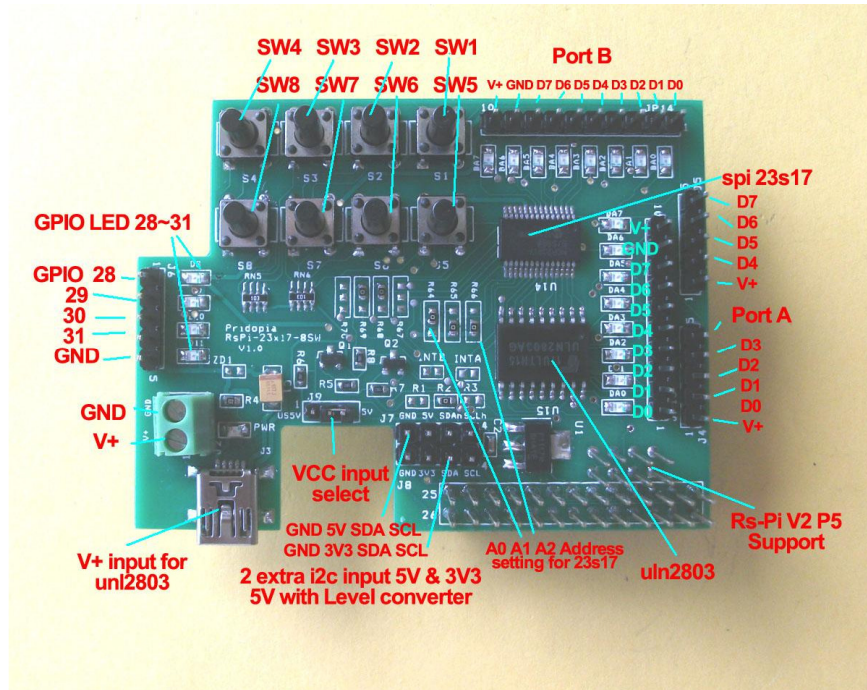


Raspberry Pi GPIO 8 Switch & SPI 23s17 16 GPIO Board

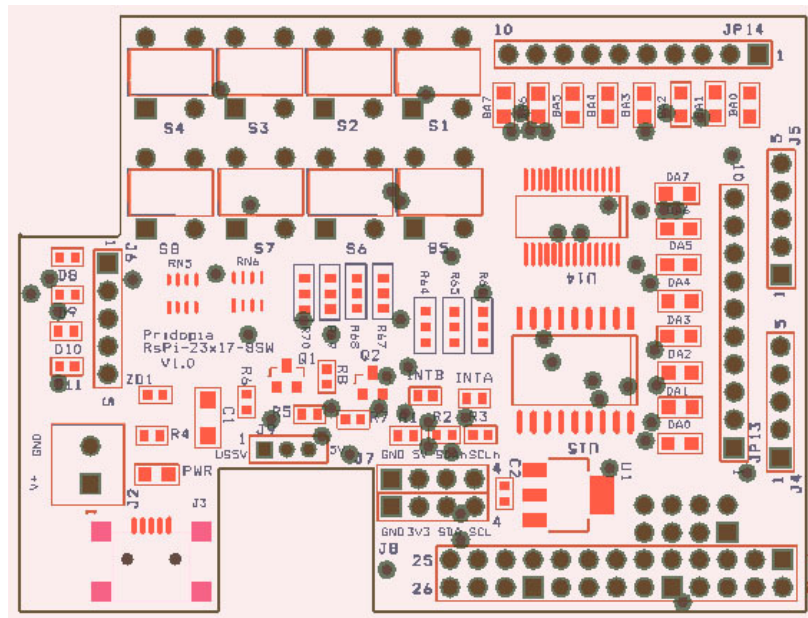


1. J3 Mini USB 5V input for GPIO output pin10 V+
J2 2P Terminal Block 5V input for GPIO output pin 10 V+
2. J1 Rs-Pi V2 GPIO output
3. JP13 DA0 ~ DA7 U14 Port A . JP14 BA0 ~ BA7 U14 Port B
4. R64,R65,R66 (for U14 Address select A0,A1,A2)
5. U14 SPI 23s17 -1 Port A,B
6. U15 uIn2803
7. support Rs-Pi V2 P5 got extra 4 GPIO (28,29,30,31)
8. 2 extra 12c input for sensors (5V or 3v3) (5V port with Level converter) J7 GND,5V, SDA,SCL J8 GND,3V3, SDA,SCL
9. Red power-good V+ LED
10. 1.6A Poly Switch Fuse for V+ input protect.

**** for 23s17 port A output you need plug in 5V to Mini USB or 2P Terminal block**

	CON1		
VCC3v3	1	2	5V
SDA	3	4	GND
SCL	5	6	Tx
GPIO7	7	8	Rx
GPIO0	9	10	GPIO1
GPIO2	11	12	GPIO4
GPIO3	13	14	GPIO5
MOSI	17	18	GPIO6
MISO	19	20	CE0 n
SCLK	21	22	CE1 n
	23	24	
	25	26	
	CON26A		

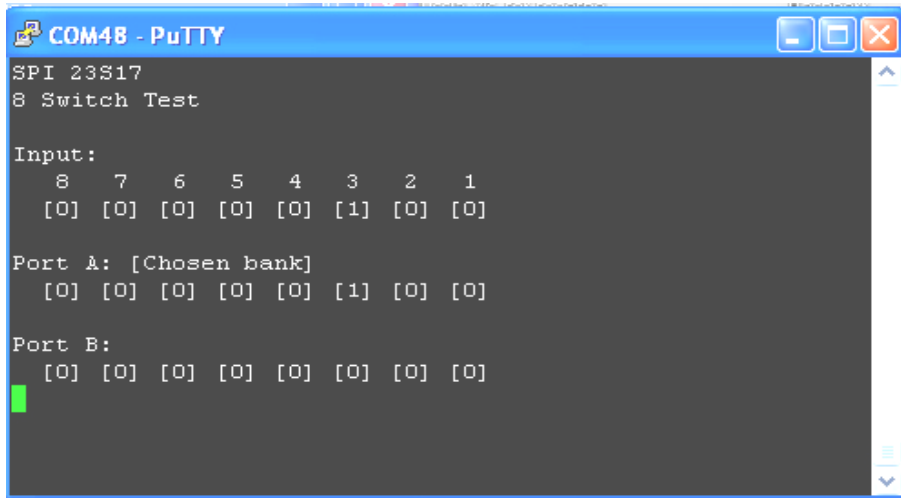
This board use RS-Pi pin 11,12,13,15,16,18,22,7 as GPIO 0 to GPIO 7 for Switch 1 to switch 8 input



Download test program from our web site 8sw.c & n23s17-cs0.py
<http://www.pridopia.co.uk/pi-23s17-8sw.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
# 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 n23s17-cs0.py
```



```
COM48 - PuTTY
SPI 23S17
8 Switch Test

Input:
  8  7  6  5  4  3  2  1
  [0] [0] [0] [0] [0] [1] [0] [0]

Port A: [Chosen bank]
  [0] [0] [0] [0] [0] [1] [0] [0]

Port B:
  [0] [0] [0] [0] [0] [0] [0] [0]
```

23s17-2port-8sw-v100.py demo

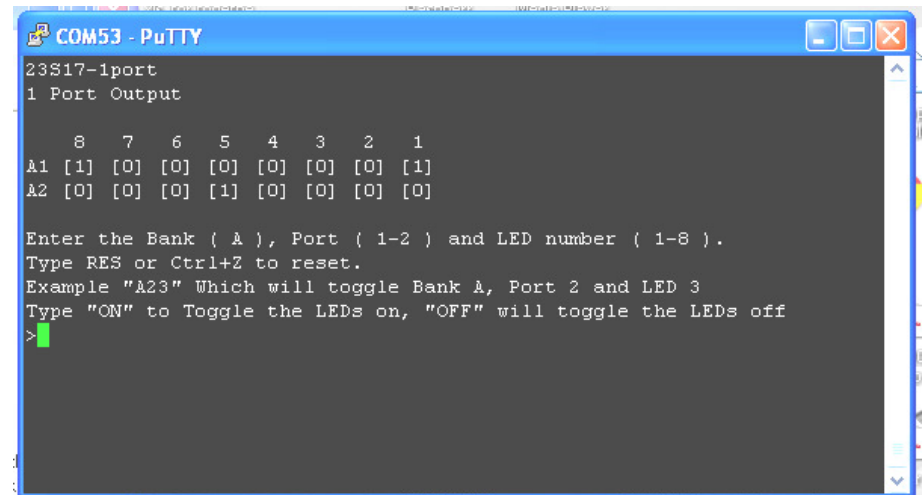
8 key switch input can choose Bank A or Bank B for output

Download WiringPi for GPIO support for our C code

<http://wiringpi.com/download-and-install/>

Download WiringPi for GPIO support for Python code

<https://github.com/WiringPi/WiringPi-Python>

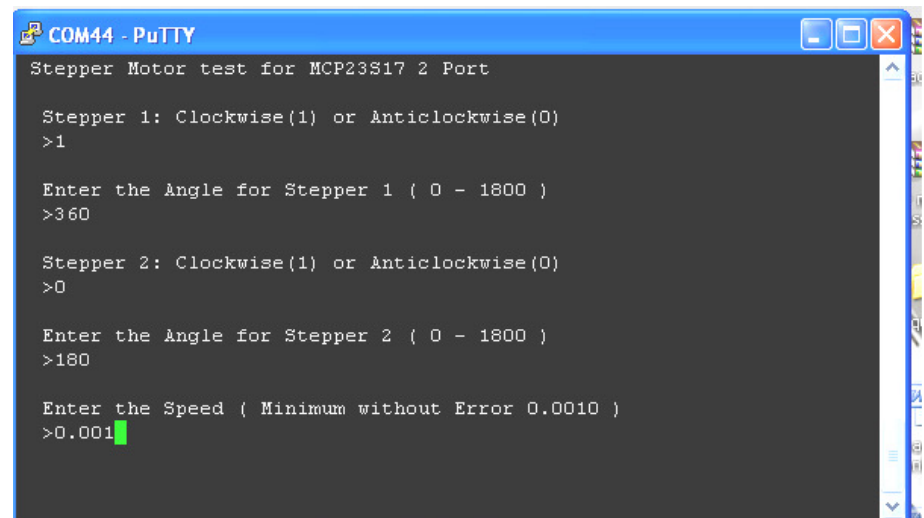


```
COM53 - PuTTY
23S17-1port
1 Port Output

  8  7  6  5  4  3  2  1
A1 [1] [0] [0] [0] [0] [0] [0] [1]
A2 [0] [0] [0] [1] [0] [0] [0] [0]

Enter the Bank ( A ), Port ( 1-2 ) and LED number ( 1-8 ).
Type RES or Ctrl+Z to reset.
Example "A23" Which will toggle Bank A, Port 2 and LED 3
Type "ON" to Toggle the LEDs on, "OFF" will toggle the LEDs off
>
```

23s17-1port-v100.py display all 16 GPIO status



```
COM44 - PuTTY
Stepper Motor test for MCP23S17 2 Port

Stepper 1: Clockwise(1) or Anticlockwise(0)
>1

Enter the Angle for Stepper 1 ( 0 - 1800 )
>360

Stepper 2: Clockwise(1) or Anticlockwise(0)
>0

Enter the Angle for Stepper 2 ( 0 - 1800 )
>180

Enter the Speed ( Minimum without Error 0.0010 )
>0.001
```

23s17-2port-stepper-s-v100.py demo 2 Stepper Motor Control

New Pridopia scratch interface software you can download from our web site

<http://www.pridopia.co.uk/rs-pi-set-scratch.html>