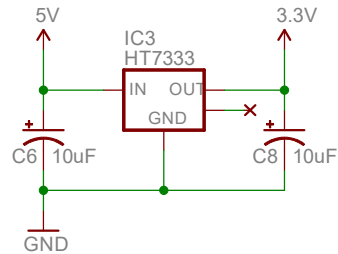
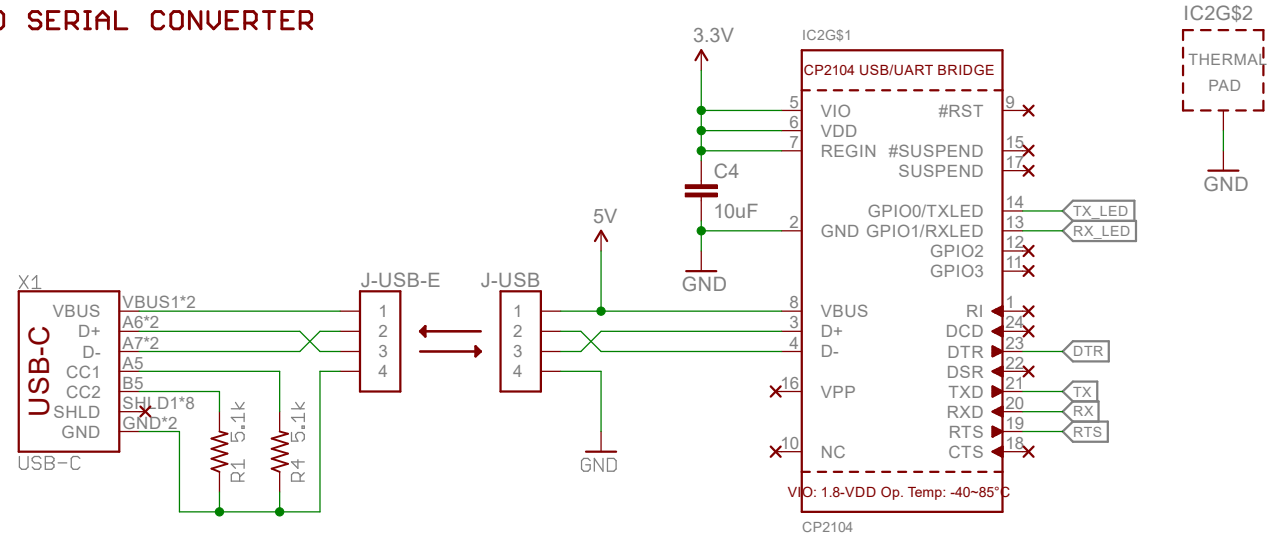


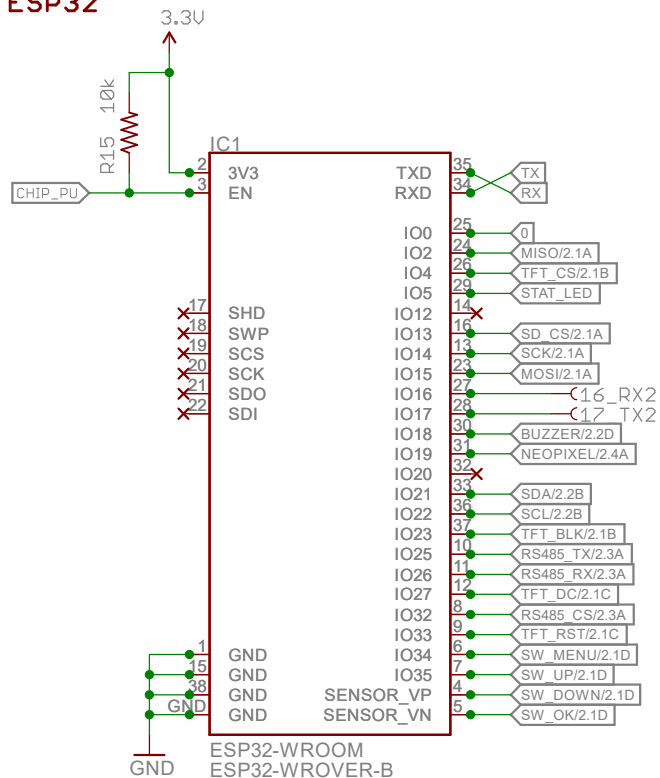
## POWER REGULATOR



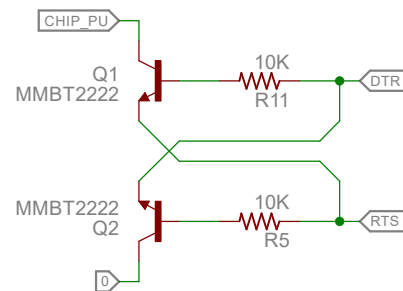
## USB TO SERIAL CONVERTER



## ESP32



AUTO BOOT



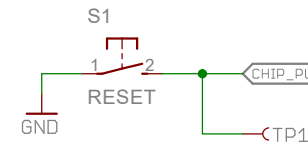
Pin	Configuration	Boot	Download
	Default		
GPIO0	1	1	0
U0TXD	1	1	x
GPIO2	0	x	0
GPIO4	0	x	x
MTD0	1	x	x
GPIO5	1	1	x

If U0TXD, GPIO2, GPIO5 are floating,  
GPIO0 determines boot mode

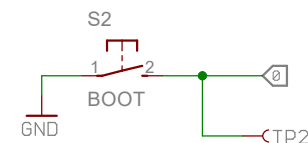
```
If DTR is LOW,
toggling RTS from HIGH to LOW resets to run mode.
```

If RTS is HIGH,  
toggling DTR from LOW to HIGH resets to bootloader

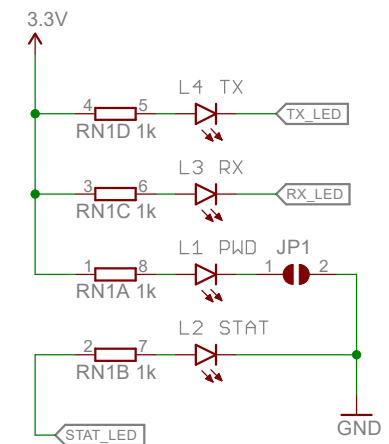
RESET BUTTON



BOOT BUTTON



## STATUS LEDs



TITLE:  
**STAIR LIGHT CONTROLLER**

LICENCE:  
<http://giltesa.com>



FILE: stair light controller

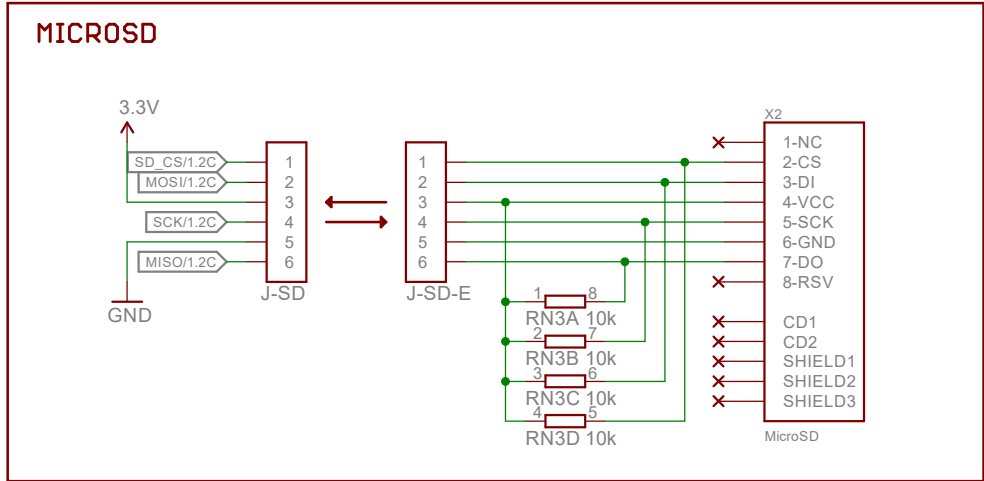
REV: V1.0

Date: not saved!

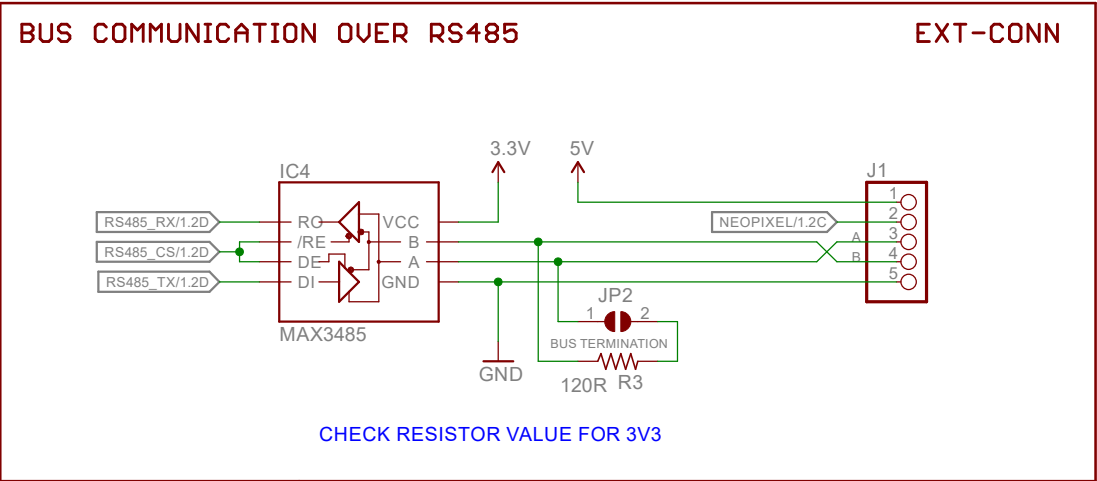
Sheet: 1/2

# MICROSD

The diagram illustrates the connection between a MicroSD card and a J-SD-E module. The MicroSD card is shown on the right with its 8 pins: 1-NC, 2-CS, 3-DI, 4-VCC, 5-SCK, 6-GND, 7-DO, and 8-RSV. The J-SD-E module is in the center with 6 pins: 1, 2, 3, 4, 5, and 6. The J-SD module is on the left with 6 pins: 1, 2, 3, 4, 5, and 6. The connections are as follows: J-SD pin 1 to J-SD-E pin 1; J-SD pin 2 to J-SD-E pin 2; J-SD pin 3 to J-SD-E pin 3; J-SD pin 4 to J-SD-E pin 4; J-SD pin 5 to J-SD-E pin 5; and J-SD pin 6 to J-SD-E pin 6. The J-SD-E module is connected to the MicroSD card: J-SD-E pin 1 to MicroSD pin 4 (VCC); J-SD-E pin 2 to MicroSD pin 5 (SCK); J-SD-E pin 3 to MicroSD pin 6 (GND); J-SD-E pin 4 to MicroSD pin 2 (CS); J-SD-E pin 5 to MicroSD pin 3 (DI); and J-SD-E pin 6 to MicroSD pin 7 (DO). The J-SD module is connected to a 3.3V supply and GND: J-SD pin 1 to 3.3V; J-SD pin 2 to MOSI/1.2C; J-SD pin 3 to SCK/1.2C; J-SD pin 4 to MISO/1.2C; J-SD pin 5 to GND; and J-SD pin 6 to GND. The J-SD-E module is connected to the J-SD module: J-SD-E pin 1 to J-SD pin 1; J-SD-E pin 2 to J-SD pin 2; J-SD-E pin 3 to J-SD pin 3; J-SD-E pin 4 to J-SD pin 4; J-SD-E pin 5 to J-SD pin 5; and J-SD-E pin 6 to J-SD pin 6. The J-SD-E module is also connected to a 3.3V supply and GND: J-SD-E pin 1 to 3.3V; J-SD-E pin 2 to MOSI/1.2C; J-SD-E pin 3 to SCK/1.2C; J-SD-E pin 4 to MISO/1.2C; J-SD-E pin 5 to GND; and J-SD-E pin 6 to GND. The J-SD-E module is also connected to a 3.3V supply and GND: J-SD-E pin 1 to 3.3V; J-SD-E pin 2 to MOSI/1.2C; J-SD-E pin 3 to SCK/1.2C; J-SD-E pin 4 to MISO/1.2C; J-SD-E pin 5 to GND; and J-SD-E pin 6 to GND.

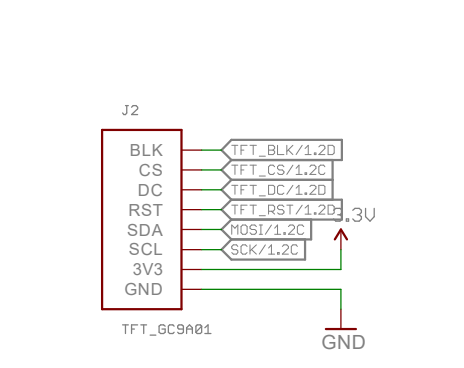


The diagram illustrates the connection of an RS485 module to an I2C module (NEOPIXEL/1.2C) using a MAX3485 IC (labeled IC4). The RS485 module has three pins: RS485\_RX/1.2D, RS485\_CS/1.2D, and RS485\_TX/1.2D. The MAX3485 IC has pins for RG, /RE, DE, DI, VCC, B, A, and GND. The I2C module has pins for A, B, and GND. The circuit is powered by 3.3V and 5V sources. A 120Ω resistor (R3) is connected between the I2C module's A and B pins for bus termination. A jumper JP2 is used to select between 3.3V and 5V power for the I2C module. The text "CHECK RESISTOR VALUE FOR 3V3" is present at the bottom.



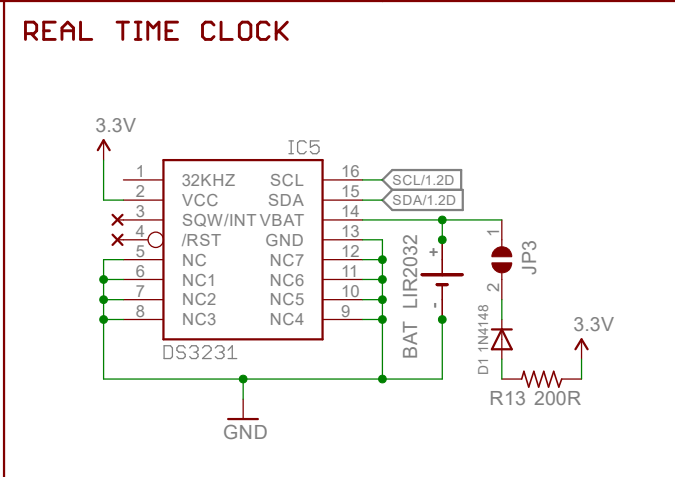
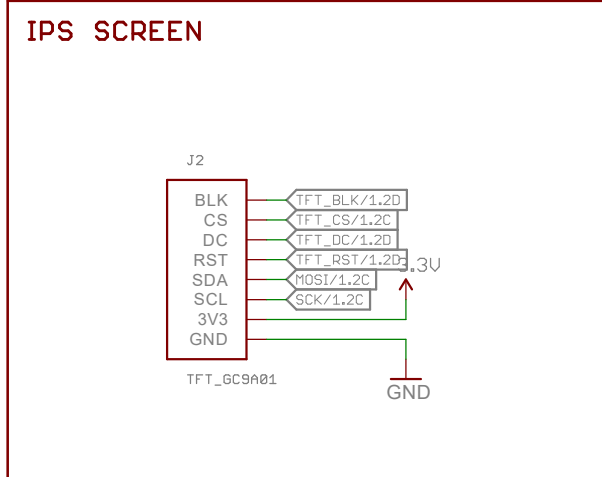
The diagram illustrates the connection of an RS485 module to an I2C module (NEOPIXEL/1.2C) using a MAX3485 IC (labeled IC4). The RS485 module has three pins: RS485\_RX/1.2D, RS485\_CS/1.2D, and RS485\_TX/1.2D. The MAX3485 IC has pins for RG, /RE, DE, DI, VCC, B, A, and GND. The I2C module has pins for A, B, and GND. The circuit is powered by 3.3V and 5V sources. A 120Ω resistor (R3) is connected between the I2C module's A and B pins for bus termination. A jumper JP2 is used to select between 3.3V and 5V power for the I2C module. The text "CHECK RESISTOR VALUE FOR 3V3" is present at the bottom.

# IPS SCREEN



The diagram illustrates the electrical connection for an IPS screen. A red box labeled 'J2' represents the screen's connector. It contains pins for BLK, CS, DC, RST, SDA, SCL, 3V3, and GND. These pins are connected to a microcontroller (TFT\_GC9A01) via green lines. The connections are as follows: BLK to TFT\_BLK/1.2D, CS to TFT\_CS/1.2C, DC to TFT\_DC/1.2D, RST to TFT\_RST/1.2D, SDA to MOSI/1.2C, SCL to SCK/1.2C, 3V3 to a 3V power source, and GND to a common ground. A 3V power source is indicated by a red arrow pointing to a 3V label. A common ground is indicated by a red arrow pointing to a GND symbol.

```
graph LR
    subgraph J2 [J2]
        BLK
        CS
        DC
        RST
        SDA
        SCL
        3V3
        GND
    end
    BLK --- TFT_BLK["TFT_BLK/1.2D"]
    CS --- TFT_CS["TFT_CS/1.2C"]
    DC --- TFT_DC["TFT_DC/1.2D"]
    RST --- TFT_RST["TFT_RST/1.2D"]
    SDA --- MOSI["MOSI/1.2C"]
    SCL --- SCK["SCK/1.2C"]
    3V3 --- 3V["3V"]
    GND --- GND_symbol["GND"]
```



## TEMP SENSOR

The diagram shows the wiring for an HTU21D digital temperature and humidity sensor. The sensor is represented by a red box labeled 'HTU21D' with pins for VDDDATA, GND, SCK, and GND. It is connected to a 3.3V supply and ground. A 100nF capacitor (C3) is connected between the VDDDATA pin and ground. The SCK pin is connected to ground. The sensor's I2C interface is connected to an I2C bus. The 7-bit I2C address is 0x40, the write address is 0x80, and the read address is 0x81. The I2C bus is connected to the SDA/1.2D and SCL/1.2D pins. Two resistors, R2 (4.7K) and R1 (104.7K), are connected between the 3.3V supply and the SDA/1.2D and SCL/1.2D pins, respectively.

3.3V

7-bit I2C Address is 0x40  
I2C write is 0x80  
I2C read is 0x81

IC6

VDDDATA  
GND SCK  
GND

HTU21D

C3  
100nF

R2 4.7K

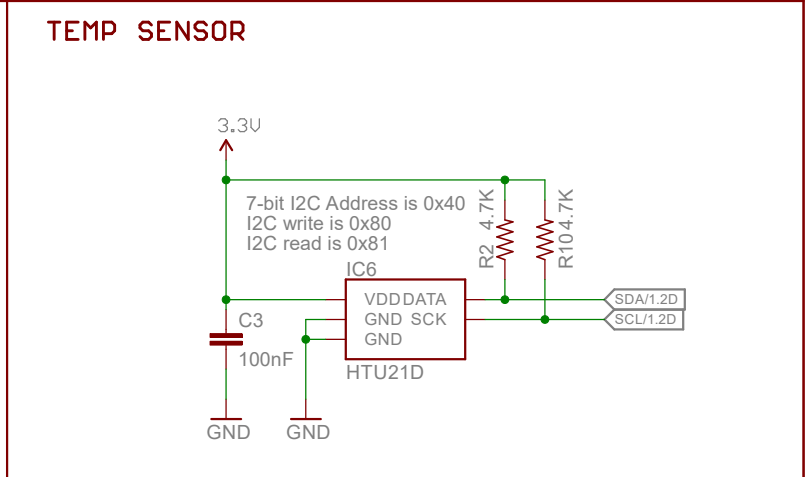
R1 104.7K

SDA/1.2D

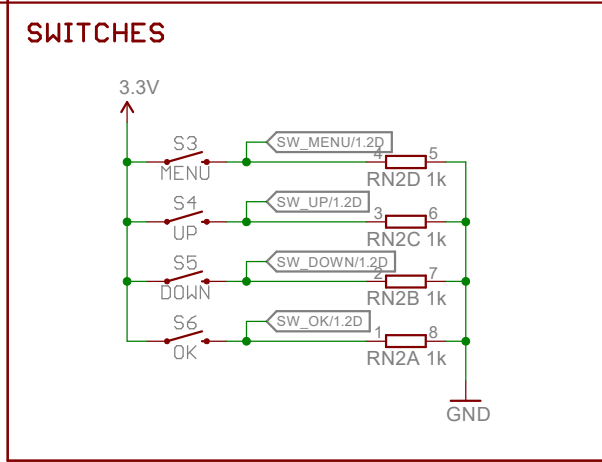
SCL/1.2D

GND

GND

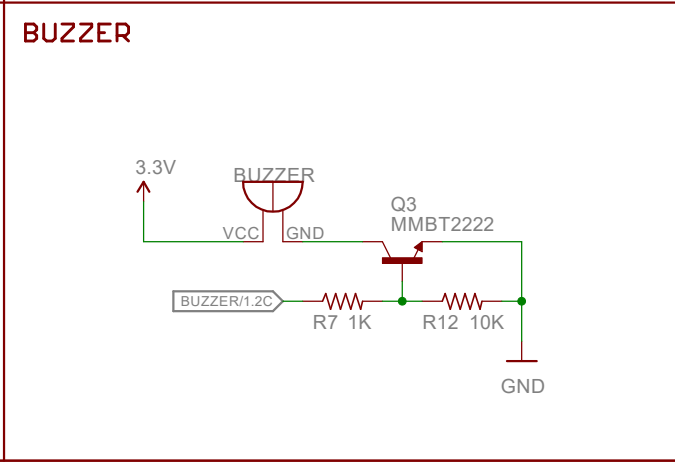


# SWITCHES



# BUZZER

The diagram shows a circuit for driving a buzzer. A 3.3V DC source is connected to the VCC pin of a buzzer component. The buzzer's GND pin is connected to a common ground. A transistor, labeled Q3 MMBT2222, is used as a switch. The base of the transistor is connected to a 3.3V source through a resistor R7 (1K). The emitter of the transistor is connected to ground. The collector of the transistor is connected to the buzzer's GND pin through a resistor R12 (10K). The buzzer is represented by a component labeled BUZZER/1.2C.



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