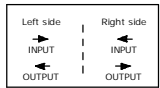
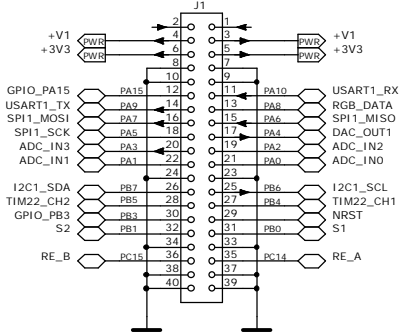
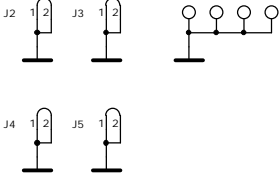


This Board needs 8...12 V from CPU Board

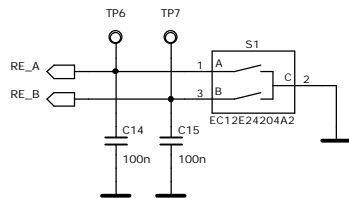
+V1 is external power from CPU board  
+3V3 is regulated 3,3 V from CPU board



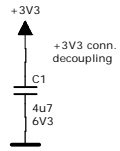
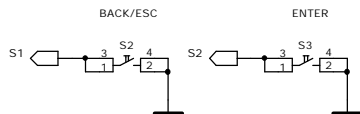
Wire links for oscilloscope GND



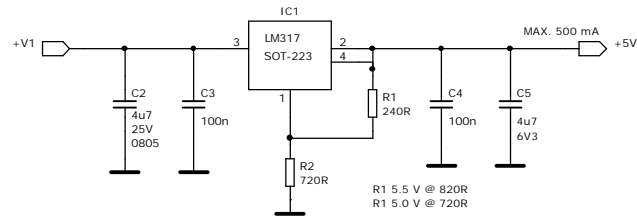
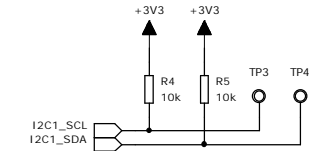
ROTARY ENCODER AND BUTTONS



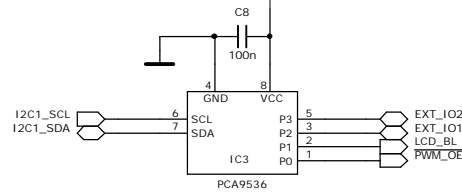
(Rotary Encoder do not have push button)



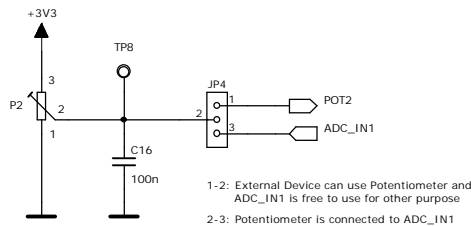
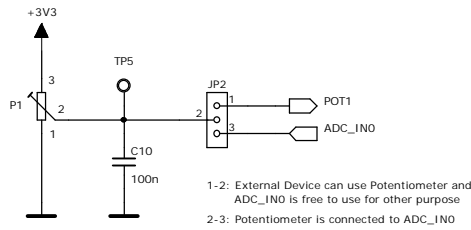
I2C BUS PULL-UP RESISTORS



IO EXPANDER



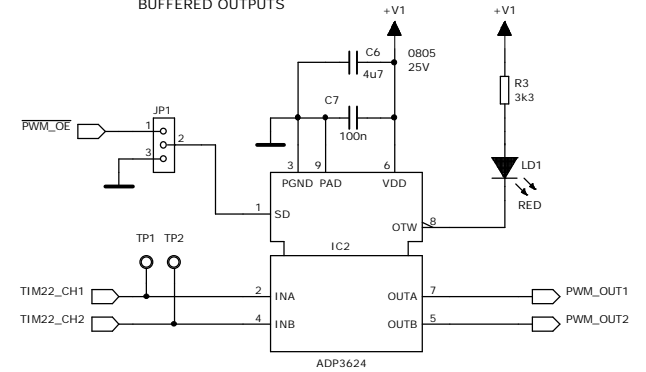
POTENTIOMETERS



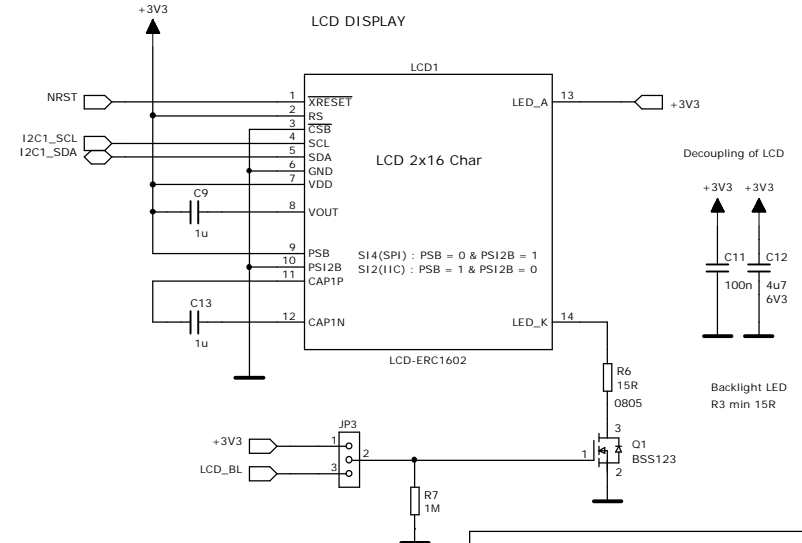
#### NOTES:

Resistor packages size is 0603 unless otherwise indicated.  
Capacitor packages size is 0603 unless otherwise indicated.  
All capacitors dielectrics are X7R or X5R.  
All capacitors votage values are minimum voltages.

BUFFERED OUTPUTS



LCD DISPLAY

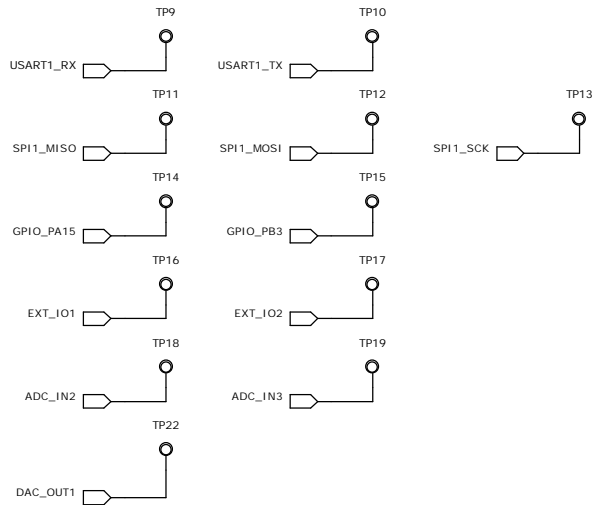


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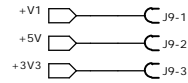
TITLE: WS Training Board

DRAWN: JKo	DATED: 10.8.2022	SHEET: MAIN	REV: 1.0.1
CHECKED:	DATED:	FILE: WS training board.sch	SHEET: 1 OF 2

## TEST POINTS



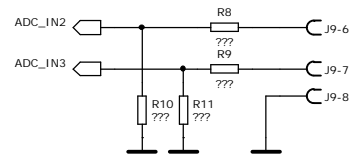
## POWER SUPPLIES FOR APPLICATION



## BUFFERED OUTPUTS FOR APPLICATION



This can be normal outputs or PWM outputs.  
Voltage levels depends +V1 (+3V3...+18V)

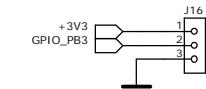
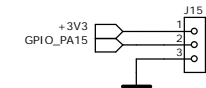
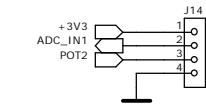
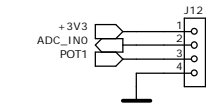
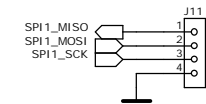
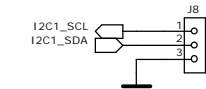
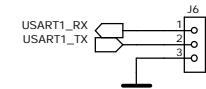
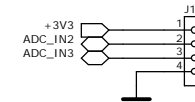
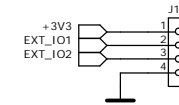
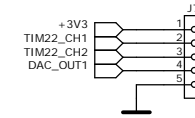


Voltage divider resistors R8...R11 are THT 1/8 W

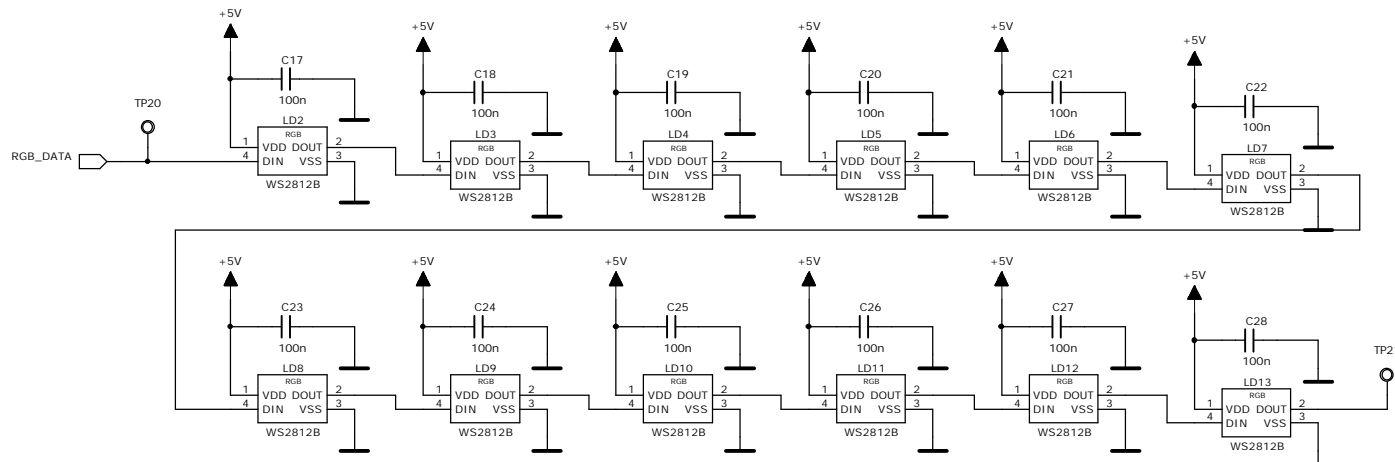
The values of the resistors depend on the voltage to be measured.

If the voltage is 3.3V or lower, the series resistors can be replaced with a jumper link.

## PIN HEADER CONNECTORS FOR APPLICATION



## INTELLIGENT CONTROLLED RGB LEDS



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TITLE: WS Training Board

DRAWN: JKo	DATED: 10.8.2022	SHEET: LEDS	REV: 1.0.1
CHECKED:	DATED:	FILE: WS training board.sch	SHEET: 2 OF 2