VERIFY PORTS ON RPI

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https://docs.turta.io/how-tos/raspberry-pi/raspbian/swapping-the-serial-ports

**Swapping the Serial Ports**

Raspberry Pis have two UARTs (Serial Ports). These are called PL011 and mini UART. PL011 is the high performance one and connected to the Raspberry Pi's Bluetooth module. On the other hand, mini UART is connected to the UART pins of the 40-pin header.

To take full advantage of your UART enabled hardware, you may wish to swap the serial ports of the Raspberry Pi. To do that;

Disable Linux's use of console UART. Type "sudo raspi-config" to the terminal, select "Interfacing options", then "Serial" and select "No".

Swap the Raspberry Pi's Bluetooth UART port. Type "sudo nano /boot/config.txt" to the terminal and then add "dtoverlay=pi3-miniuart-bt" line.

Disable system service that initializes the modem by typing "sudo systemctl disable hciuart" to the terminal.

Reboot your system with "sudo reboot" command.

[Raspberry Pi UART Communication using Python and C | Raspberry Pi (electronicwings.com)](https://www.electronicwings.com/raspberry-pi/raspberry-pi-uart-communication-using-python-and-c)

**Serial Port for UART Communication**

By default, mini UART is mapped to UART pins (TX and RX) while PL011 is connected to on-board Bluetooth module on Raspberry Pi 3.

In previous version of Raspberry Pi models, PL011 is used for Linux Console output (mapped to UART pins) and there is no on-board Bluetooth module.

After making above configuration, UART can be used at UART pins (GPIO14 and GPIO15).

To access mini UART in Raspberry Pi 3, **ttyS0** port is assigned. And to access PL011 in Raspberry Pi 3 **ttyAMA0**port is assigned. But in other models of Raspberry Pi, there is only **ttyAMA0** port is accessible.

Hardware UART port i.e. GPIO14(TXD) and GPIO15 (RXD) is also known as **serial0** while other UART port which is connected to Bluetooth module is known as **serial1.**These names are created as serial aliases for Raspberry Pi version portability.

We can check which UART i.e. mini UART (ttyS0) or PL011 UART (ttyAMA0) is mapped to UART pins (GPIO14 and GPIO15). To check UART mapping, enter following commands.

ls -l /dev

The UART mapping for /dev/ttyS0 and /dev/ttyAMA0 is shown below,

