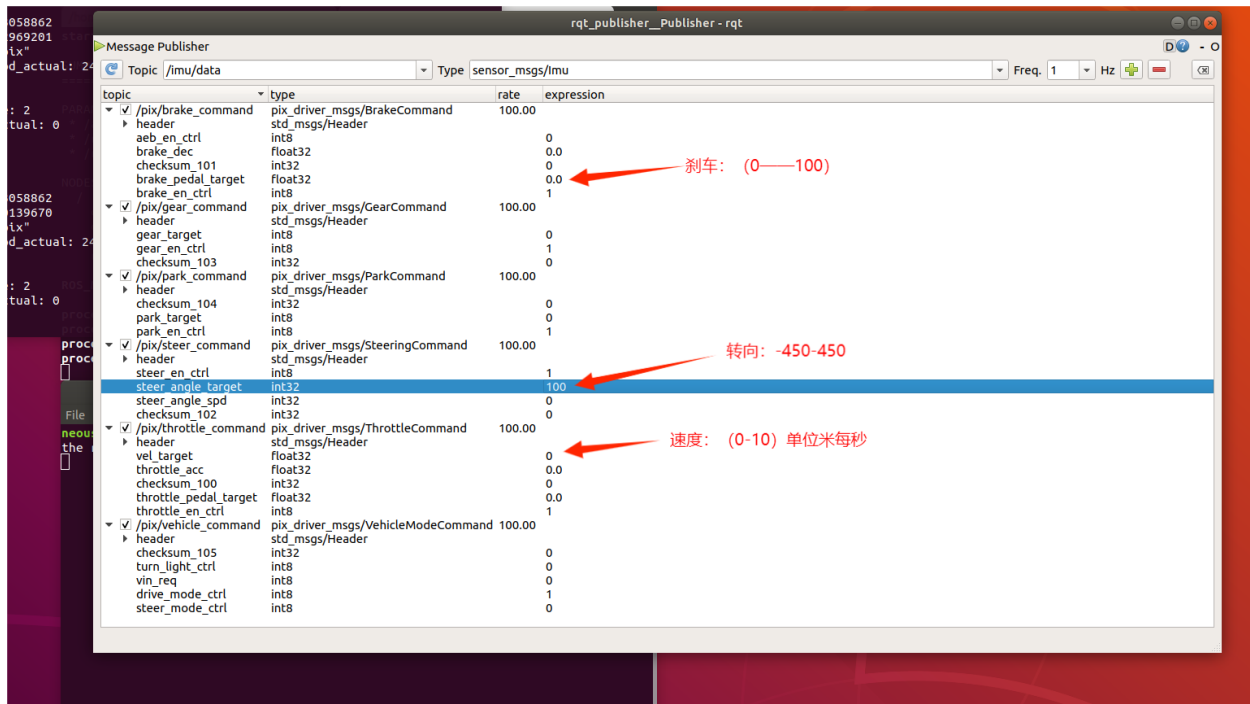Change the position of the arrows to 1 to enable the chassis

给速度或者转向、刹车值

Give speed or steering, braking value

刹车：Brake

转向：Steering

速度：Speed，单位米每秒 Unit: meter/second

遥控器放权:档位-N，self-driveing、speed

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

档位调至 D 或 R: Shift to gear D or R

模式改为 Speed: Change the mode to Speed
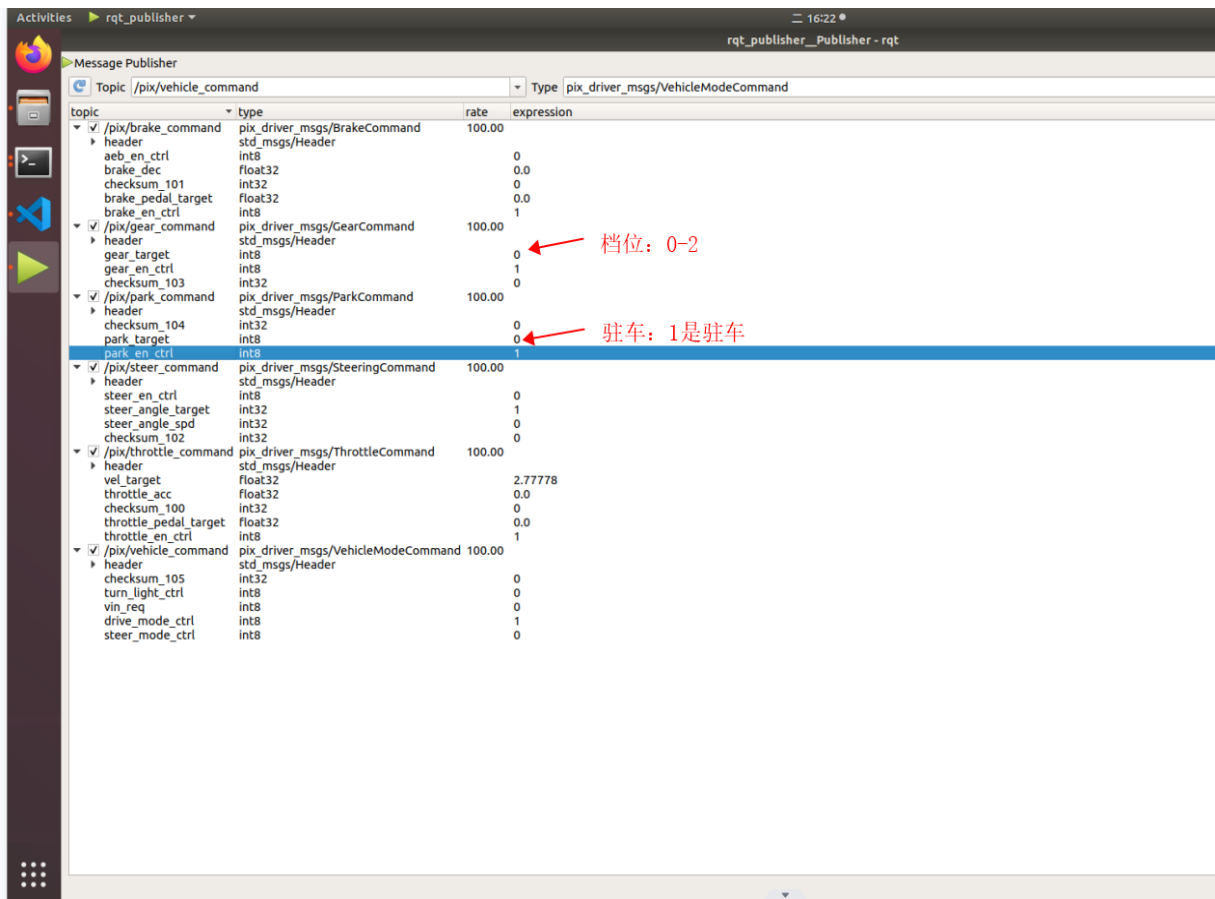
遥控器放权: Remote control decentralization

3.2 驻车、档位 Parking, gear

输入档位或者驻车的值，放权

Enter the value of the gear or parking, realize the decentralization

档位：0-2　Gear: 0-2

驻车: 1 是驻车 Parking: 1 means parking

档位调至 D 或 R: Shift to gear D or R

模式改为 Speed: Change the mode to Speed

遥控器放权: Remote control decentralization