FRONT PANEL SWITCH INPUT

FRONT PANEL LED OUTPUT

TTL SERIAL TO
USB CONNECTOR

J1

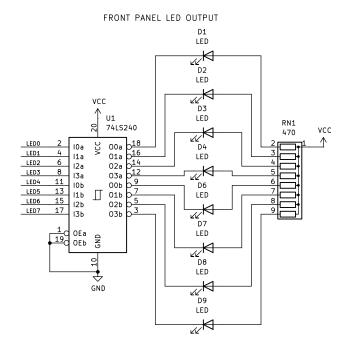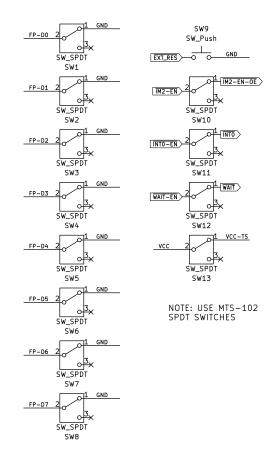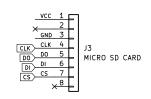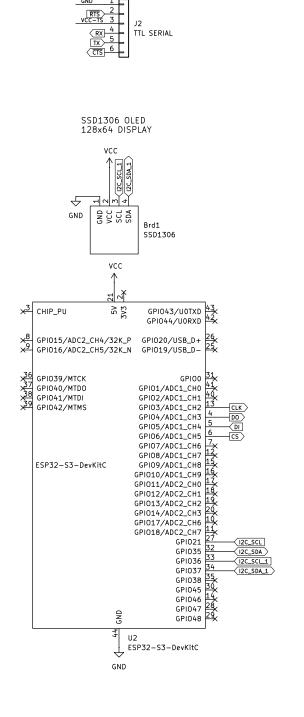| GND | 1 | 2 | GND |
| VCC | 3 | 4 | VCC |
| LED0 | 5 | 6 | FP-D0 |
| LED1 | 7 | 8 | FP-D1 |
| LED2 | 9 | 10 | FP-D2 |
| LED3 | 11 | 12 | FP-D3 |
| LED4 | 13 | 14 | FP-D4 |
| LED5 | 15 | 16 | FP-D5 |
| LED6 | 17 | 18 | FP-D6 |
| LED7 | 19 | 20 | FP-D7 |
| I2C_SDA | 21 | 22 | GND |
| I2C_SCL | 23 | 24 | EXT_RES |
| GND | 25 | 26 | IM2-EN |
| RTS | 27 | 28 | IM2-EN-OE |
| VCC-TS | 29 | 30 | INT0-EN |
| RX | 31 | 32 | INT0 |
| TX | 33 | 34 | WAIT-EN |
| CTS | 35 | 36 | WAIT |
| VCC | 37 | 38 | VCC |
| GND | 39 | 40 | VCC |

FPANEL

J11 NOTE:

PINS 5, 7, 9, 11, 13, 15, 17, 19 ARE FOR LED STATUS
FOR ROMWBW FRONT PANEL INDICATOR

PINS 6, 8, 10, 12, 14, 16, 18, 20 ARE FOR SWITCH
INPUTS FOR ROMWBW FRONT PANEL

PINS 21, 23 ARE FOR I2C CONNECTION (SDA & SCL)

PINS 25, 27, 29, 31, 33, AND 35
ARE FOR TTL SERIAL CONNECTOR TO UART

PINS 29, 37 ARE FOR SERIAL VCC POWER ENABLE

PINS 22, 24 ARE FOR EXTERNAL RESET SWITCH

PINS 26, 28 ARE FOR IM2 CIRCUIT ENABLE

PINS 30, 32 ARE FOR INTERRUPT 0 ENABLE
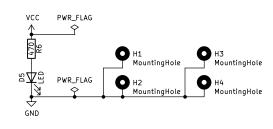
PINS 34, 36 ARE FOR WAIT STATE CIRCUIT ENABLE

D1 LED
D2 LED
D3 LED
D4 LED
D5 LED
D6 LED
D7 LED
D8 LED
D9 LED

VCC

U1
74LS240

| LED0 | 2 | I0a | O0a | 18 |
| LED1 | 4 | I1a | O1a | 16 |
| LED2 | 6 | I2a | O2a | 14 |
| LED3 | 8 | I3a | O3a | 12 |
| LED4 | 11 | I0b | O0b | 9 |
| LED5 | 13 | I1b | O1b | 7 |
| LED6 | 15 | I2b | O2b | 5 |
| LED7 | 17 | I3b | O3b | 3 |

VCC 20
1 OEa
19 OEb
GND 10
GND

RN1
470
VCC

SW9
SW_Push

EXT_RES ... GND

IM2-EN 2 ... 1 IM2-EN-OE
SW_SPDT
SW10

INT0-EN 2 ... 1 INT0
SW_SPDT
SW11

WAIT-EN 2 ... 1 WAIT
SW_SPDT
SW12

VCC 2 ... 1 VCC-TS
SW_SPDT
SW13

FP-D0 2 ... 1 GND
SW_SPDT
SW1

FP-D1 2 ... 1 GND
SW_SPDT
SW2

FP-D2 2 ... 1 GND
SW_SPDT
SW3

FP-D3 2 ... 1 GND
SW_SPDT
SW4

FP-D4 2 ... 1 GND
SW_SPDT
SW5

FP-D5 2 ... 1 GND
SW_SPDT
SW6

FP-D6 2 ... 1 GND
SW_SPDT
SW7

FP-D7 2 ... 1 GND
SW_SPDT
SW8

NOTE: USE MTS-102
SPDT SWITCHES

| GND | 1 |
| RTS | 2 |
| VCC-TS | 3 |
| RX | 5 |
| TX | 5 |
| CTS | 6 |

J2
TTL SERIAL

SSD1306 OLED
128x64 DISPLAY

VCC

GND

| GND | 1 |
| VCC | 2 |
| SCL | 3 |
| SDA | 4 |

Brd1
SSD1306

VCC

CHIP_PU
5V
3V3
21

| GPIO43/U0TXD | 43 |
| GPIO44/U0RXD | 42 |

| GPIO15/ADC2_CH4/32K_P | 8 | | GPIO20/USB_D+ | 26 |
| GPIO16/ADC2_CH5/32K_N | 9 | | GPIO19/USB_D- | 25 |

| GPIO39/MTCK | 36 | | GPIO0 | 31 |
| GPIO40/MTDO | 37 | | GPIO1/ADC1_CH0 | 40 |
| GPIO41/MTDI | 38 | | GPIO2/ADC1_CH1 | 5 |
| GPIO42/MTMS | 39 | | GPIO3/ADC1_CH2 | 13 | CLK |
| | | GPIO4/ADC1_CH3 | 4 | DO |
| | | GPIO5/ADC1_CH4 | 5 | DI |
| | | GPIO6/ADC1_CH5 | 6 | CS |
| | | GPIO7/ADC1_CH6 | 7 |
| | | GPIO8/ADC1_CH7 | 12 |
| | | GPIO9/ADC1_CH8 | 15 |
| | | GPIO10/ADC1_CH9 | 17 |
| | | GPIO11/ADC2_CH0 | 16 |
| | | GPIO12/ADC2_CH1 | 18 |
| | | GPIO13/ADC2_CH2 | 19 |
| | | GPIO14/ADC2_CH3 | 10 |
| | | GPIO17/ADC2_CH6 | 11 |
| | | GPIO18/ADC2_CH7 | 11 |
| | | GPIO21 | 27 | I2C_SCL |
| | | GPIO35 | 32 | I2C_SDA |
| | | GPIO36 | 33 | I2C_SCL_1 |
| | | GPIO37 | 34 | I2C_SDA_1 |
| | | GPIO38 | 35 |
| | | GPIO45 | 30 |
| | | GPIO46 | 14 |
| | | GPIO47 | 28 |
| | | GPIO48 | 29 |

ESP32-S3-DevKitC

GND
44
GND

U2
ESP32-S3-DevKitC

VCC 1
2
GND 3
CLK 4
DO 5
DI 6
CS 7
8

J3
MICRO SD CARD

NOTE: ADAFRUIT
MICRO SD CARD
BREAKOUT BOARD

VCC
PWR_FLAG

R6 470

D5 LED

PWR_FLAG

GND

H1 MountingHole
H2 MountingHole
H3 MountingHole
H4 MountingHole