Raspberry Spy Robot PCB
Quick-Reference Card
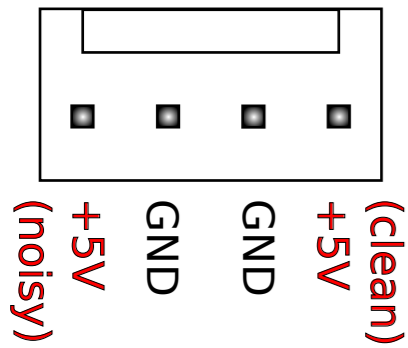
Power Input from Regulators
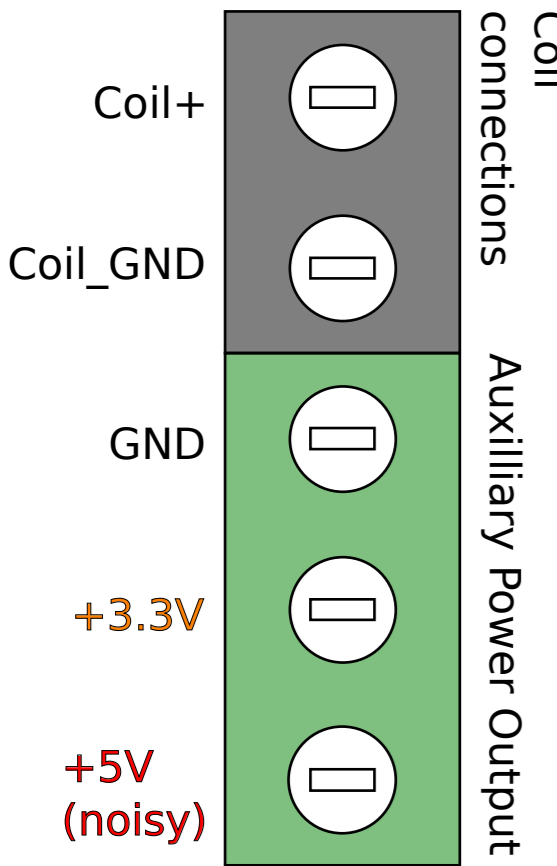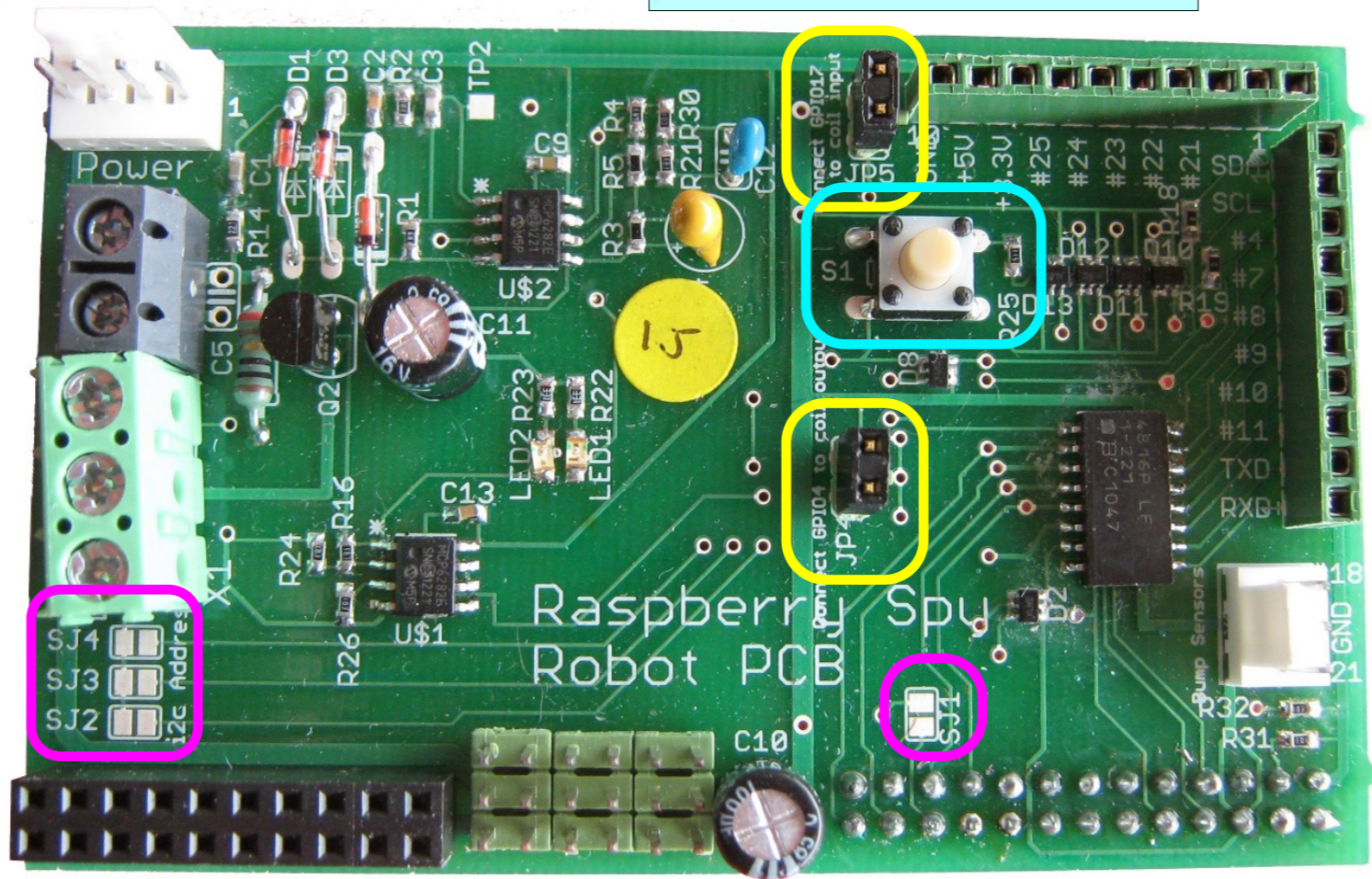(NB the two +5V supplies should be separate to isolate servo noise)

+5V (noisy)
GND
GND
+5V (clean)

GND
+5V
+3.3V
GPIO25
GPIO24
GPIO23
GPIO22
GPIO21
GPIO18
GPIO17

(clean)
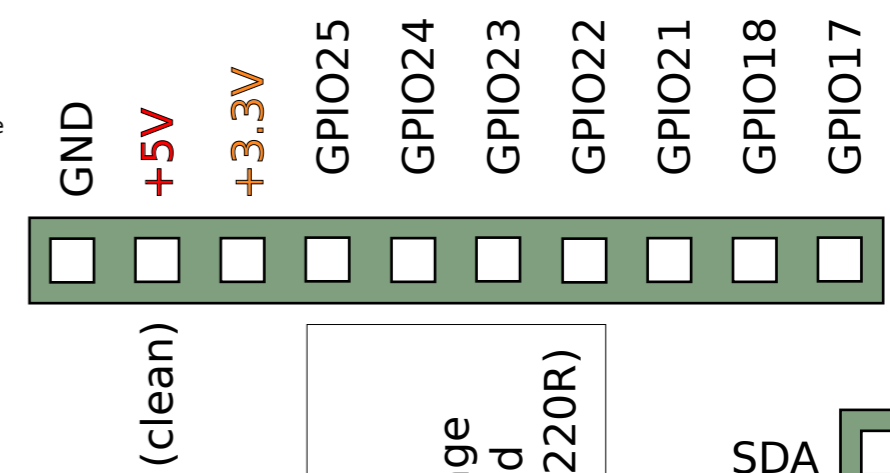
Switch S1:
Pulls GPIO18 high when pressed
(Set RPi internal Pull-down resistors to use)

Coil connections

Coil+
Coil_GND

Auxilliary Power Output

GND
+3.3V
+5V (noisy)
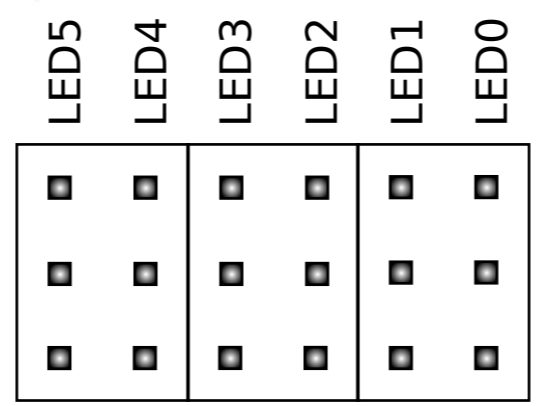
NFC pin jumpers:
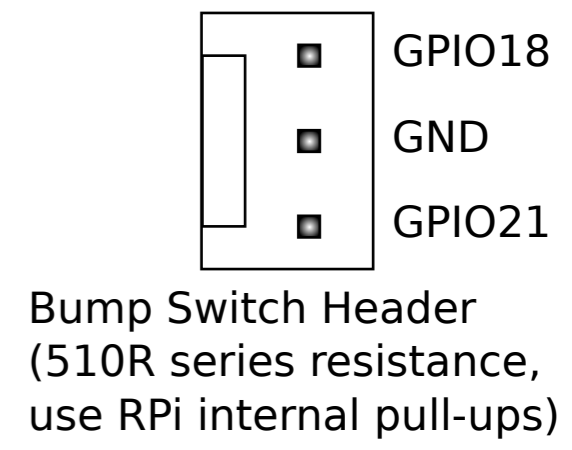JP4 --> connect GPIO4 as output
JP5 --> connect GPIO17 as input

GPIO breakout
All GPIO pins are diode protected against over-voltage
All except SDA/SCL protected by current limiting resistor (220R)

SDA
SCL
GPIO4
GPIO7
GPIO8
GPIO9
GPIO10
GPIO11
TXD / GPIO14
RXD / GPIO15

Raspberry Spy Robot PCB

PCA9685 i2c address solder jumpers
Address 0x40 if unconnected
SJ2 --> A0
SJ3 --> A1
SJ4 --> A2 (see PCA9685 datasheet)
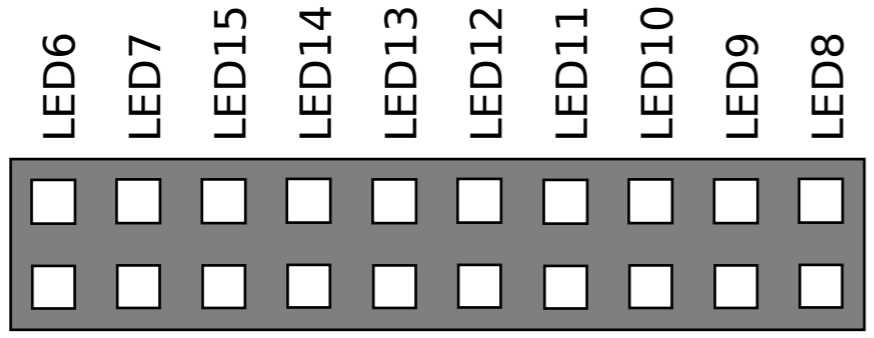SJ1 --> connect ~OE to GPIO25

GPIO18
GND
GPIO21

Bump Switch Header
(510R series resistance, use RPi internal pull-ups)

LED5
LED4
LED3
LED2
LED1
LED0

Signal (+3.3V) : White/Yellow
+5V (noisy) : Red
GND : Black

Servo Outputs
Driven by PCA9685

General Purpose PWM Outputs from PCA9685
(LEDs, servos etc)
max 25mA per pin

LED6
LED7
LED15
LED14
LED13
LED12
LED11
LED10
LED9
LED8

Signal (+3.3V)
GND

Raspberry Pi Header (viewed from top of board)

P1