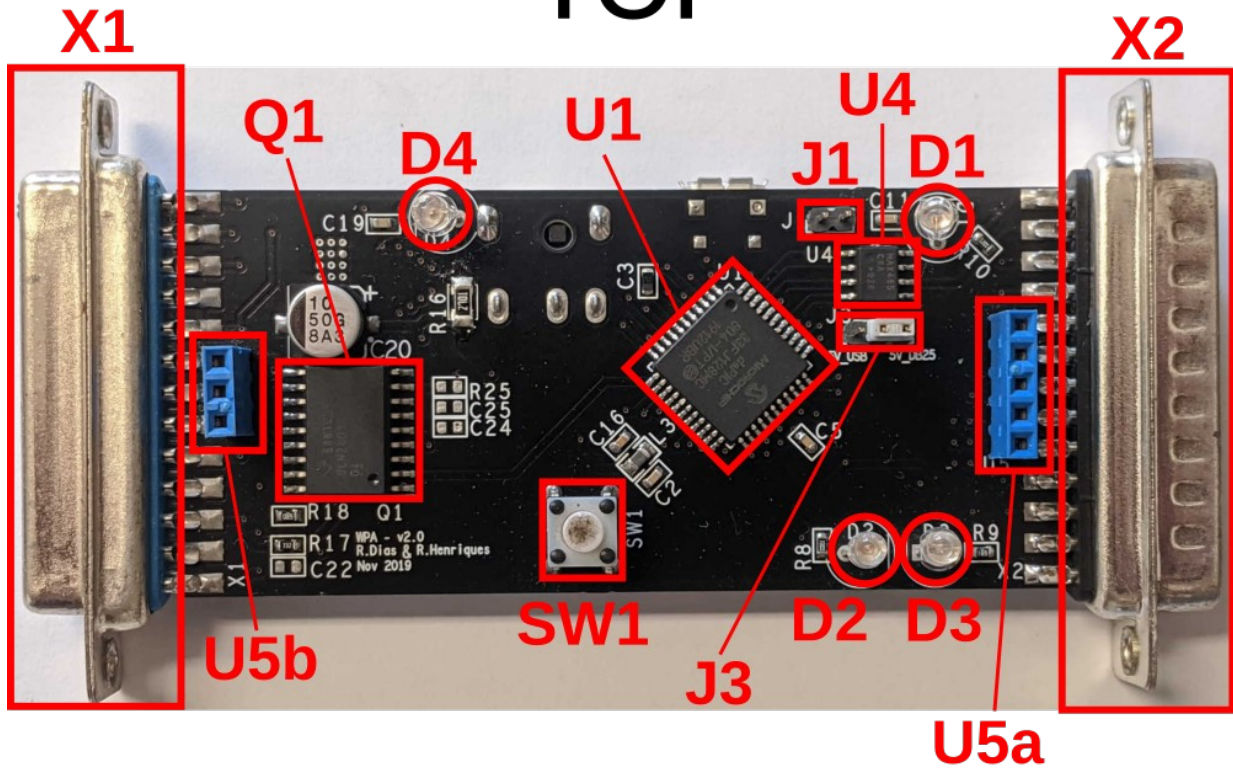
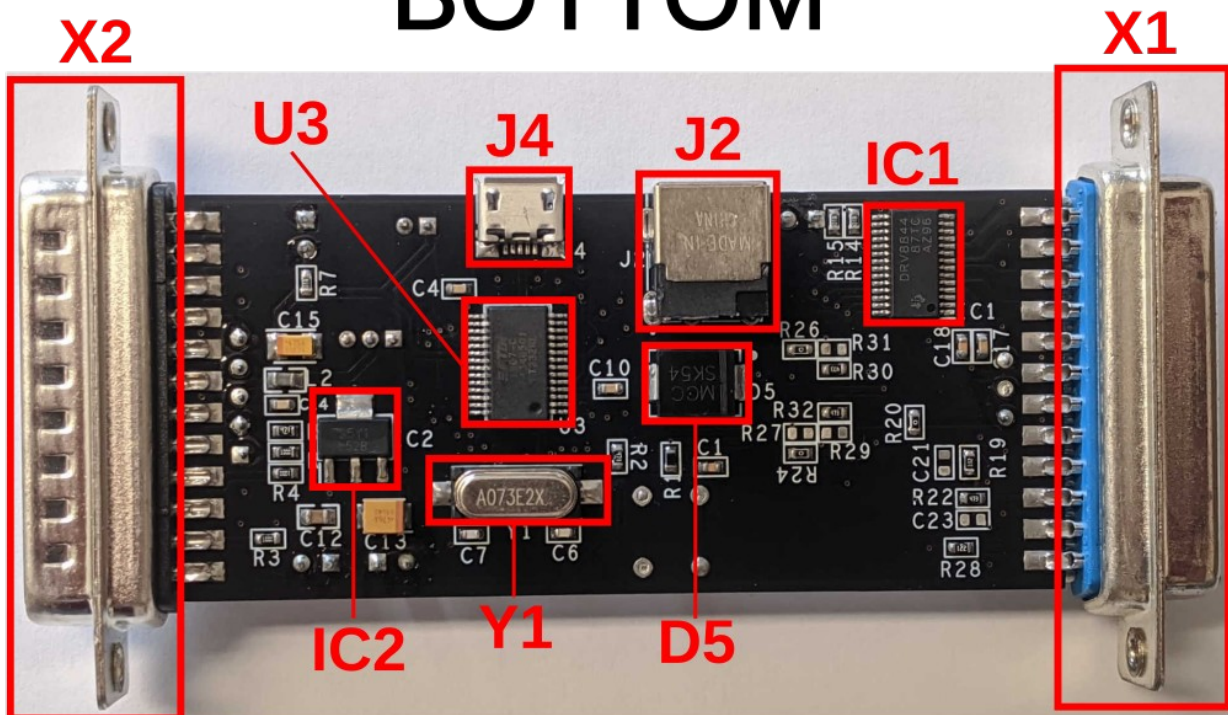


# DsPic board overview

## TOP



## BOTTOM



D1 – Red LED indicating the board is powered (+5 V)  
D2 – Green LED  
D3 – Blue LED  
D4 – Red LED indicating the presence of external power from J2 connector  
D5 – Diode for J2 connector reverse polarity protection  
IC1 – DRV8844 used to drive the step motor  
IC2 – Voltage regulator +3.3 V  
J1 – Jumper to power U4 with +5 V  
J2 – Connector for external power supply (+12 V, to feed the step motor)  
J3 – Jumper to select the +5 V source: from DB25 (X1) or micro USB connector (J4)  
J4 – Micro USB connector for serial communication (via FTDI – U3) and/or power the board +5 V  
Q1 – ULN2803 (Darlington transistor array)  
SW1 – Hardware reset switch  
U1 – Microcontroller: dsPIC33FJ128MC804  
U3 – FTDI: USB to TTL serial UART RS232  
U4 – MAX485 for RS485 connection  
U5a – 5 pin connector to the 7 segment display  
U5b – 3 pin connector to the 7 segment display  
X1 – DB25 connector to interface with actuators, sensors, light bulb and start button  
X2 – DB25 connector to connect to RaspberryPi via the flat cable  
Y1 – Crystal oscillator