How to change display direction

(HDMI-Capacitive touch)

1. How does HDMI interface LCD rotate display

(Applicable to HDMI LCD (5-inch (MPI5001) , 7-inch B and 7-inch C), not applicable to GPIO LCD)

1) Execute the command on the Raspberry Pi to open the config.txt file:

```
sudo nano /boot/config.txt
```

2) Find the "display_rotate" parameter item or add it if there is no this item. The specific parameters are as follows:

0 degrees of rotation：

```
display_rotate=0
```

90 degrees of rotation：

```
display_rotate=1
```

180 degrees of rotation：

```
display_rotate=2
```

270 degrees of rotation：

```
display_rotate=3
```

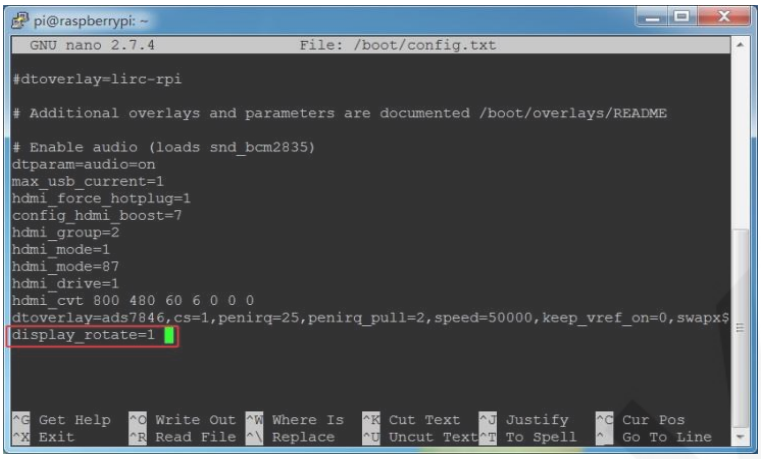
Flip horizontal display：

```
display_rotate=0x10000
```

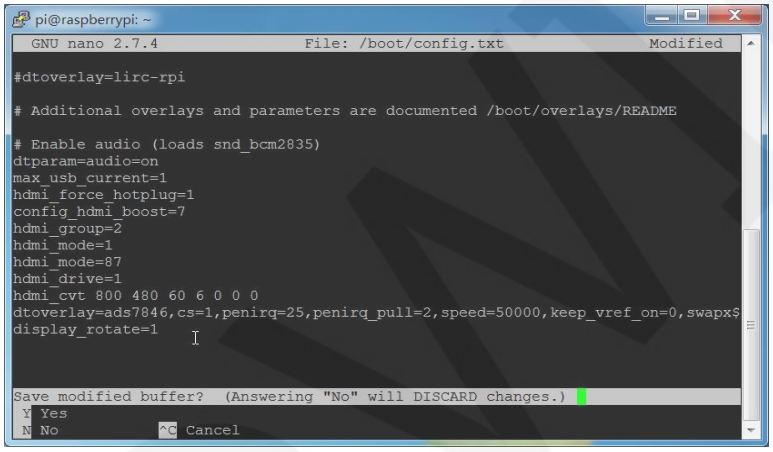
Vertical flip display：

```
display_rotate=0x20000
```

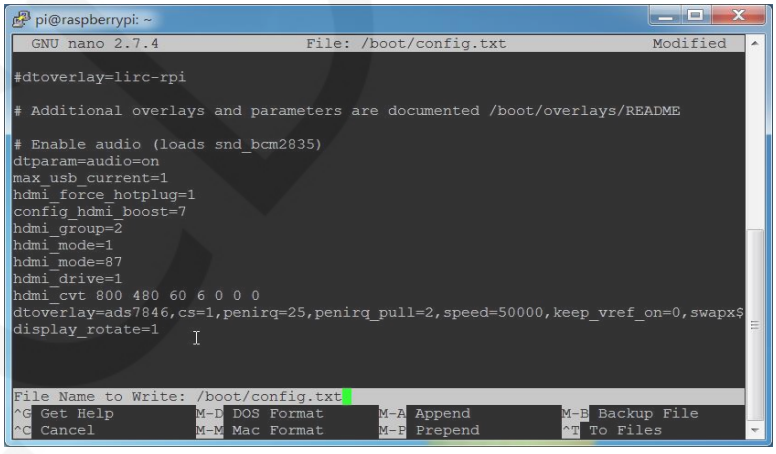
Press Ctrl + X，quit



Press Y，confirm to save



Press Enter，Make sure to save the file name



Restart Raspberry Pi

```
sudo reboot
```

2. How to rotate Touch direction:

After the display is rotated, the touch needs to be modified.

1) Install libinput

```
sudo apt-get install xserver-xorg-input-libinput
```

2) Create the "**xorg.conf. d"** directory in /etc/x11 / below (if the directory already exists, this will proceed directly to step 3)

```
sudo mkdir/etc/X11/xorg.conf.d
```

3) Copy the file "**40-libinput.conf**" to the directory you just created.

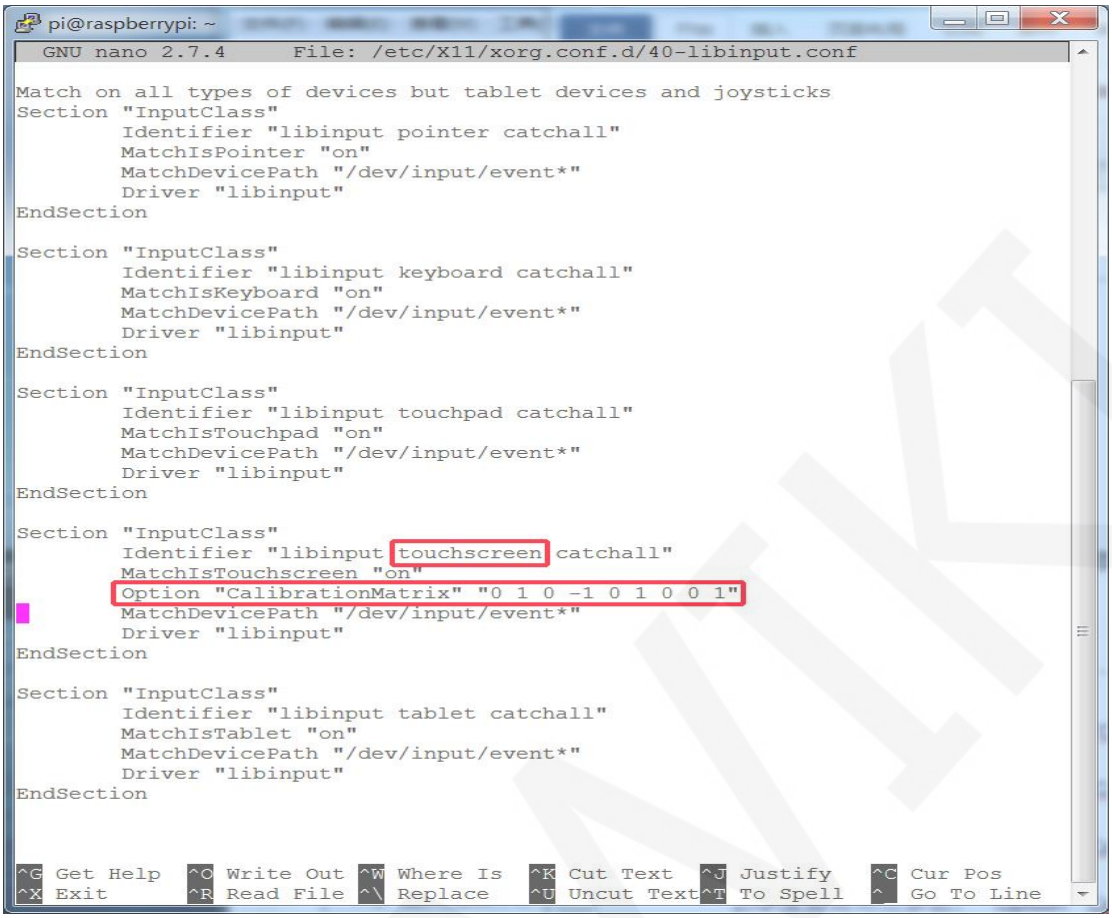
```
sudo cp /usr/share/X11/xorg.conf.d/40-libinput.conf
/etc/X11/xorg.conf.d/
```

4) Edit "/etc/X11/xorg.conf.d/40-libinput.conf"

```
sudo nano /etc/X11/xorg.conf.d/40-libinput.conf
```

Find a part of the touchscreen, add the following statement inside (90 degrees of rotation parameters). Press **Ctrl+X** to exit, press **Y** to save, **Press Enter** to Make sure to save the file name

```
Option "CalibrationMatrix" "0 1 0 -1 0 1 0 0 1"
```



5) Restar your Raspberry Pi

```
sudo reboot
```

Complete the above steps for a 90 degree rotation.

Note:

0 degrees of rotation parameters:

```
Option "CalibrationMatrix" "1 0 0 0 1 0 0 0 1"
```

90 degrees of rotation parameters:

```
Option "CalibrationMatrix" "0 1 0 0-1 1 0 0 1"
```

180 degrees of rotation parameters:

```
Option "CalibrationMatrix" "-1 0 1 0 -1 1 0 0 1"
```

270 degrees of rotation parameters:

```
Option "CalibrationMatrix" "0-1 1 1 0 0 0 0 1"
```