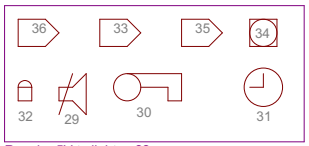
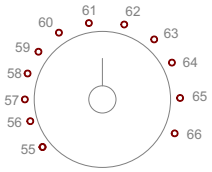
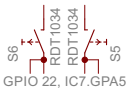
Man Machine Interface on the front



Require 5V to light up??

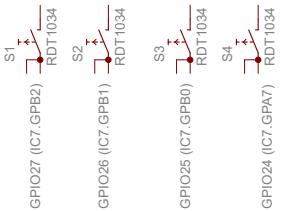


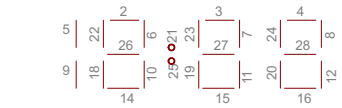
Program Select button



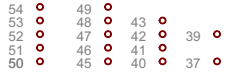
GPIO 22, IC7.GPA5
GPIO 23, IC7.GPA6

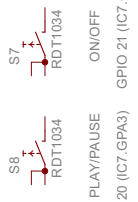
ROT. BUTTON



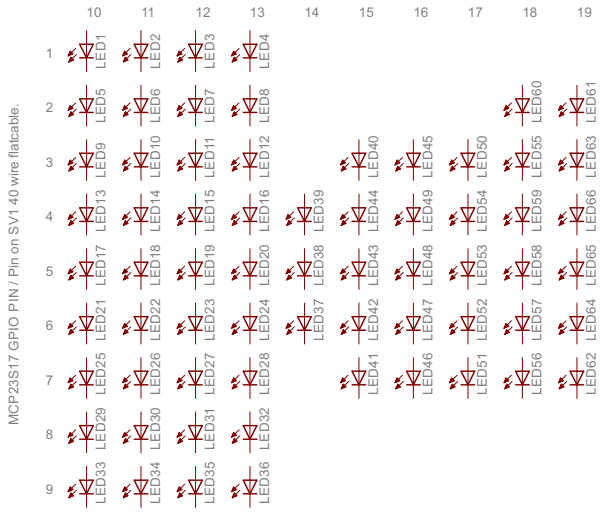


TEMP SPEED OPTIONS





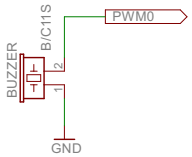
MCP23S17 GPIO PIN / Pin on SV1 40 wire flatcable.



GPIO PIN 1-8 = IC6 GPIOA.0-GPIOA.7
GPIO PIN 9-16 = IC6 GPIOB.0-GPIOB.7
GPIO PIN 17-19 = IC7 GPIOA.0-GPIOA.2
LEDS are in a matrix where GPIO 1-9 must be low and GPIO 10-19 high to make one or more leds light up.
Ex:
GPIO 1 = Low and 10 = high -> LED1 is ON

NOTE:
Driving the buzzer directly from 3.3V sound is too weak. Better use 5V.
Some of the LEDS seem to require 5V, if you want them all to shine bright best is to supply 5V to the MCP23S17 IC6 and IC7.
This will require a voltage level converter for the SPI bus...

Better use a special LED driver IC for 7 segment displays. But didn't have time to do this so I used the Raspberry to control the matrix.
This takes about 20% CPU on the PiZero!
Using DMA on the Pi could solve this.



WASHBERRY PI Display and MMI	
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