

How to change display direction

(HDMI-Resistive touch)

1. How does HDMI interface LCD rotate display

(Applicable to HDMI LCD (3.5-inch (MPI3508) and 5-inch (MPI5001)), 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
```

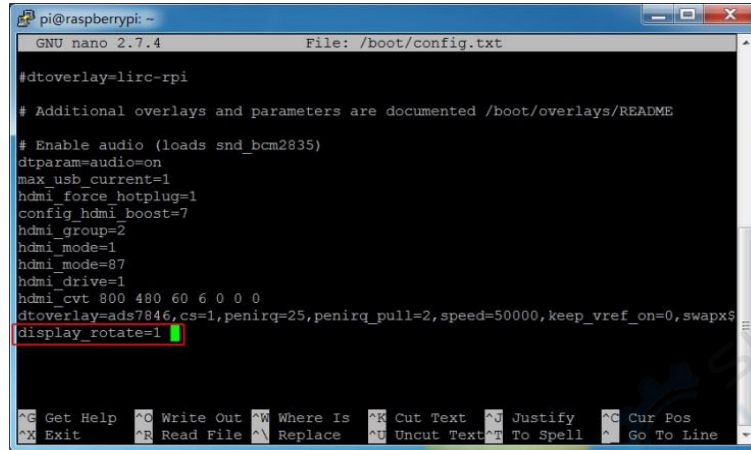
Flip horizontal display:

```
display_rotate=0x10000
```

Vertical flip display:

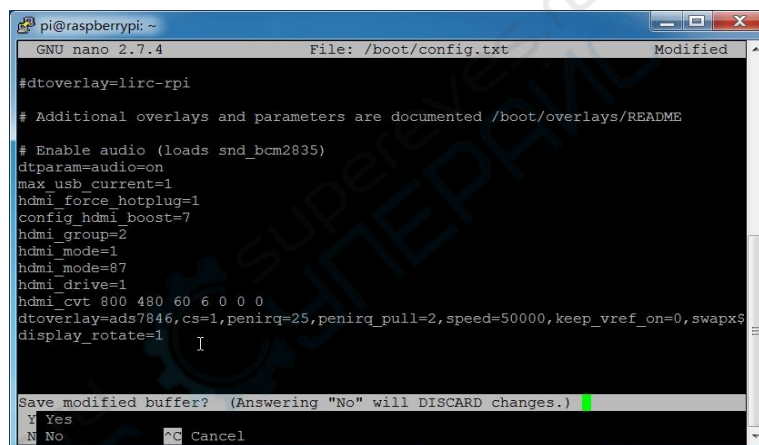
```
display_rotate=0x20000
```

Press **Ctrl + X**, quit



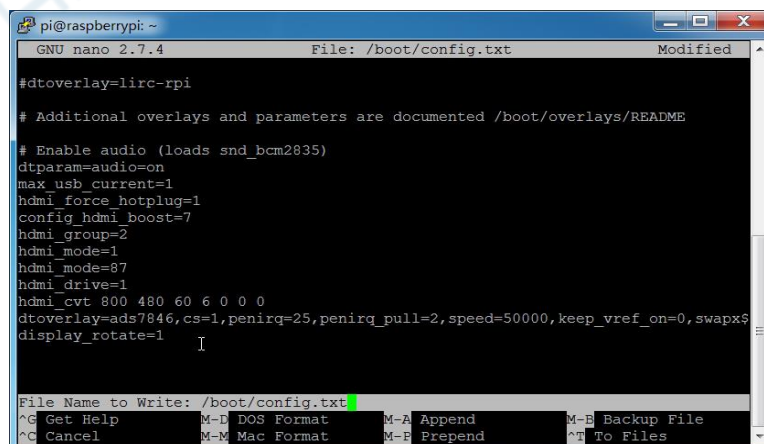
```
pi@raspberrypi: ~  
GNU nano 2.7.4 File: /boot/config.txt  
#dtoverlay=lirc-rpi  
  
# Additional overlays and parameters are documented /boot/overlays/README  
  
# Enable audio (loads snd_bcm2835)  
dtparam=audio=on  
max_usb_current=1  
hdmi_force_hotplug=1  
config_hdmi_boost=7  
hdmi_group=2  
hdmi_mode=1  
hdmi_mode=87  
hdmi_drive=1  
hdmi_cvt 800 480 60 6 0 0 0  
dtoverlay=ads7846,cs=1,penirq=25,penirq_pull=2,speed=50000,keep_vref_on=0,swapx$  
display_rotate=1  
  
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos  
^X Exit ^R Read File ^E Replace ^U Uncut Text ^T To Spell ^_ Go To Line
```

Press **Y**, confirm to save



```
pi@raspberrypi: ~  
GNU nano 2.7.4 File: /boot/config.txt Modified  
#dtoverlay=lirc-rpi  
  
# Additional overlays and parameters are documented /boot/overlays/README  
  
# Enable audio (loads snd_bcm2835)  
dtparam=audio=on  
max_usb_current=1  
hdmi_force_hotplug=1  
config_hdmi_boost=7  
hdmi_group=2  
hdmi_mode=1  
hdmi_mode=87  
hdmi_drive=1  
hdmi_cvt 800 480 60 6 0 0 0  
dtoverlay=ads7846,cs=1,penirq=25,penirq_pull=2,speed=50000,keep_vref_on=0,swapx$  
display_rotate=1  
  
Save modified buffer? (Answering "No" will DISCARD changes.)  
Y Yes  
N No ^C Cancel
```

Press **Enter**, Make sure to save the file name



```
pi@raspberrypi: ~  
GNU nano 2.7.4 File: /boot/config.txt Modified  
#dtoverlay=lirc-rpi  
  
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hdmi_group=2  
hdmi_mode=1  
hdmi_mode=87  
hdmi_drive=1  
hdmi_cvt 800 480 60 6 0 0 0  
dtoverlay=ads7846,cs=1,penirq=25,penirq_pull=2,speed=50000,keep_vref_on=0,swapx$  
display_rotate=1  
  
File Name to Write: /boot/config.txt  
^G Get Help ^M-D DOS Format ^M-A Append ^M-B Backup File  
^C Cancel ^M-M Mac Format ^M-E Prepend ^T To Files
```

Restart Raspberry Pi

```
sudo reboot
```

2. Modify resistance touch parameters

When the display direction changes, the touch needs to be set by modifying the [99-calibration.conf](#) file.

1) Execute the command in the Raspberry Pi:

```
sudo nano /etc/X11/xorg.conf.d/99-calibration.conf
```

Take [5inch HDMI Display \(MPI5008\)](#) as an example:

90 degrees of rotation, ([display_rotate=1](#)), the corresponding touch parameter is modified to:

```
Section "InputClass"
    Identifier      "calibration"
    MatchProduct    "ADS7846 Touchscreen"
    Option "Calibration" "261 3998 3951 140"
    Option "SwapAxes"    "1"
EndSection
```

As following picture shows:

```

pi@raspberrypi: ~
GNU nano 2.7.4 File: /etc/X11/xorg.conf.d/99-calibration.conf

Section "InputClass"
    Identifier      "calibration"
    MatchProduct    "ADS7846 Touchscreen"
    Option "Calibration" "261 3998 3951 140"
    Option "SwapAxes" "1"
EndSection

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line

```

2) After saving, restart the Raspberry Pi.

```
sudo reboot
```

(The following figure shows the relationship between rotation Angle and resistance touch parameters)

| The relationship between rotation Angle and resistance touch parameters | | | |
|---|---------------------------|----------------------------|--|
| Angle | Type | 3.5-inch (MPI3508) | 5-inch (MPI5008) |
| | | | |
| display_rotate=0 | "1" (Default Orientation) | "3945 233 3939 183" "1" | "140 3951 261 3998" "0" (Default Orientation) |
| display_rotate=1 | "0" | "3939 183 233 3945" "0" | "261 3998 3951 140" "1" |
| display_rotate=2 | "1" | "233 3945 183 3939" "1" | "3951 140 3998 261" "0" |
| display_rotate=3 | "0" | "183 3939 3945 233" "0" | "3998 261 140 3951" "1" |