Connecting GTR V1.0 with Pi 3B+/4 by 3 wires, 2 wires which are serial connection. With 2 wire serial connections made you no longer need the use of USB cable *1.

Connect TXD0 from Raspberry Pi 3B+/4 Connector TO RX1 from GTR V1.0 Raspberry Pi connector.

Connect RXD0 from Raspberry Pi 3B+/4 Connector TO TX1 from GTR V1.0 Raspberry Pi connector.

Connect GND from Raspberry Pi 3B+/4 Connector TO GND from GTR V1.0 Raspberry Pi connector.

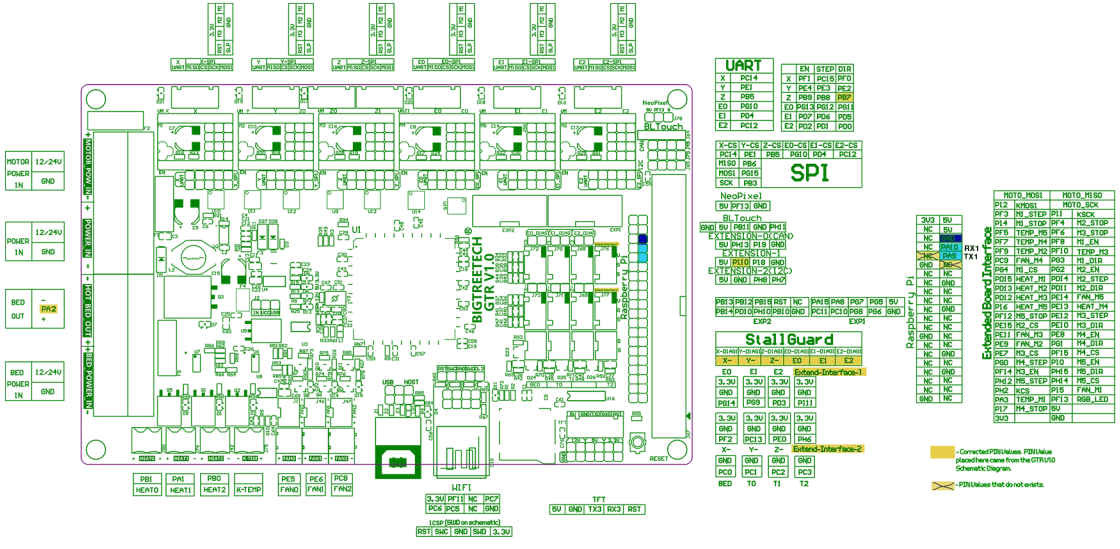
No need to connect V+ from the Raspberry Pi 3B+/4 connector. In fact, I recommend powering the Raspberry pi from a seperarate 5V power supply but connect the GND on the Raspberry Pi power supply to the GND on the GTR V1.0 Board.

Rasberry Pi 3B+/4 and GTR V1.0 both use 3.3 V logic.

Pi 3B+ @ GPIO connector: PINS used: TXD0, RXD0 and GND (8-10-6):

		Pin no.			
DC Power	3.3V	1	2	5V	DC Power
SDA1, I²C	GPIO 2	3	4	5V	DC Power
SCL1, I²C	GPIO 3	5	6	GND	
GPIO_GCLK	GPIO 4	7	8	GPIO 14	TXD0
	GND	9	10	GPIO 15	RXD0
GPIO_GEN0	GPIO 17	11	12	GPIO 18	GPIO_GEN1
GPIO_GEN2	GPIO 27	13	14	GND	
GPIO_GEN3	GPIO 22	15	16	GPIO 23	GPIO_GEN4
DC Power	3.3V	17	18	GPIO 24	GPIO_GEN5
SPI_MOSI	GPIO 10	19	20	GND	
SPI_MISO	GPIO 9	21	22	GPIO 25	GPIO_GEN6
SPI_CLK	GPIO 11	23	24	GPIO 8	SPI_CE0_N
	GND	25	26	GPIO 7	SPI_CE1_N
I²C ID EEPROM	DNC	27	28	DNC	I²C ID EEPROM
	GPIO 5	29	30	GND	
	GPIO 6	31	32	GPIO 12	
	GPIO 13	33	34	GND	
	GPIO 19	35	36	GPIO 16	
	GPIO 26	37	38	GPIO 20	
	GND	39	40	GPIO 21	

GTR V1.0 @ Raspberry pi connector: TX1, RX1 and GND



You also have to change some settings in the Raspberry pi 3B+/4 operating system.

Raspberry Pi 3B+/4 Changes that need to be made:

Login to your Raspberry Pi.

Swapping ports used by GPIO and Bluetooth

The first thing to change in the serial connection is to swap the ports used by the GPIO pins and the internal Bluetooth chip. We need to add a line in the boot config file on the boot partition.

Log in to the Pi3 with SSH on the IP address used.

Type in sudo nano /boot/config.txt

Move the cursor to the end of the file by cursor and add:

dtoverlay=pi3-miniuart-bt

save the file and exit the editor by control+O and control+X

Disabling the serial console

Moving to another config file, where part of the code must be deleted to disable serial console.

Type in sudo nano /boot/cmdline.txt

Look for following string (text) and delete it

console=serial0,115200

save the file and exit the editor by control+O and control+X

Rebooting RPi

For all changes to take effect, please reboot your Raspberry Pi 3

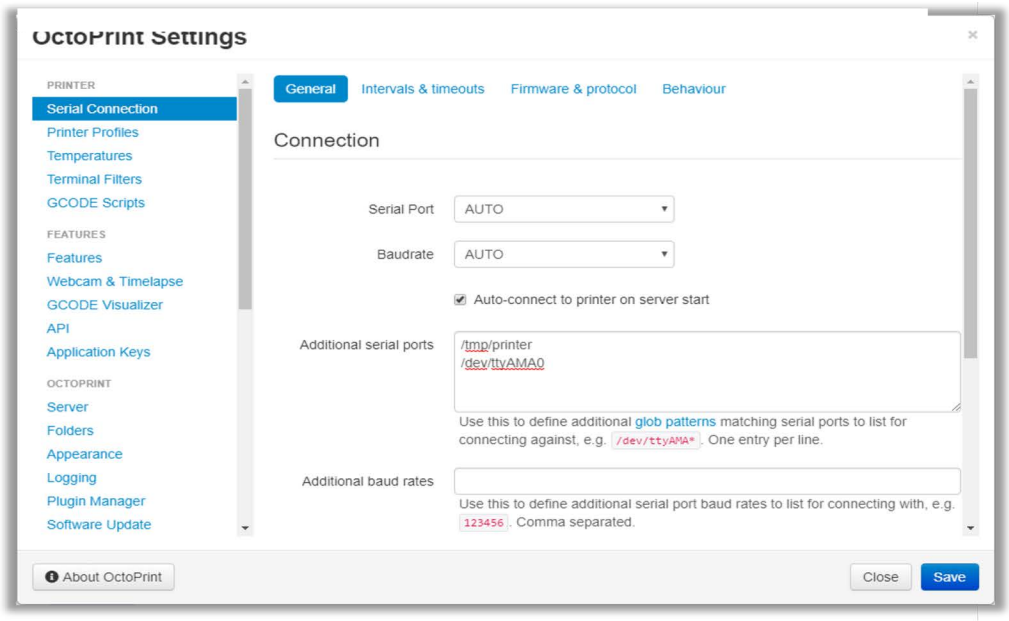
Type in Sudo reboot

Adding the serial port in Octoprint

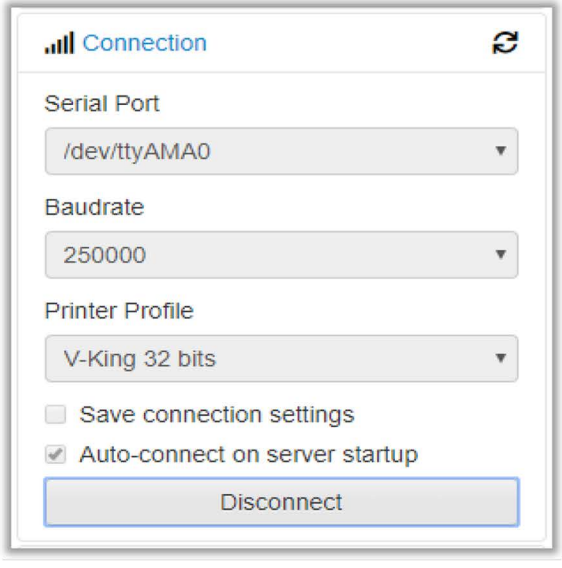
Last part of the configuration is in the Octoprint web interface. Open your browser and type either "octoprint.local" or the IP address of the Pi 3. You might be greeted with the welcome wizard, please go through it first.

As soon as you arrive at the home screen, open "Settings" (top right), head to "Serial Connection", then "Additional serial ports" and insert following:

/dev/ttyAMA0



Save the change and reboot OctoPrint. After reboot, select the new port and connect to your printer. Making connection might take a few seconds longer then with USB.



***1 This information was taken from BIGTREETECH SKRV1.3 Guide 2019 - 6 .PDF and adjusted for the GTR V1.0 Board.**

Marlin 2.0.x Setup for Communicating with the Raspberry Pi via the Raspberry Pi Connector

- **GTR Board has 4 numbers for SERIAL_PORT/SERIAL_PORT_2: -1 for USB port; 1 for three wire serial connection on Raspberry Pi Interface; 3 for TFT port; 6 for WIFI port.**

- **The SERIAL_PORT in Marlin is the one you want to use to get alle rrors reported. The SERIAL_PORT_2 is the secondary port. The secondary port will only receive errors on the connections the secondary port sends out on.**

- **In Configuration.h set SERIAL_PORT to 1 and SERIAL_PORT_2 to 3 so that Marlin will use the TX1/RX1 on the Raspberry Pi Interface to communicate with Octoprint. The TFT (3) screen will receive secondary information.**