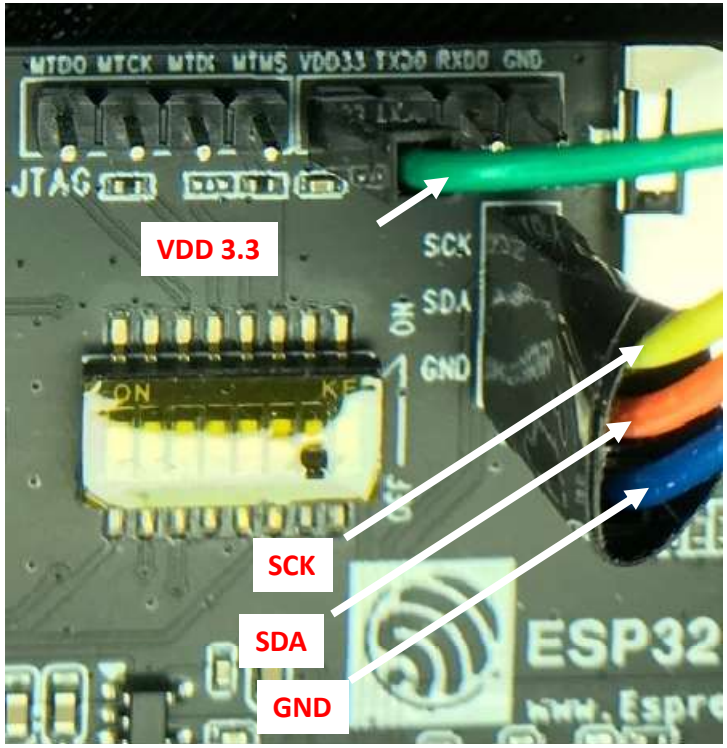
The ESP32-LyraT Board Connections

To connect the OLED display to the board,
4 pins are used.

These are:

- VDD 3.3V Power (Green)
- SCK (Yellow)
- SDA (Orange)
- GND (Blue)



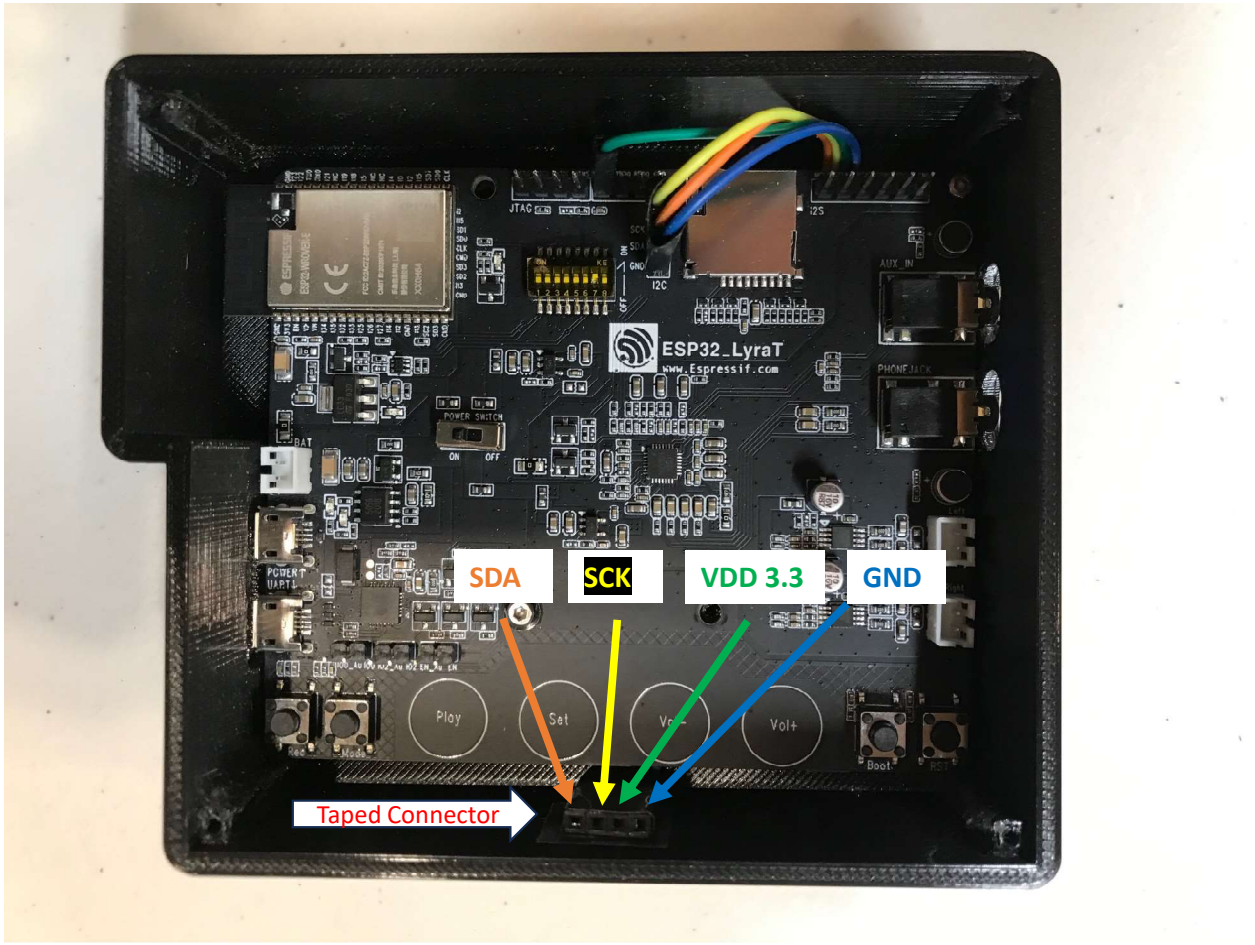
Inside the OLED Display 3D Printed Case

This is a view inside the 3D printed case designed for the OLED display.

To make things simple, the 4 wires from the pins pass underneath the board to a connector which is fastened with double-sided tape to the opposite side of the case.

The connector is positioned carefully so that when the cover is installed, the pins on the OLED attached to the top of the case insert directly into the connector automatically.

Color-coded pinouts to the connector is shown here.



Mounting the OLED Display to the case top

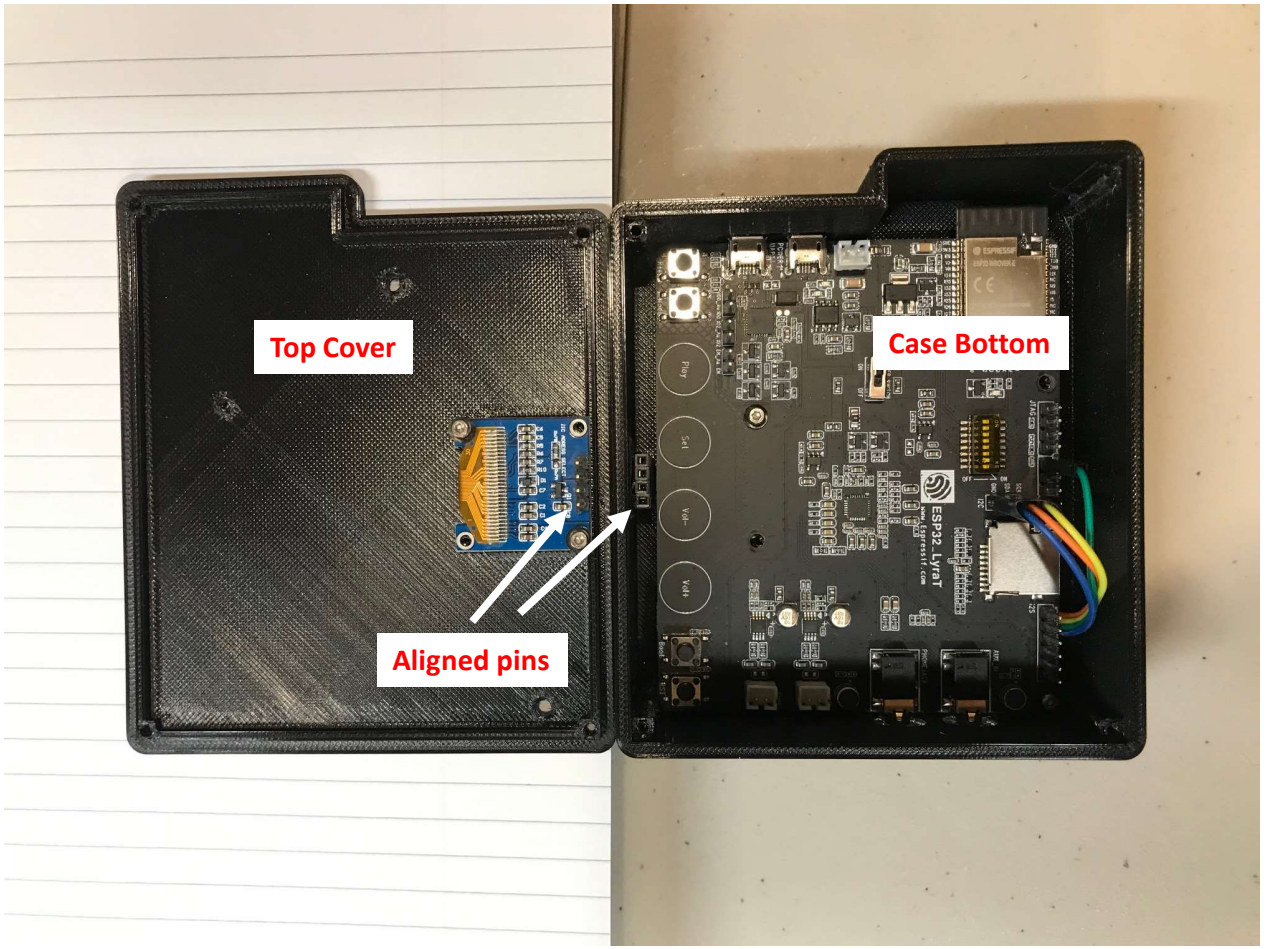
The 3D printed case top has a small window and 3 mm mounts for the OLED display. The positioning of the OLED display is such that the pins mate perfectly with the connector taped to the side of the case when placed.

Note: I only used two 3 mm screws to mount the display to the case top to conserve hardware.

Aligning the OLED Connector

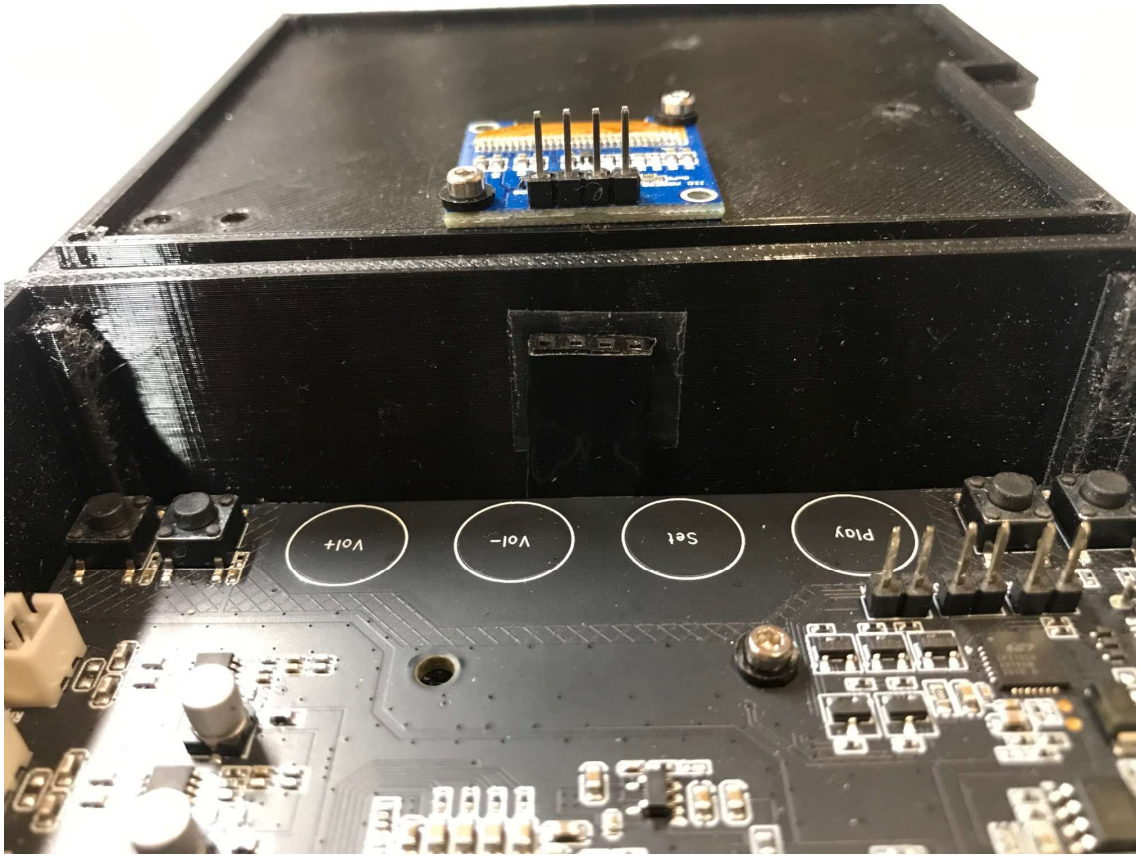
Here is a photo showing how the connector and OLED display are aligned so that when the top of the case is placed on the bottom the OLED pins sit inside the connector.

(Note that a more permanent/stable connection method is recommended in a production environment.)



Aligning the OLED Connector

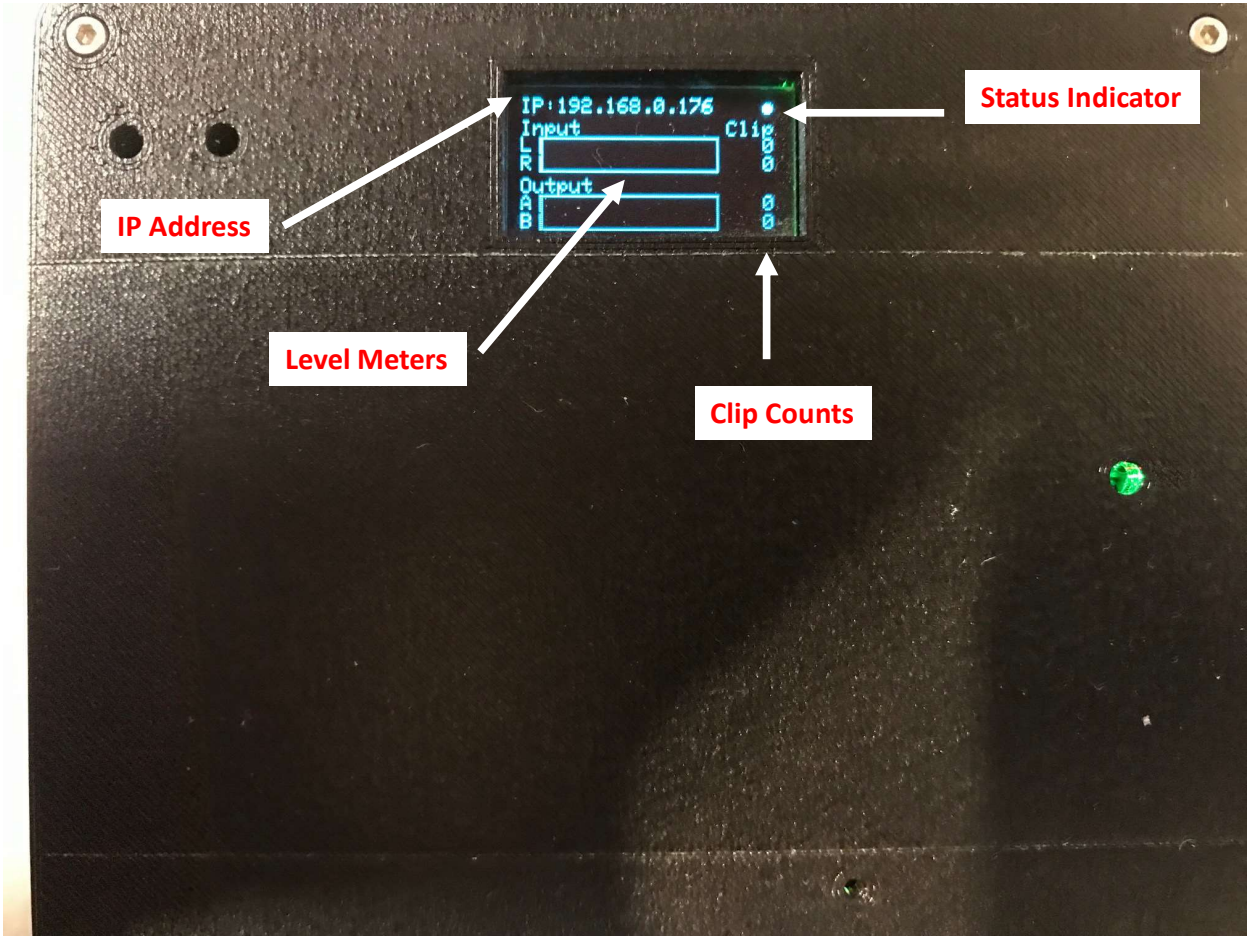
Another view of the alignment between the top and bottom case parts to ensure a proper connection when closed.



The Display

The display shows the following information:

- Assigned IP Address
- Input level meters (Left and Right)
- Output level meters (Left and Right)
- Clip counts for all input and output channels. (Note that the clip counts roll over when they reach their maximum value).
- Blinking status indicator (blinking = working).



Turning on the Display in code

Uncomment the first line in the file **DSP_Process.h** and recompile.

```
//#define DISPLAY_ON
//#define DAC_24_BIT
#define WIFI_ON

#include <string.h>
#include <math.h>
#include <freertos/FreeRTOS.h>
#include <freertos/task.h>
#include <driver/i2s.h>
#include <driver/i2c.h>
#include <TelnetSpy.h>
#include "es8388_registers.h"

#ifdef DISPLAY_ON
#include <Adafruit_GFX.h>
#include <Adafruit_SSD1306.h>
#endif
```

Uncomment this line