

## TUTORIAL

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Subject: Configure Raspberry Pi Touchscreen Default Orientation  
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The purpose of this tutorial is to outline a way change the default orientation of a Raspberry Pi (rpi) 7" touchscreen and have changes take effect upon boot.

Note: \$ indicates rpi terminal and is not actually typed by user. ↵ indicates pressing enter.

### Requirements

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- rpi
- A way to enter rpi text commands ( keyboard / VNC )
- Internet connection for program download
- Raspberry Pi 7" Touchscreen Display

### Steps

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1. Boot the rpi and open terminal.
2. Edit the config.txt:

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

Add `display_rotate=1` or `display_rotate=3` at the end of the file depending on how you would like your display to rotate. ( 3 will put USB connections on top – pointed up)

3. Restart the rpi. Repeat step 2 as necessary to achieve desired results.
4. Once your display is oriented to your liking, the touchscreen is probably oriented incorrectly. To fix this, first download and install xinput:

```
$ sudo apt-get install xinput ↵
```

5. Then List your current displays:

```
$ xinput --list ↵
```

6. You should see something like "FT5406 memory based driver" – this is the touchscreen.

7. Type into the rpi console:

```
$ xinput set-prop 'FT5406 memory based driver' 'Evdev Axes Swap' 1 ↵
```

Then:

```
$ xinput set-prop 'FT5406 memory based driver' 'Evdev Axis Inversion' 0 1 ↵
```

OR:

```
$ xinput set-prop 'FT5406 memory based driver' 'Evdev Axis Inversion' 1 0 ↵
```

Until the touch screen responds correctly.

(NOTE: 0 1 corresponds to display rotate 1, while 1 0 corresponds to display rotate 3 )

8. Once you have found a display and touch configuration that works, the desired xinput commands must be entered upon every boot for changes to take effect.

The approach to resolving this issue, since booting to GUI, is to create a .desktop file to run a custom script. First, create a .desktop file (assumes default user of pi):

```
$ sudo nano /home/pi/.config/autostart/xinput.desktop ↵
```

Then enter:

```
[Desktop Entry]
Type=Application
Exec=/home/pi/.config/autostart/xinput_script
```

And save and exit via Ctrl+X.

9. Create a script file to run:

```
$ sudo nano /home/pi/.config/autostart/xinput_script ↵
```

And enter:

```
xinput set-prop 'FT5406 memory based driver' 'Evdev Axes Swap' 1
xinput set-prop 'FT5406 memory based driver' 'Evdev Axis Inversion' XXX
```

Replacing the XXX with the correct 1 0 or 0 1 that performs the desired inversion.

Ctrl+X to save and exit.

10. Change the read/write/execute permissions on the created script file:

```
$ sudo chmod 777 /home/pi/.config/autostart/xinput_script ↵
```

11. Restart the rpi.

12. If everything worked correctly, enjoy your newly configured touchscreen!

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## Closing Notes

This may, or may not, work for you.

If you wish to change the default resolution, see [Change Raspberry Pi Default Resolution](#) tutorial.