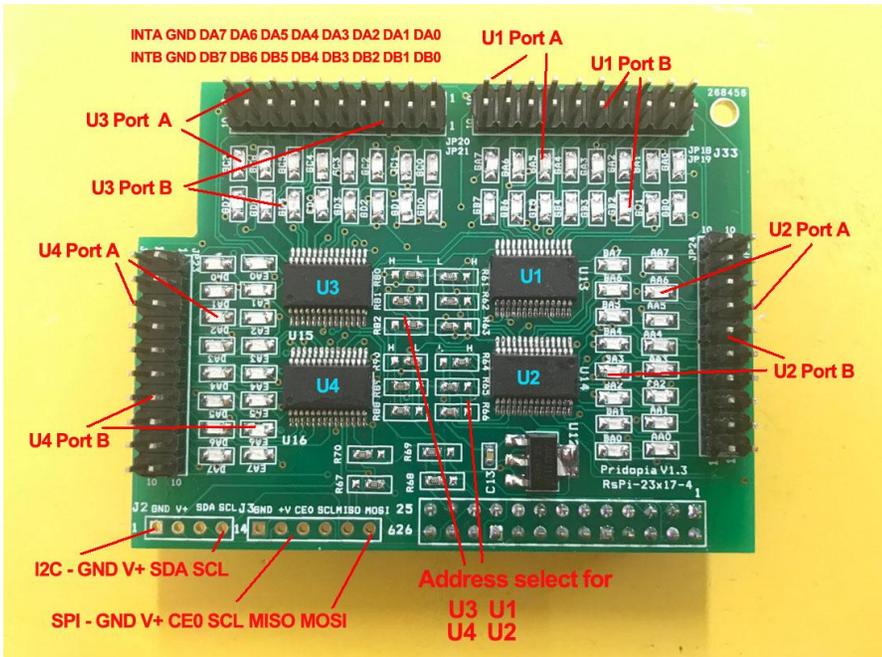
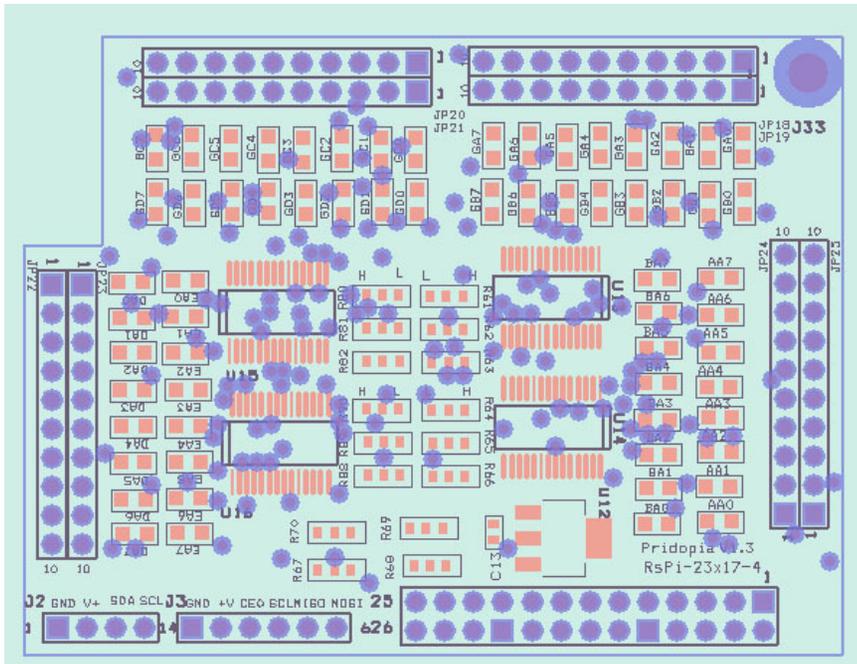
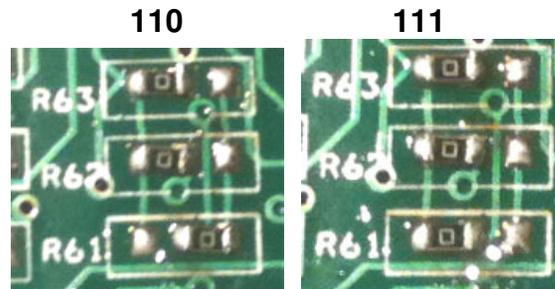
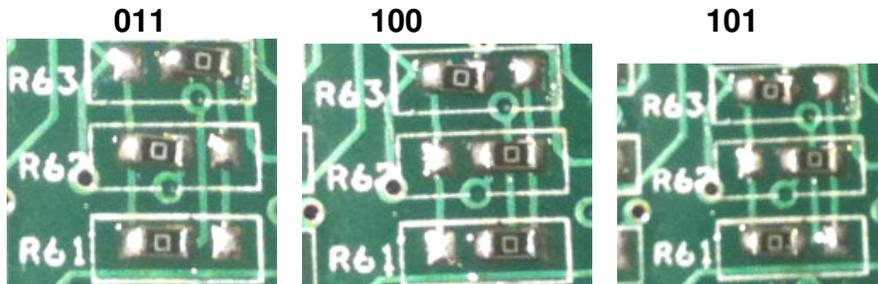
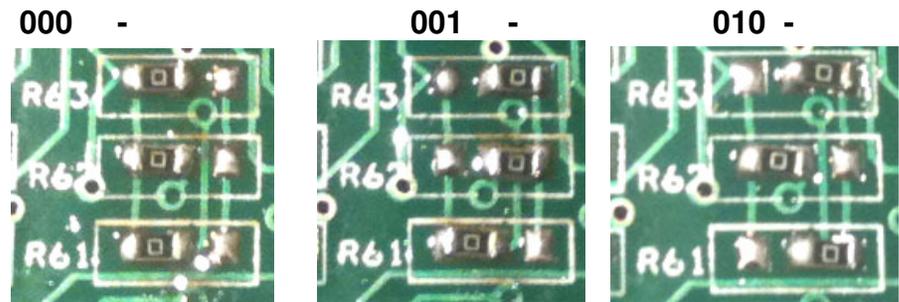


Rs-Pi-23s17-4 SPI 64 GPIO User Manual



1. JP18 GA0 ~ GA7 U13 Port A JP19 GB0 ~ GB7 U13 Port B
2. JP25 AA0 ~ AA7 U14 Port A JP24 BA0 ~ BA7 U14 Port B
3. JP20 GC0 ~ GC7 U15 Port A JP21 GD0 ~ GD7 U15 Port B
4. JP22 DA0 ~ DA7 U16 Port A JP23 EA0 ~ EA7 U16 Port B
5. R61, R62, R63 (for U13 Address select A0, A1, A2)
6. R64, R65, R66 (for U14 Address select A0, A1, A2)
7. R80, R81, R82 (for U15 Address select A0, A1, A2)
8. R88, R89, R90 (for U16 Address select A0, A1, A2)
9. U13 (000) 23s17-1 Port A,B U14 (001) 23s17-2 Port A,B
10. U15 (010) 23s17-3 Port A,B U16 (011) 23s17-4 Port A,B

A0, A1, A2 address * right side GND low - 0 * left side Vcc High - 1



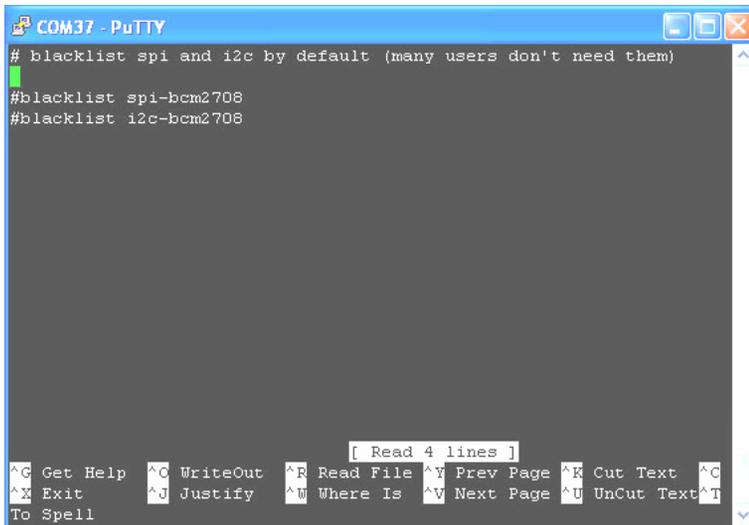
Always enabling SPI

To always enable the SPI driver: After logging in, edit `/etc/modprobe.d/raspi-blacklist.conf`

sudo nano etc/modprobe.d/raspi-blacklist.conf

Insert a `#` at the start of the line containing blacklist spi-bcm2708

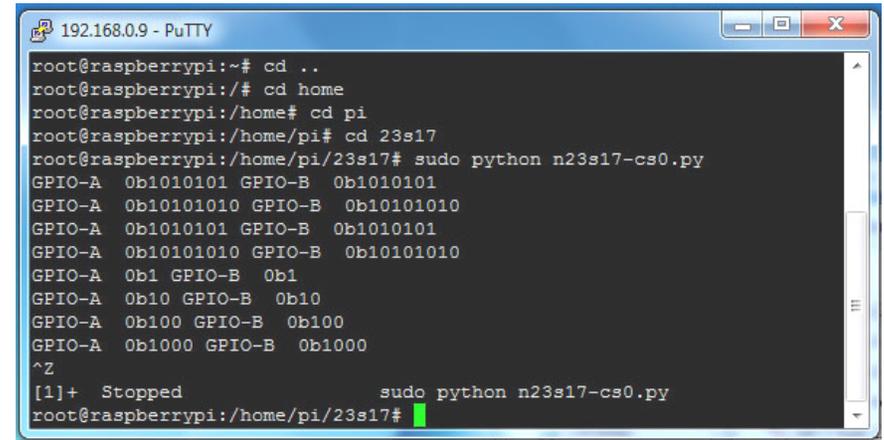
#blacklist spi-bcm2708



```
COM37 - PuTTY
# blacklist spi and i2c by default (many users don't need them)
#blacklist spi-bcm2708
#blacklist i2c-bcm2708
```

```
# gunzip RPi.GPIO-0.5.3a.tar.gz
# tar -xvf RPi.GPIO-0.5.3a.tar
# cd RPi.GPIO-0.5.3a
# sudo python setup.py install
```

```
# sudo python xxx.py (xxx.py it's name of test program)
```



```
192.168.0.9 - PuTTY
root@raspberrypi:~# cd ..
root@raspberrypi:/# cd home
root@raspberrypi:/home# cd pi
root@raspberrypi:/home/pi# cd 23s17
root@raspberrypi:/home/pi/23s17# sudo python n23s17-cs0.py
GPIO-A 0b1010101 GPIO-B 0b1010101
GPIO-A 0b10101010 GPIO-B 0b10101010
GPIO-A 0b1010101 GPIO-B 0b1010101
GPIO-A 0b10101010 GPIO-B 0b10101010
GPIO-A 0b1 GPIO-B 0b1
GPIO-A 0b10 GPIO-B 0b10
GPIO-A 0b100 GPIO-B 0b100
GPIO-A 0b1000 GPIO-B 0b1000
^Z
[1]+  Stopped                  sudo python n23s17-cs0.py
root@raspberrypi:/home/pi/23s17#
```

n23s17-cs0.py 64 GPIO output demo

Download test program from our web site

1. n23s17-cs0.py
2. 23s17-4port-v2.py

<http://www.pridopia.co.uk/pi-23s17-4-lp.html>

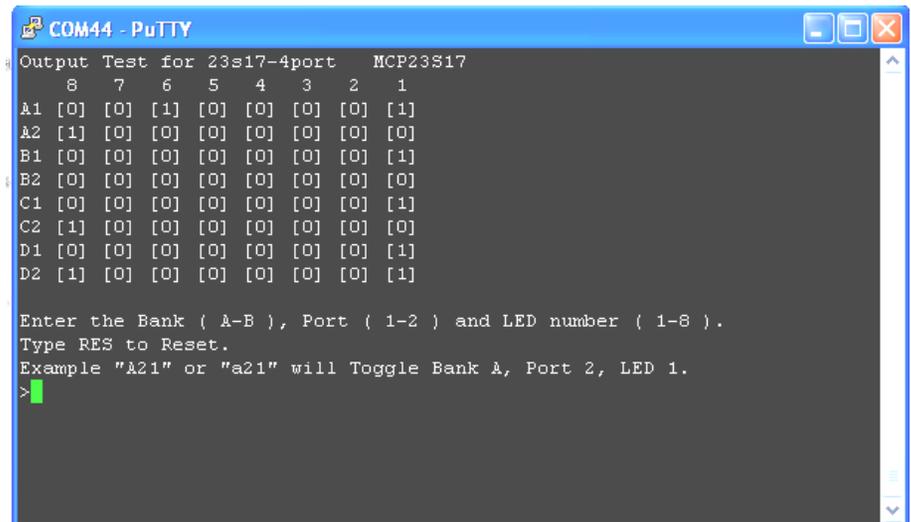
<https://pypi.python.org/pypi/RPi.GPIO> GPIO library

GPIO library - RPi.GPIO-0.5.3a.tar.gz

Install python , library and run the test program

```
# sudo apt-get install python-dev
```

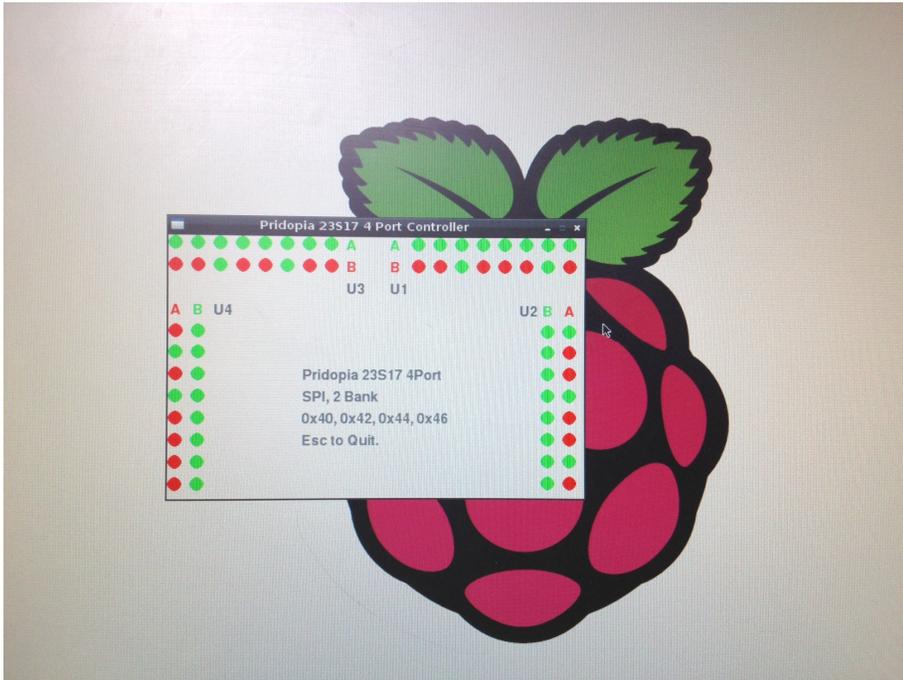
```
# wget http://www.pridopia.co.uk/pi-pgm/RPi.GPIO-0.5.3a.tar.gz
```



```
COM44 - PuTTY
Output Test for 23s17-4port MCP23S17
 8  7  6  5  4  3  2  1
A1 [0] [0] [1] [0] [0] [0] [0] [1]
A2 [1] [0] [0] [0] [0] [0] [0] [0]
B1 [0] [0] [0] [0] [0] [0] [0] [1]
B2 [0] [0] [0] [0] [0] [0] [0] [0]
C1 [0] [0] [0] [0] [0] [0] [0] [1]
C2 [1] [0] [0] [0] [0] [0] [0] [0]
D1 [0] [0] [0] [0] [0] [0] [0] [1]
D2 [1] [0] [0] [0] [0] [0] [0] [1]

Enter the Bank ( A-B ), Port ( 1-2 ) and LED number ( 1-8 ).
Type RES to Reset.
Example "A21" or "a21" will Toggle Bank A, Port 2, LED 1.
>
```

new test program 23s17-4port-s-v103.py demo



new GUI interface output software 23s17-4port-GUI.py demo

Download test program from our web site

<http://www.pridopia.co.uk/pi-23s17-4-lp.html>

[23s17-cs0.py](#) [23s17-cs1.py](#)

[23s17-4port-v3.py](#) [23s17-4port-s-v103.py](#)

[23s17-4port-GUI.py](#) [red.png](#) [green.png](#) download these three files