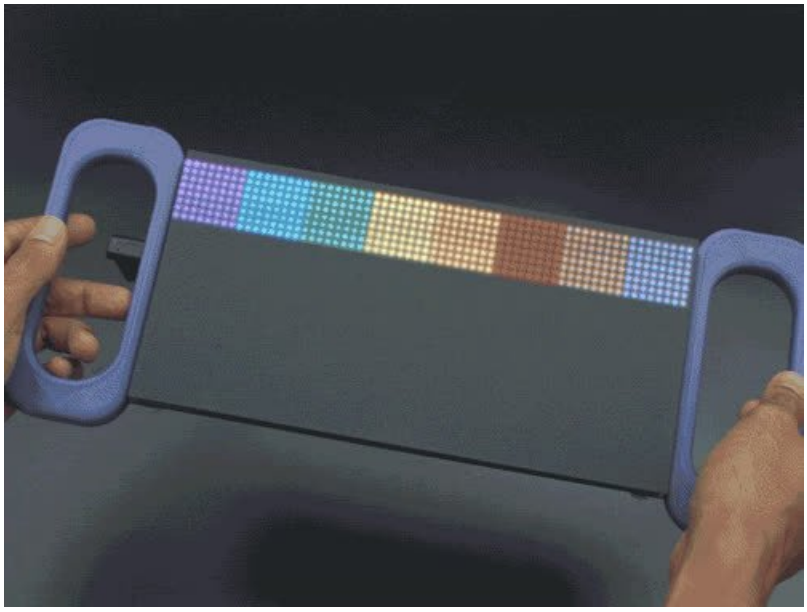
adafruit learning system

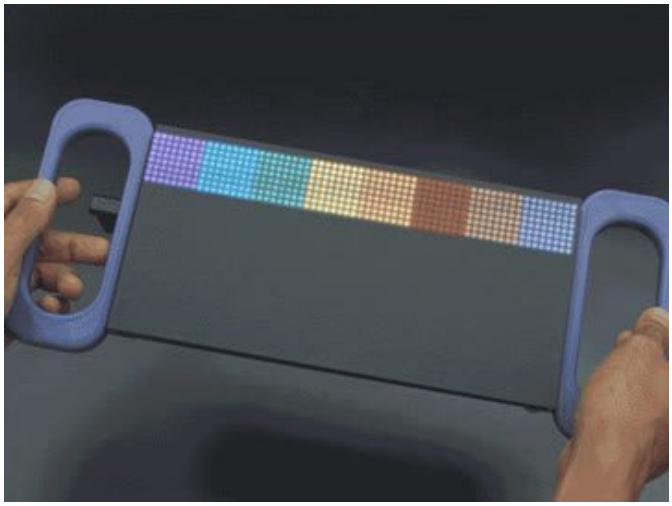
Matrix Portal Sand Handles

Created by Ruiz Brothers



Last updated on 2020-09-23 03:17:34 PM EDT

Overview

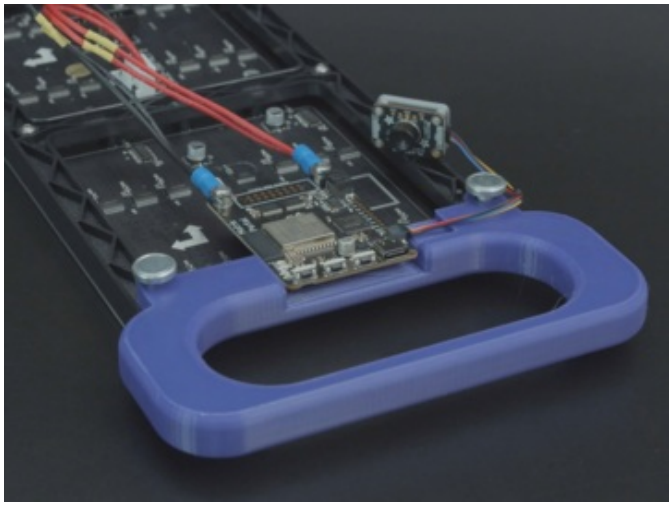


In this project we're making 3D printed handles for the Adafruit Matrix Portal.

The Adafruit Matrix Portal is a plug-n-play dev board that makes it easier to do internet connected projects using RGB matrices.

It features a Cortex M4 and the ESP32. It also has an on-board LIS3DH accelerometer.

With the STEMMA QT connector it can work with Adafruit's 50 plus Stemma QT boards.



Matrix Portal is designed to snap on the back of RGB matrices that use a HUB75 port.

It uses power over USB-C so there's no soldering needed to get up and running.

We think this makes RGB matrix projects much more compact with a single board.

The handle on the side has a cut out for the PCB so you can access the on-board components.

Parts

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Adafruit Matrix Portal - CircuitPython Powered Internet Display

$19.95
IN STOCK

Add To Cart

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64x32 RGB LED Matrix - 4mm pitch

$39.95
IN STOCK

Add To Cart

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Black LED Diffusion Acrylic Panel 12" x 12" - 0.1" / 2.6mm thick

$9.95
IN STOCK

Add To Cart

USB Battery Pack - 2200 mAh Capacity - 5V 1A Output

$14.95
IN STOCK

Add To Cart

Mini-Magnet Feet for RGB LED Matrices (Pack of 4)

OUT OF STOCK

Out Of Stock

1 x USB Type A to Type C Cable

1ft - 0.3 meter

Add To Cart

1 x Right Angle USB Type C Adapter
USB 3.1 Gen 4 Compatible

Add To Cart

3D Printing

Parts List

STL files for 3D printing are oriented to print "as-is" on FDM style machines. Parts are designed to 3D print with minimal support material. Original design source may be downloaded using the links below.

- Left-Matrix-Handle.stl
- Right-Matrix-Handle.stl

https://adafru.it/NxB

https://adafru.it/NxB

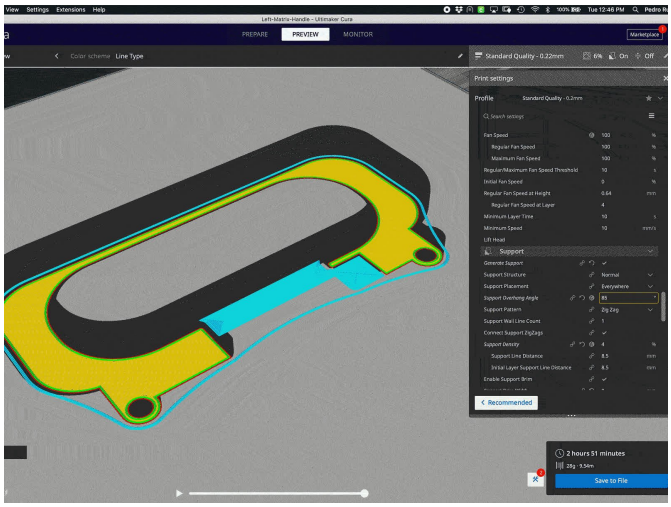
https://adafru.it/NzC

https://adafru.it/NzC

Fusion360 links

https://adafru.it/NxC

https://adafru.it/NxC



Slicing Parts

Slice with setting for PLA material. The parts were sliced using CURA using the slice settings below.

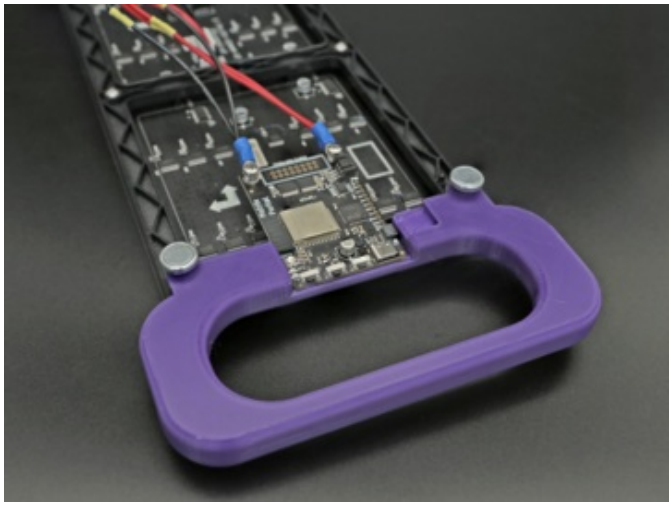
- PLA filament 215c extruder
- 0.2 layer height
- 10% gyroid infill
- 60mm/s print speed
- 60c heated bed
- 4% support density

Assembly

Align Handles

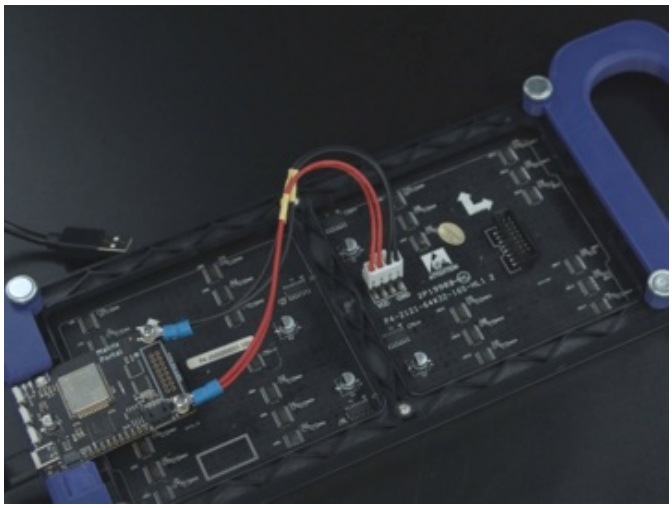
Position both handles so they are aligned with the screw mounts on the back of the matrix.

Use M3 screws or our magnet thumb screws (https://adafru.it/MZA) to secure the handles to the matrix display.



Plug in Matrix Portal

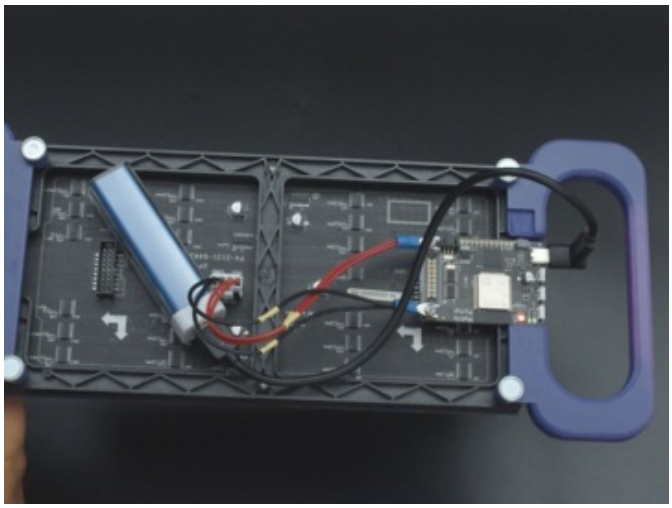
The HUB75 port press fits into data in port on the back of the matrix.



Power Cables

The included power cables attach to the power and ground screw mounts with the included screws.

The female side of the power cable plugs into the VCC and GND pins.

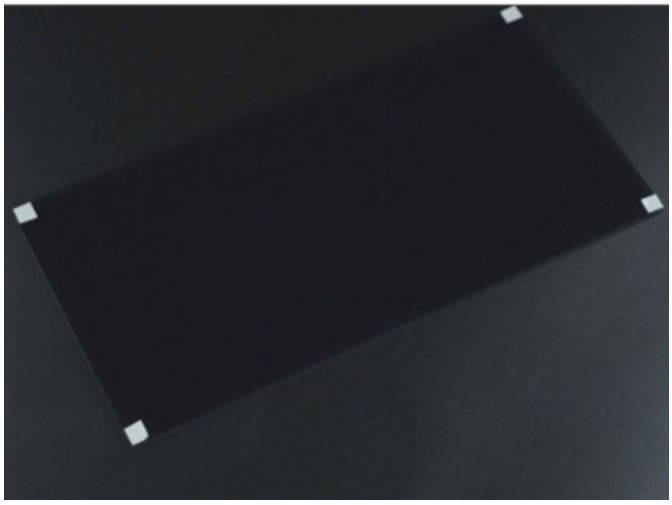


Attach USB cable

A USB C cable plugs into the USB port on the Matrix Portal.

Use a right angled USB cable or right angle extender to keep the wiring minimal.

Use a USB battery pack like our small 2200 mAh USB Battery Pack. (https://adafru.it/e2q)



Attach Acrylic

Our Black LED acrylic (https://adafru.it/MEF) softens up the LEDs and keeps the colors looking vibrant.

You can attach acrylic to the display using ProTapes glue dash sheets.

Just attach small pieces to the corners and remove the protective backing.

Then just line up the acrylic with the edges and stick it over the display.

This makes the display show up much better on camera so you can have it in the background of your video calls.