**RPi3 serial port**

Thu Jul 28, 2016 8:45 am

Hi all, where can I find clear step-by-step instructions how to enable the serial port (ttyS0) on a RPi3 with Raspbian Jessie?

How can Bluetooth be disabled?

Thanks,

Michael

dgordon42

Re: RPi3 serial port

Sat Jul 30, 2016 7:20 pm

To enable the serial port on the Pi 3B running Raspbian Jessie:

Ensure Jessie is up to date by running:

sudo apt-get update

sudo apt-get upgrade

and follow the prompts. Reboot.

Using a text editor with root privileges, open '/boot/cmdline.txt', and remove the "console=serial0, 115200" section from the file. Do not split the line when editing, the '/boot/cmdline.txt' file must only contain one line. The line should still contain "console=tty1". This prevents Linux from outputting the boot messages on the serial port, and expecting a log in on the serial port.

Open '/boot/config.txt' for editing, and add the line "enable\_uart=1" to the file. Ensure that the line "enable\_uart=0" is not present, if it is, remove it. This enables the ttyS0 serial port on the GPIO pins 8 and 10. It also fixes the Pi 3's problem of the changing baud rates on the port.

Reboot.

Verify your work with: ls -lh /dev/serial\*

which should return:

lrwxrwxrwx 1 root root 5 Jul 26 19:13 /dev/serial0 -> ttyS0

lrwxrwxrwx 1 root root 7 Jul 26 19:13 /dev/serial1 -> ttyAMA0

That's it! Refer to your serial port device as: "serial0" in code. This procedure will work on all model Pi's running up to date Raspbian Jessie, so your code can run on any Pi. That's 'serialZero', not 'serialOh'

It is no longer necessary to disable Bluetooth to use the serial port on the Pi 3B, but if you wish to do so add:

dtoverlay=pi3-disable-bt

to '/boot/config.txt', run:

sudo systemctl disable hciuart

and reboot.

You should still refer to the serial port as "serial0", but that will now point to 'ttyAMA0' in '/dev'.

Don't forget, the Pi's serial port runs at 3.3V, connecting a 5V serial port will damage, and possibly kill, your Pi.

Hope this helps,

Dave.

Wed Apr 12, 2017 3:45 pm

pi@raspberrypi:~ $ ls -lh /dev/serial\*

lrwxrwxrwx 1 root root 7 Apr 11 18:18 /dev/serial0 -> ttyAMA0

lrwxrwxrwx 1 root root 5 Apr 11 18:18 /dev/serial1 -> ttyS0

This is my output.

pi@raspberrypi:~ $ dmesg | grep tty

[ 0.000000] Kernel command line: 8250.nr\_uarts=1 bcm2708\_fb.fbwidth=656 bcm2708\_fb.fbheight=416 bcm2708\_fb.fbswap=1 dma.dmachans=0x7f35 bcm2709.boardrev=0xa02082 bcm2709.serial=0xfaa9496 bcm2709.uart\_clock=48000000 smsc95xx.macaddr=B8:27:EB:AA:94:96 vc\_mem.mem\_base=0x3dc00000 vc\_mem.mem\_size=0x3f000000 dwc\_otg.lpm\_enable=0 console=tty1 root=/dev/mmcblk0p2 rootfstype=ext4 elevator=deadline fsck.repair=yes rootwait

[ 0.001343] console [tty1] enabled

[ 0.950035] 3f201000.uart: ttyAMA0 at MMIO 0x3f201000 (irq = 87, base\_baud = 0) is a PL011 rev2

[ 2.379544] systemd[1]: Expecting device dev-ttyS0.device...

[ 2.703015] systemd[1]: Starting system-getty.slice.

[ 2.710010] systemd[1]: Created slice system-getty.slice.

[ 2.712943] systemd[1]: Starting system-serial\x2dgetty.slice.

[ 2.719813] systemd[1]: Created slice system-serial\x2dgetty.slice.

I've connected my serial device through a ttl to rs232 converter but still no communication.

How can I troubleshoot if my rpi3 (jessie lite) is capable of receiving?

dgordon42

Posts: 708

Joined: Tue Aug 13, 2013 6:55 pm

Location: Dublin, Ireland

Re: RPi3 serial port

Wed Apr 12, 2017 8:07 pm

aee74 wrote:

I've connected my serial device through a ttl to rs232 converter but still no communication.

Post a link to the model of ttl to rs232 converter you are using. Many of these operate at 5V, and this can damage a Pi if connected to it's GPIO pins.

Also, post the output of these three commands:

uname -a

cat /boot/cmdline.txt

grep uart /boot/config.txt

Dave.