



# ColourClassic Score Display – Build Instructions

V1.0

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## Introduction

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### Welcome

Welcome to the ColourClassic Score Display. This is a modern replacement score display for Bally Solid State, and Stern Solid State Games.

### Pre-Installation Check

Please check all components are correct and present. Each display Consists of:

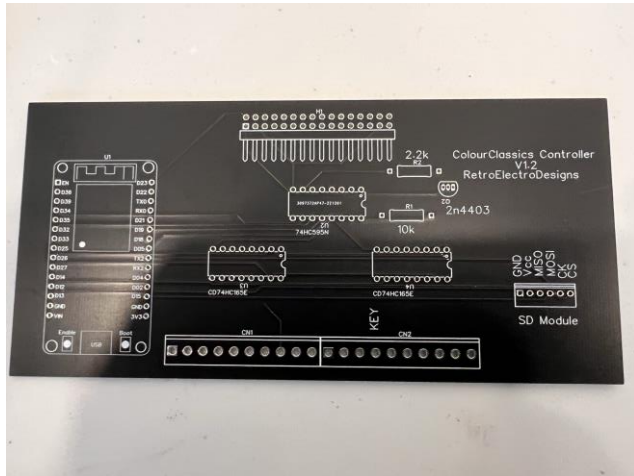
Base board	1
Display Board	1
IPS Displays	4, 6 or 7
2X16p Right angled Male Header pins	1
2X16p Female Header Socket	1
10p 3.96mm / 0.156" male header	2
15p Female Header Socket	2
Dil 16p IC socket	3
SN74HC165N Shift Register IC	2
SN74HC595N Shift Register IC	1
2N4403 / 2N3906 Transistor	1
10k Resistor	1
2.2k resistor	1
ESP32s Devkit Doit V1.0 Processor module 30 pin	1
Micro SD card reader board	1
Micro SD Card 128Mb	Optional

### Other Items required

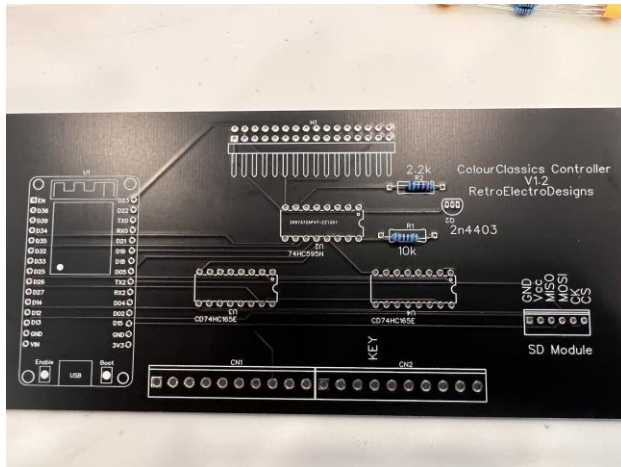
You will need either double sided tape or some glue to stic the IPS Colour Display Screens to the Display PCB

You will need A small tipped soldering iron, solder, wire cutters and pilers. A plastic tweezer set is useful for inserting the IPS control cable into the pre-soldered FPC sockets.

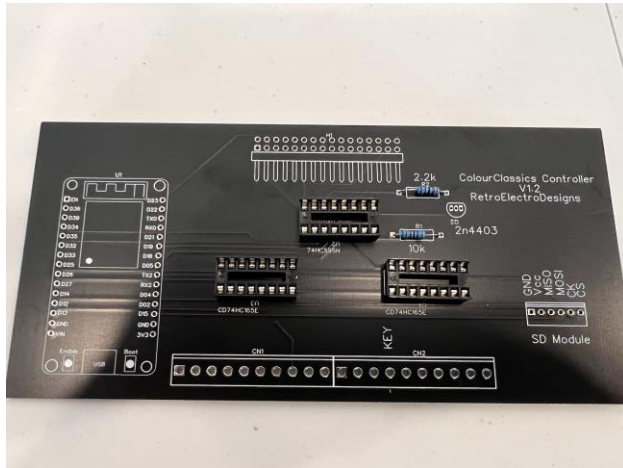
## Build Instructions – Base Board



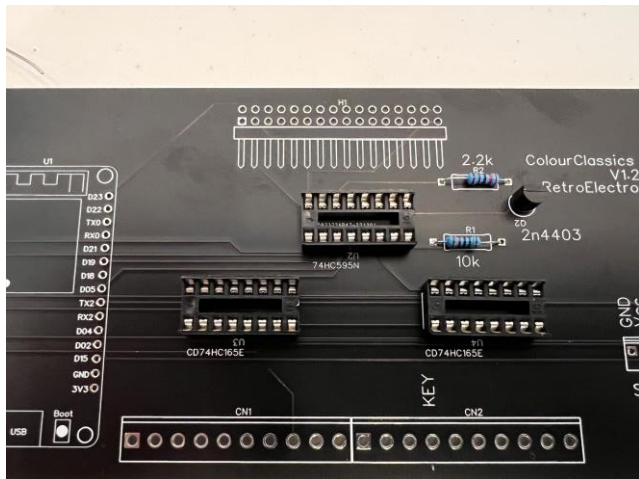
Install the 2 resistors



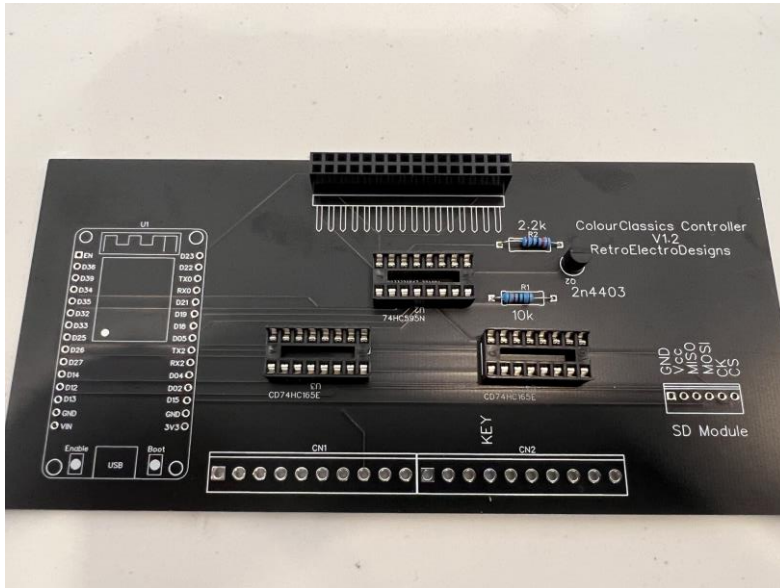
Install the 3 IC Sockets



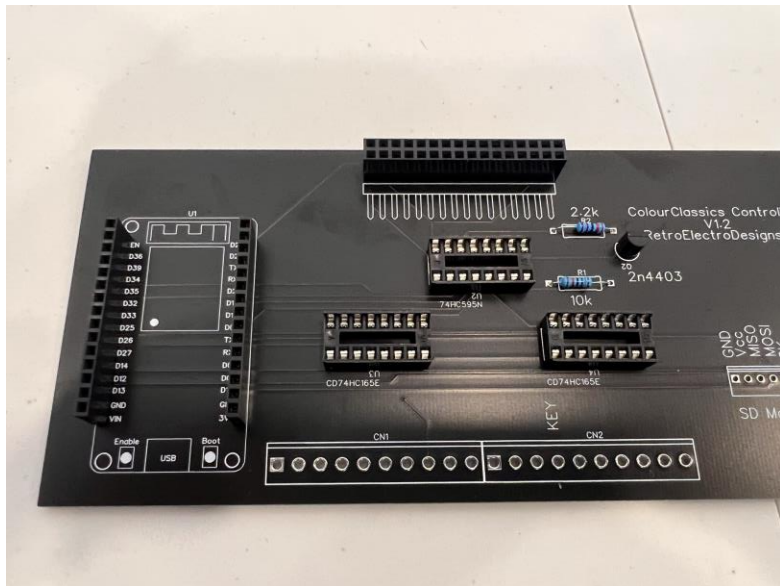
Install the Transistor:



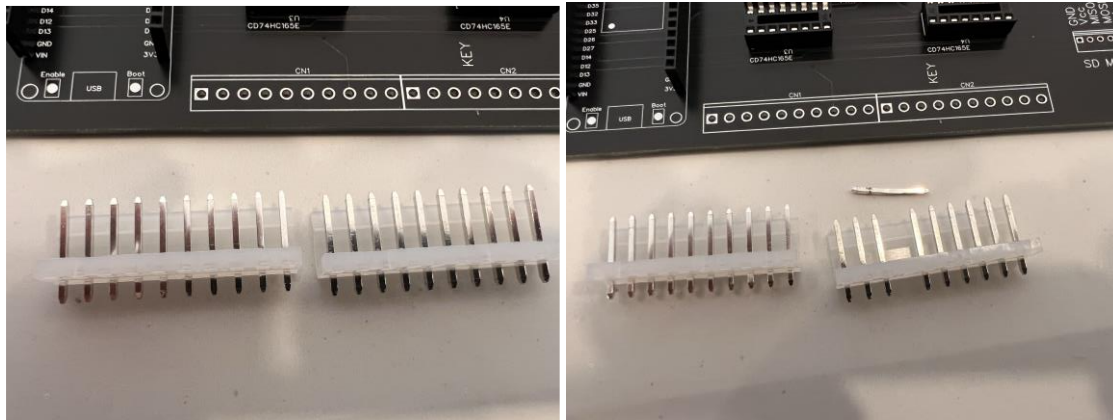
Install the 2X16pin female header:



Install the 2 single pin 15w female headers for the ESP32s board:



The 0.156" headers: Remove the keying pin from one of the 10w headers (use a pair of pliers to pull the pin out):



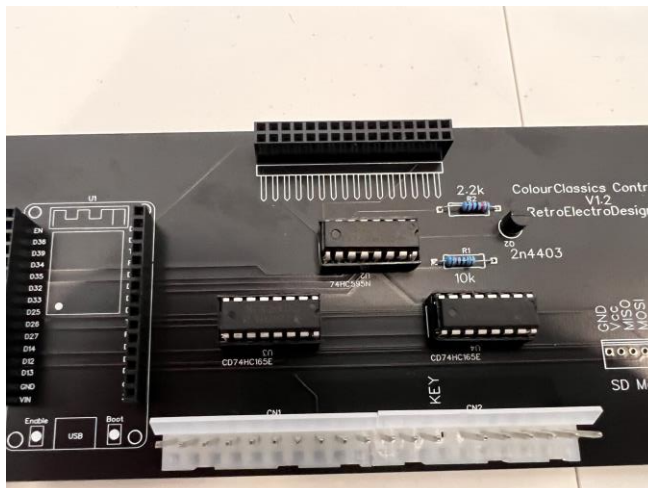
Install the 0.156" Headers:



Install the “595” IC – Top, Centre Socket:

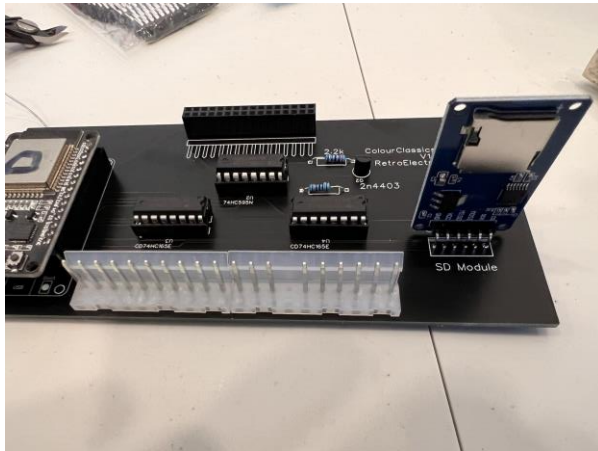


Install the 2 X “165” IC’s in to the left and right sockets:

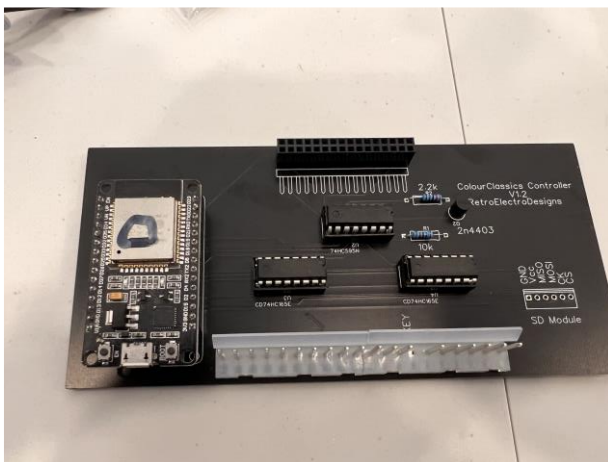




Solder in the SD card Module:

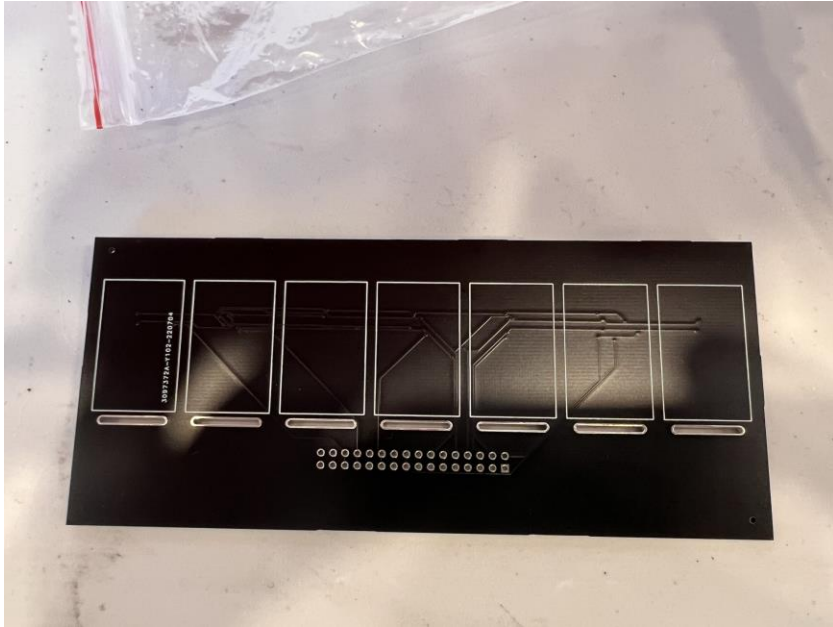


Insert the ESP32s Board:

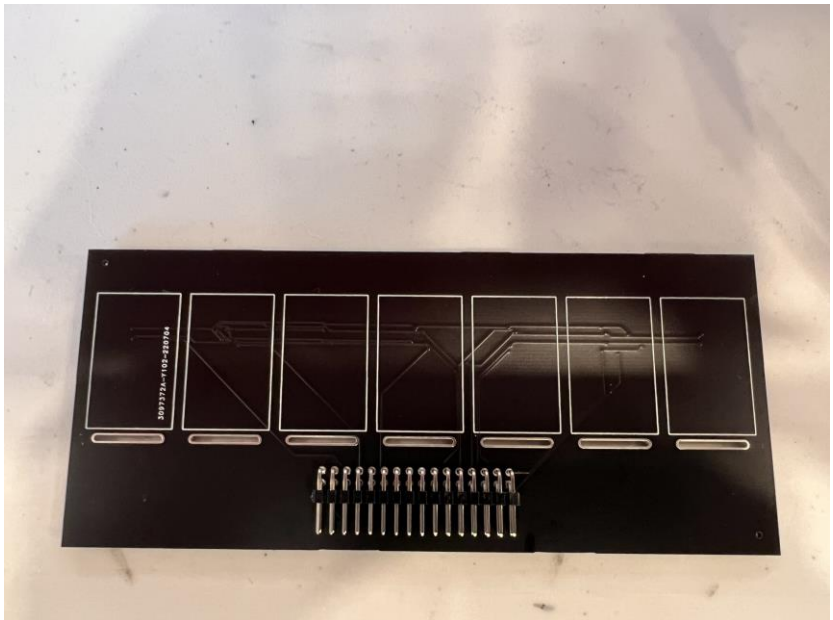


## Build Instructions – Display Board

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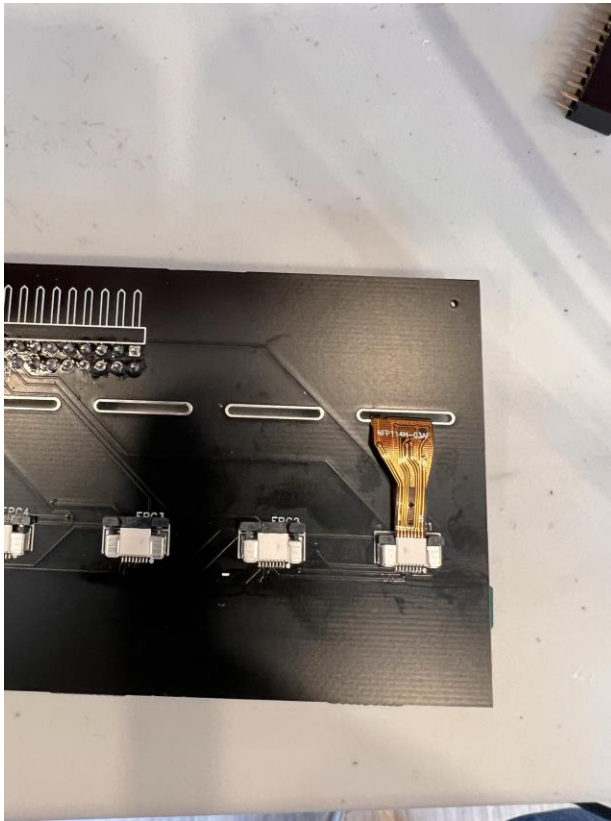
Install the 16 way 2 pin right angled header. **NOTE:** this goes on the **FRONT** facing side of the PCB, **NOT** the side with the pre-soldered FPC Sockets.



**NOTE:** Only install 4 Screens for the CREDIT / MATCH / BALL-IN-PLAY Display (why waste 2 screens – use them as spares).

Push the Colour Screen wire through the PCB and secure into the FPC socket. The FPC socket has two black retaining plastic lugs that need to be pulled out part-way to allow the 8 pin lead to be inserted. I use plastic tweezers to insert the lead.

Once the connector is inserted close the retaining lugs to secure the lead in place. The picture shows the right hand connected with lead inserted and the retaining lugs closed. The other connectors are shown empty with the retaining lugs opened.



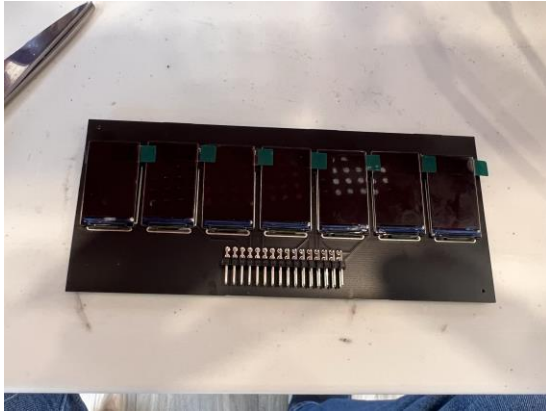
Once all screens are connected, but dangling loose, it is advisable to test the display, **BEFORE** permanently securing each screen to the PCB. I loosely tape the screens to the PCB with painters tape, to test it.



Once all screens have been tested and are working ok, secure to the PCB with either glue or double sided tape. Use the thinnest double-sided tape you can get.



Gently press each screen down to adhere to the PCB, be very careful as excess pressure can damage the screens.

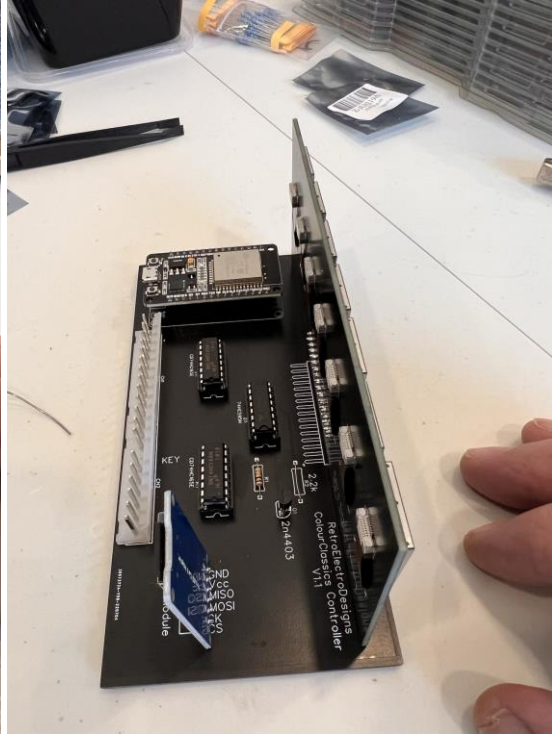


Remember to remove the screen protectors. You can lift using the green tab with a pair of plastic tweezers.

## Final Assembly

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Plug the Display board into the base controller board.



You are now ready to test and configure your display. Please see the User Guide.