Smarti Pi Touch Pro 3

Setup guide

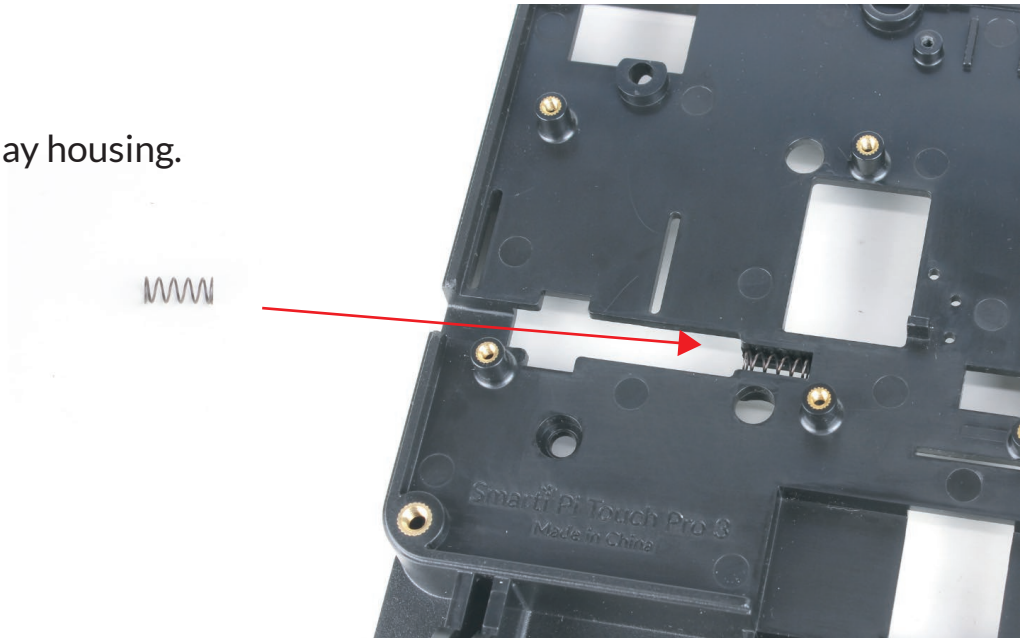
Questions? Email info@smarticase.com

This case is compatible with

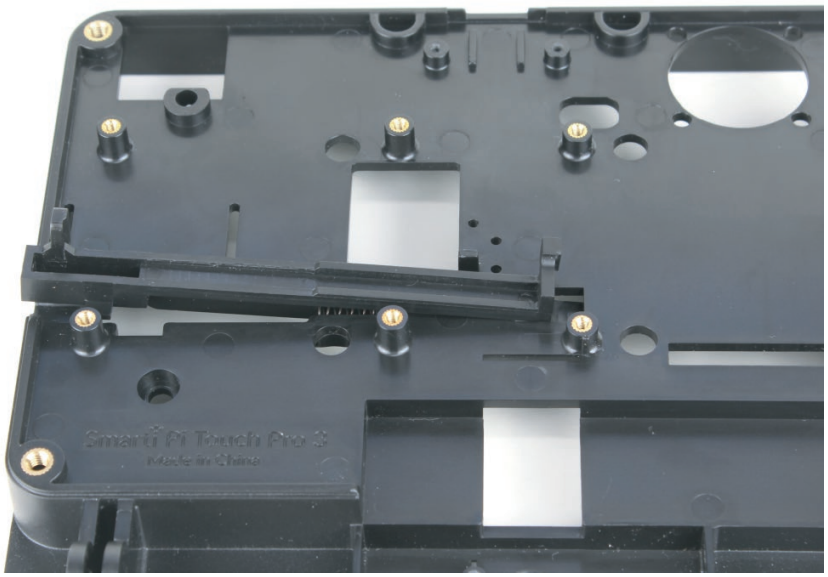
Raspberry Pi Official Display 2
Waveshare 7-DSI-TOUCH-A
Waveshare 7inch DSI LCD (H)

Step 1

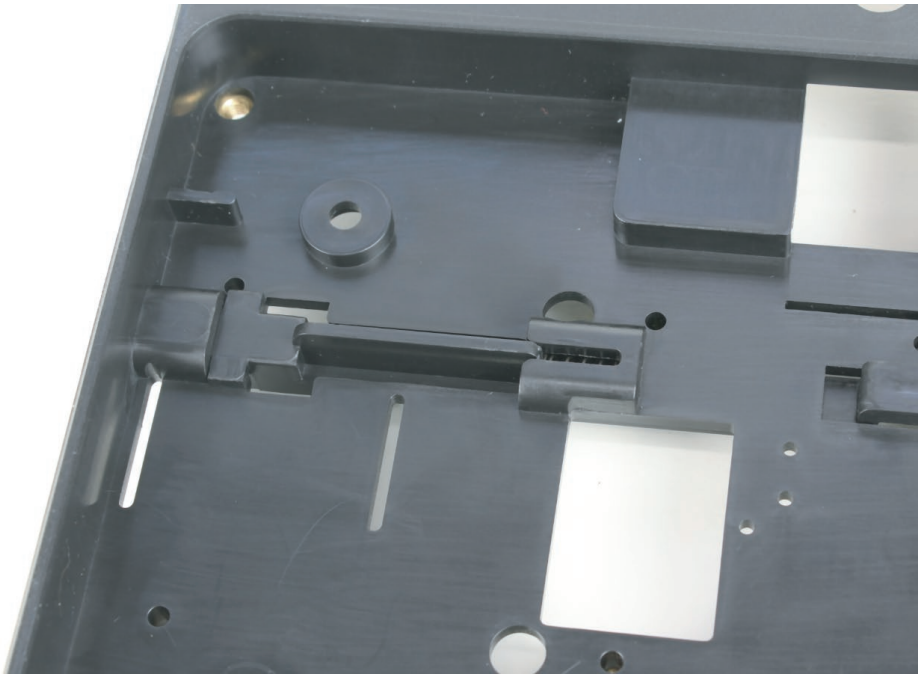
Install the spring into the display housing.



Install the end of the actuator into the housing as shown.



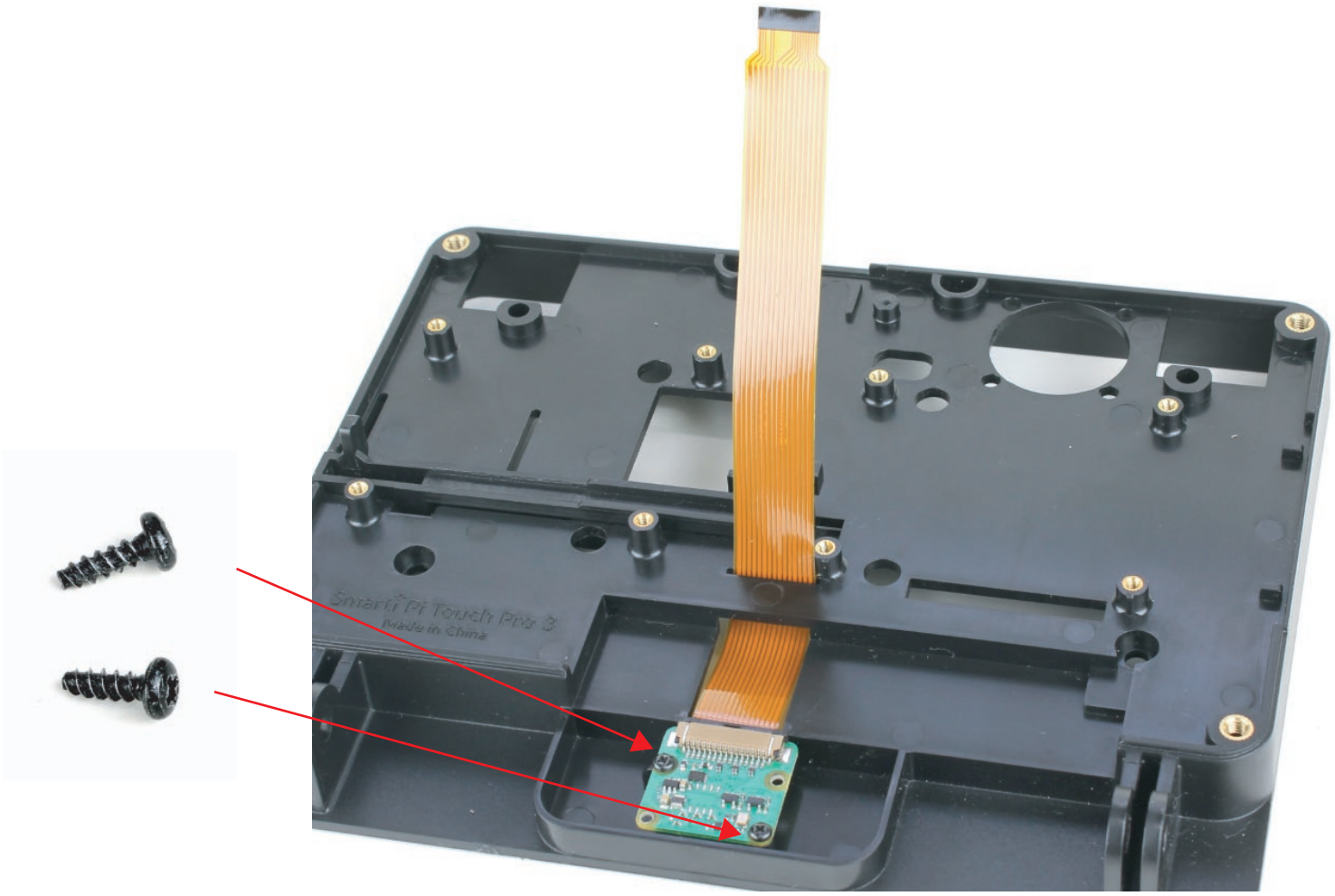
The actuator should look like this from the other side.



Step 2

If using a camera you will need to buy a camera cable, one is not included. A 150 or 200mm cable would work best with our case.

Route the camera cable as shown below.
Use two of the short black screws to secure the camera to the case.
Be careful to not over-tighten the screws and strip the holes

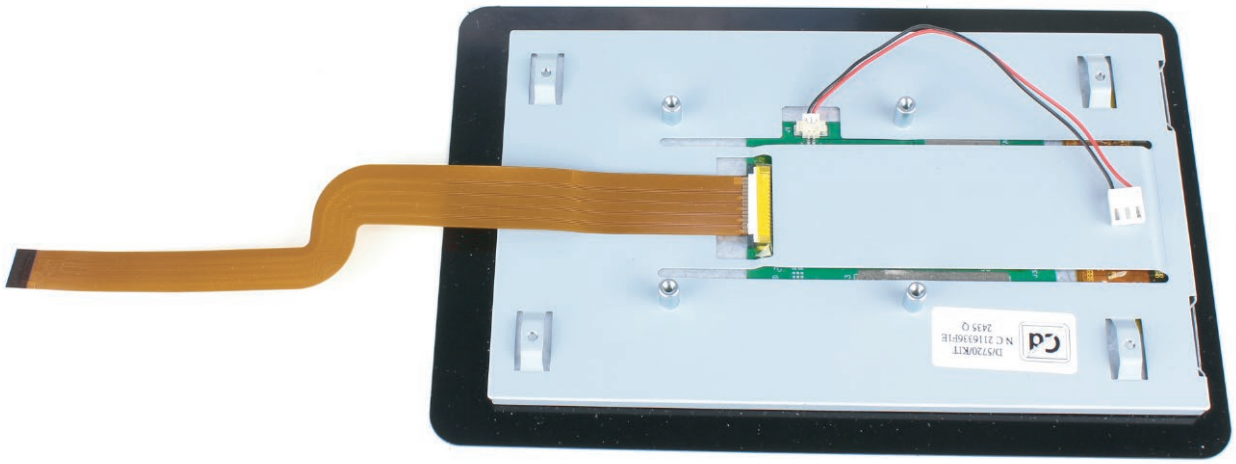


Continue below for instructions for Raspberry Pi Official Display 2

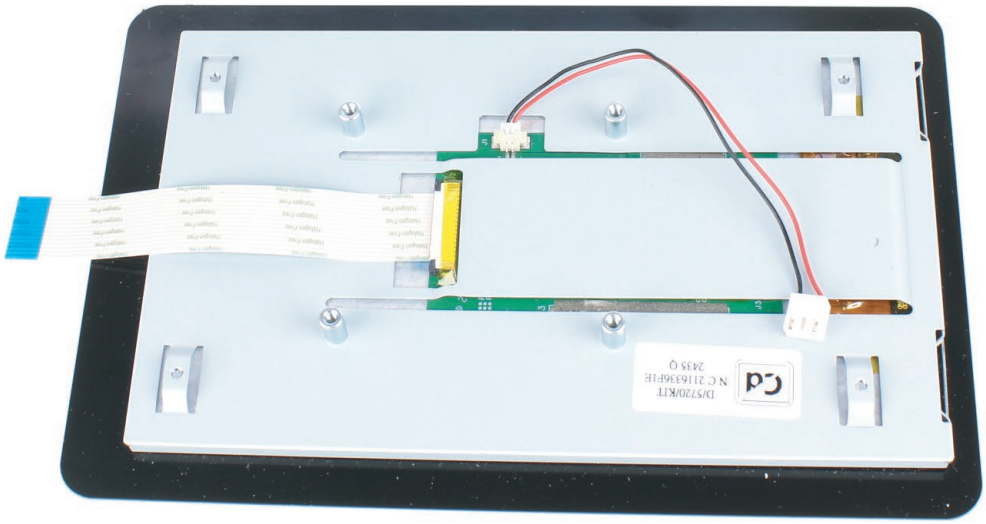
Click here for instructions for Waveshare 7-DSI-TOUCH-A / 7inch DSI LCD (H)

Step 3

If using a Raspberry Pi 5, install the gold ribbon cable that came with the kit.
Attach the power cable to the display as shown.

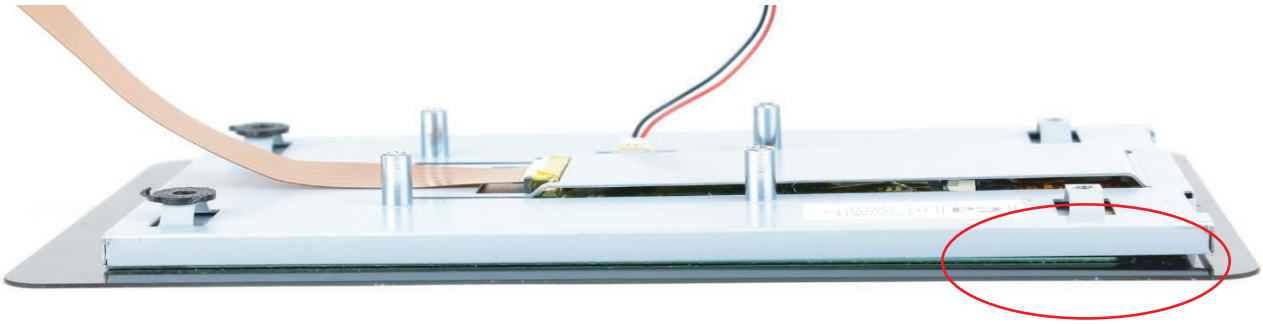


If using a Raspberry Pi 4, install the white ribbon cable that came with the display.
Attach the power cable to the display as shown.

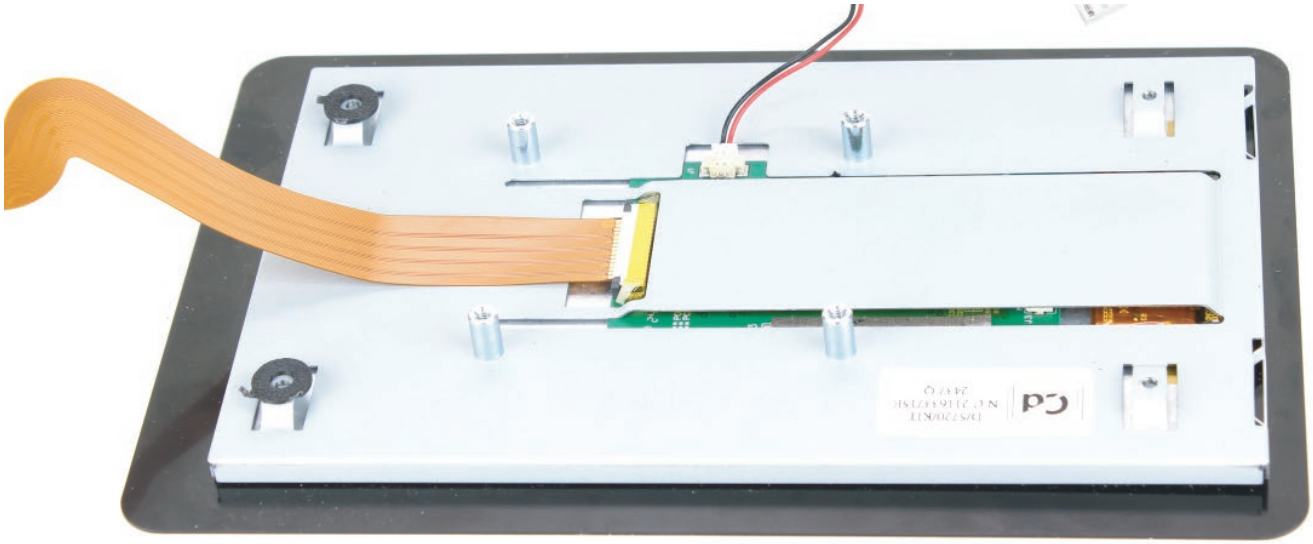


Step 4

Some early versions of the Touch Display 2 have a manufacturing defect where one side of the metal frame separates slightly from the glass. As a result, the glass may sit unevenly when mounted in the SmartiPi plastic frame. If your display is unaffected, you can either skip this step or install all four black spacers over the display's mounting points



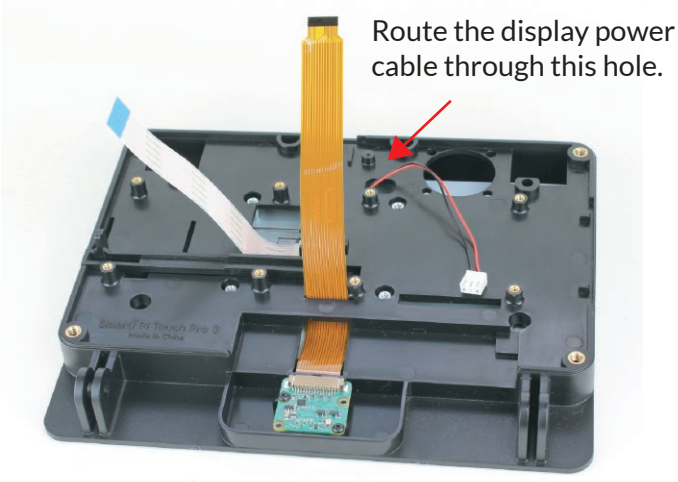
If your display has the defect shown above, install two of the four black spacers on the display mounting points, as shown below. These spacers will push the display out so it is more even with the other side.



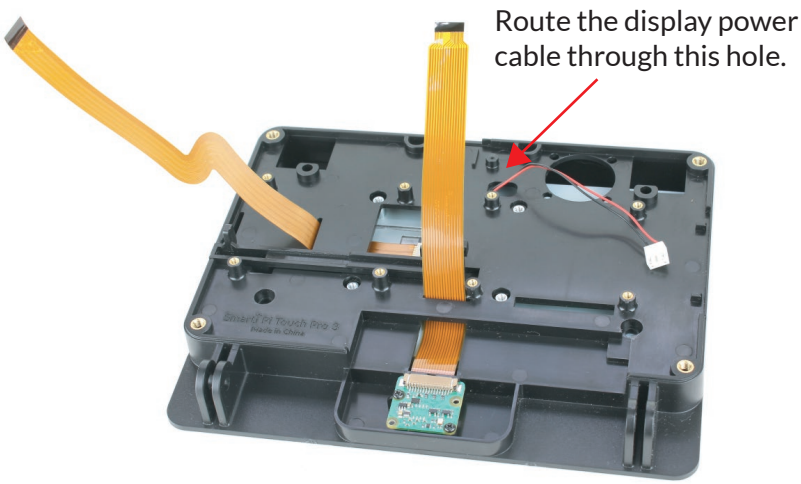
Step 5

Place the plastic case down over the display while not disturbing the black spacers.

If using a Raspberry Pi 4 route the cable as shown below.

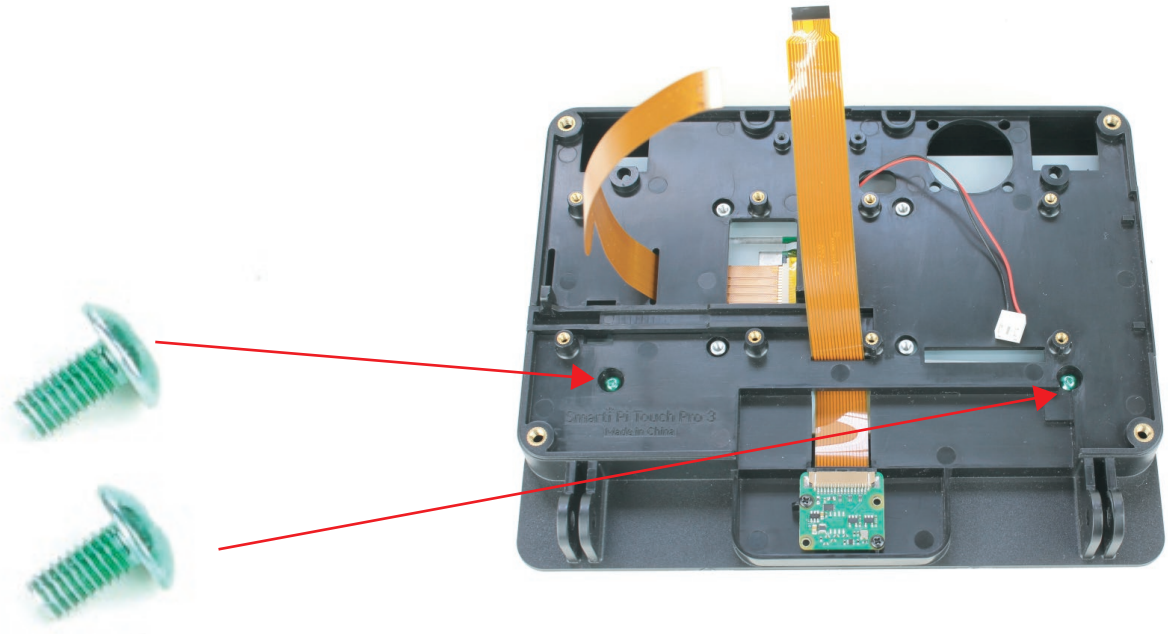


If using a Raspberry Pi 5 route the cable as shown below.



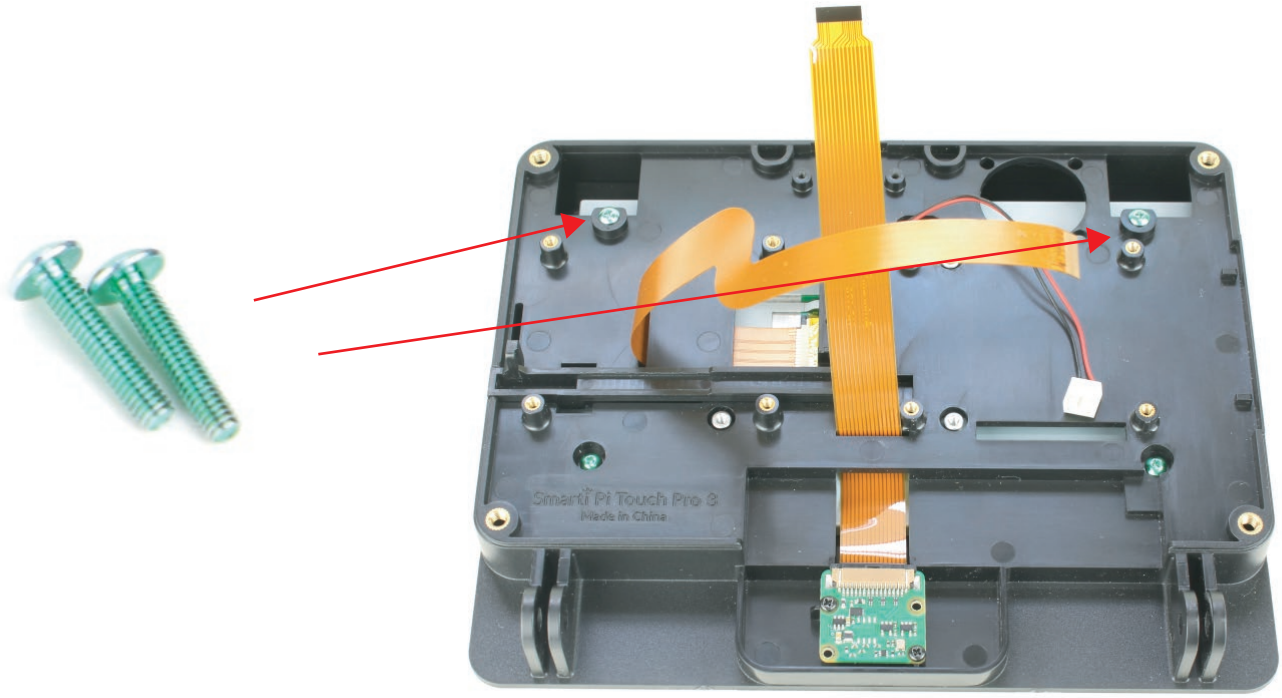
Step 6

Install the two short green screws in the holes below.

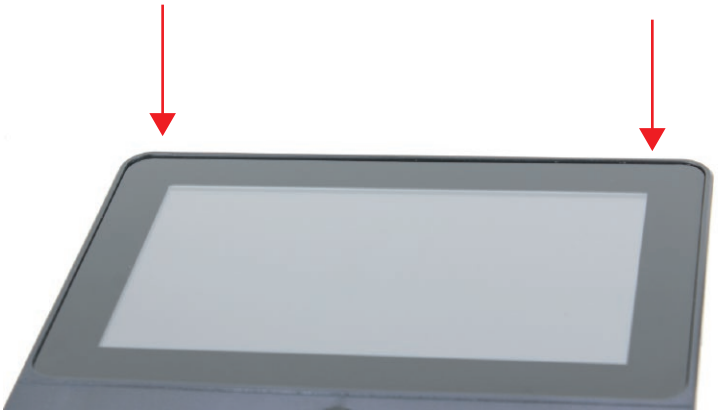


Step 7

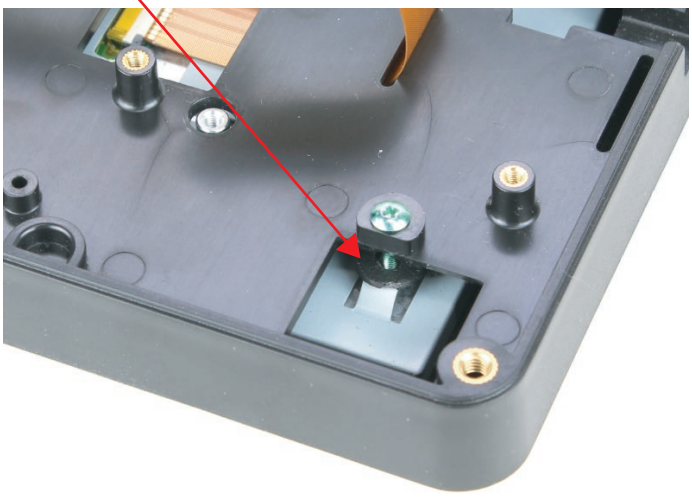
Install the two long green screws in the holes below.



Check to ensure the display looks even in the plastic frame from the front. It should be relatively the same distance from the front of the plastic frame. This step is only for aesthetics.

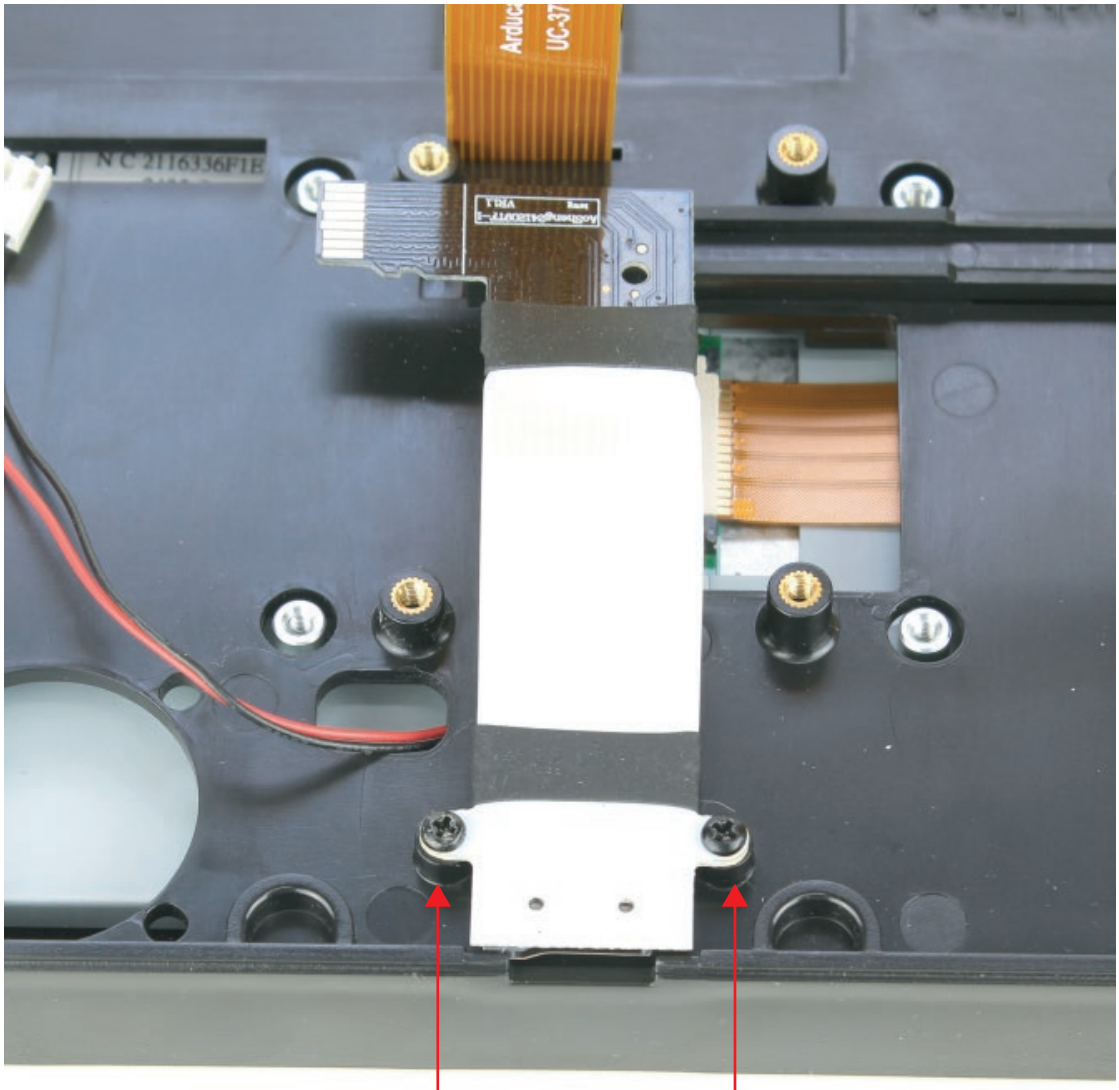


If using the spacers, one will be visible here.



Step 8

If using the micro SD extender, secure it to the plastic case with two of the small black screws as shown below. Do not over-tighten the screws.





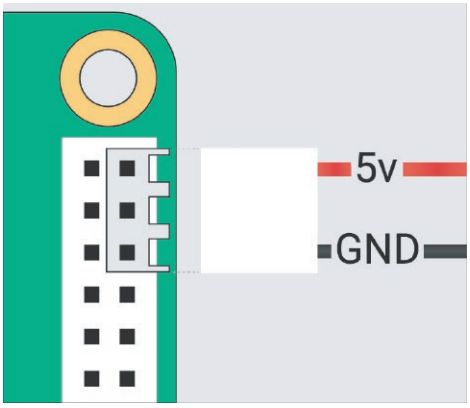
Do not over-tighten the screws. They are small and can strip the plastic hole easily.

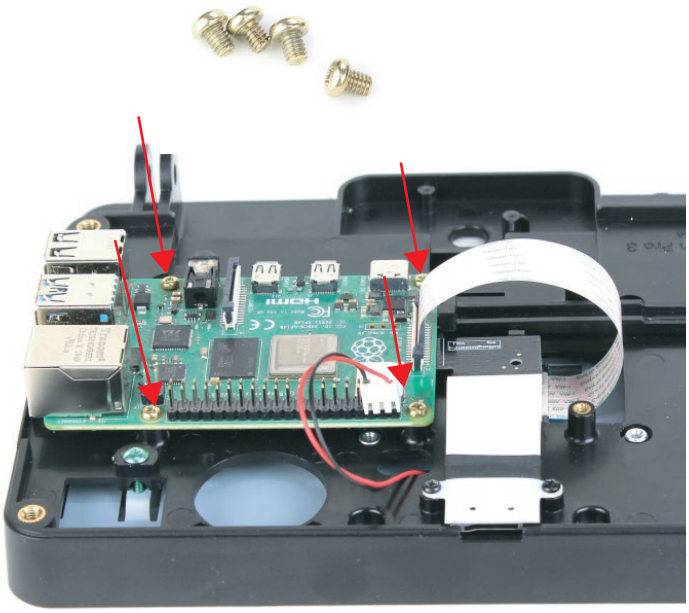
Step 9

Insert the end of the micro SD extender in the Raspberry Pi micro SD card slot.

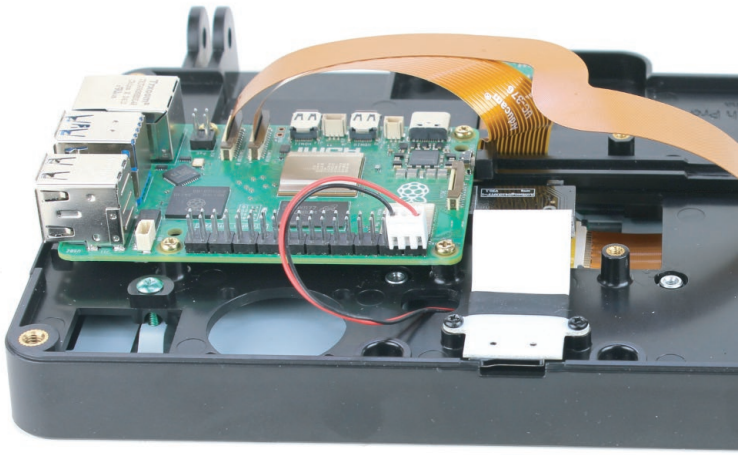


Secure the Raspberry Pi to the case using the four gold screws. Connect the display ribbon cable and the camera cable to their corresponding ports on the Raspberry Pi. Then, attach the display power cable to the GPIO header as shown in the diagram on the right





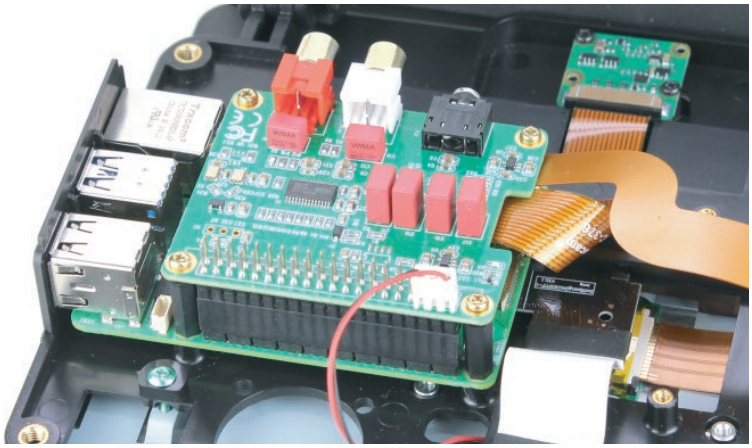
Raspberry Pi 4



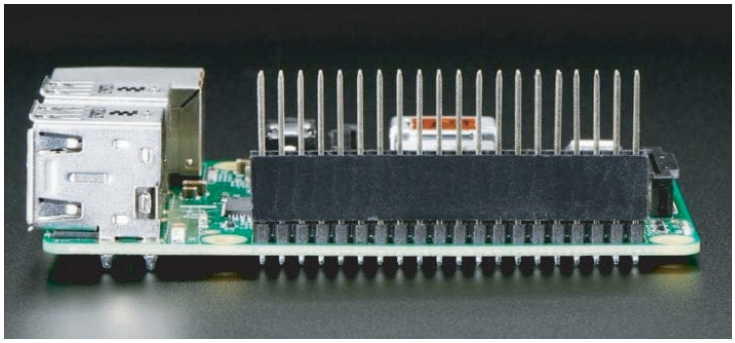
Raspberry Pi 5

Using HAT boards

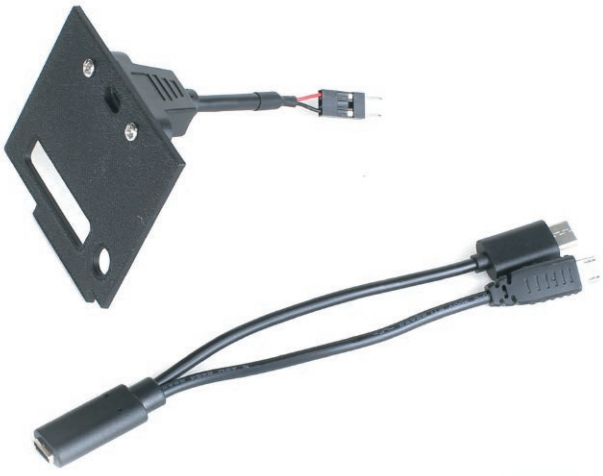
If using HAT boards with extended GPIO pins, you can attach the display power directly to the extended pins.

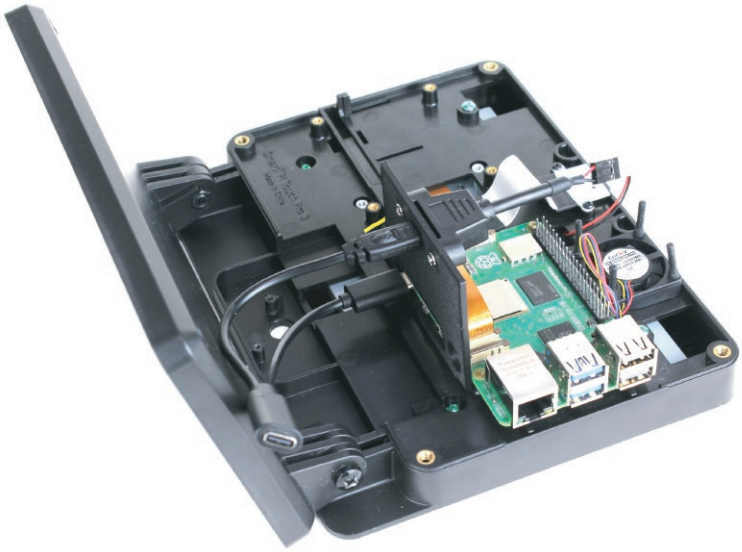


Some HAT boards come with pass-through holes. In such cases, you can use GPIO stacking headers, which allow the pins to extend through the HAT and enable connection of the display power cable.



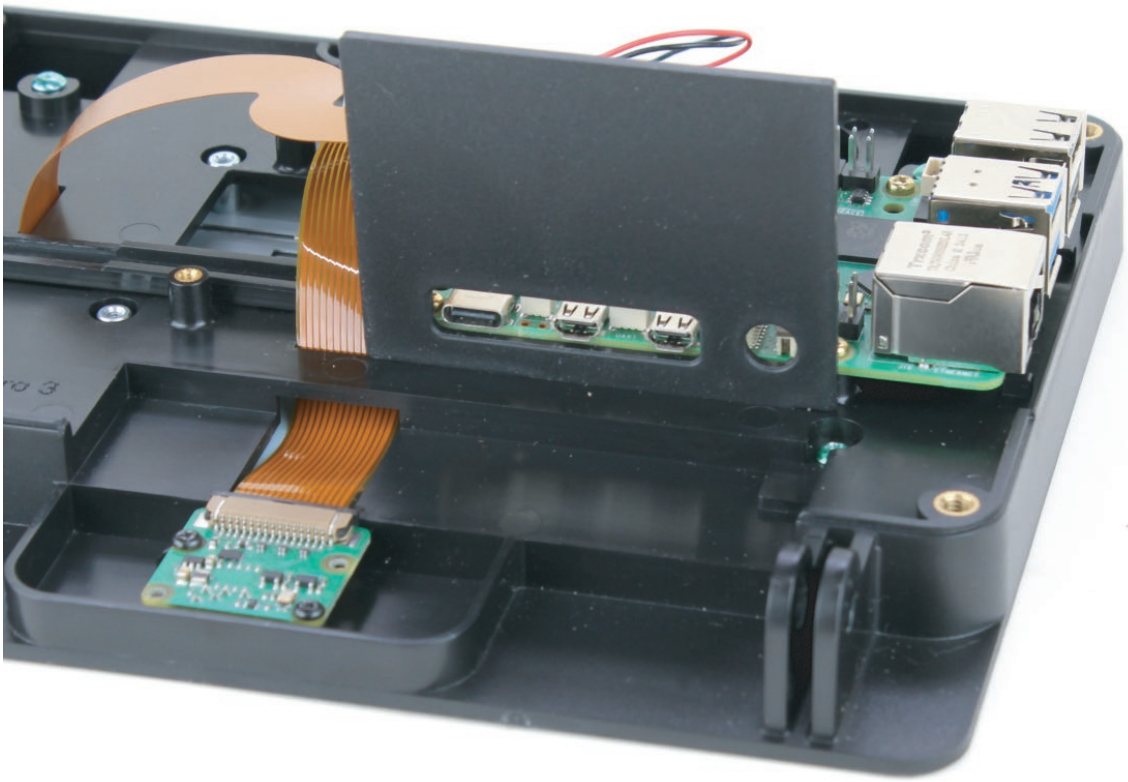
If powering the display through the GPIO pins isn't an option, we offer a display power kit that allows you to power both the display and the Raspberry Pi using a power supply instead of relying on the GPIO. The kit can also be found on Amazon in the U.S.





Step 10

Position the lower panel around the Raspberry Pi connectors as shown below. The panel shown is for the large back cover; a shorter version is included with the small back cover. This panel is optional—the case can be assembled without it.



Step 11

Included are port covers for the Raspberry Pi 3,4, and 5. If you wish to use them you can cut out individual ports with a utility knife. Using these is optional.

A blank 3D STEP file of this part can be downloaded here. Customize according to your needs.



Step 12

Place the back cover over the lower back panel and secure to the front of the case with the four black screws shown below. STEP files of the back covers are available for download here.





If using the port cover parts, the port cover is positioned between the front part and the back cover as shown below.



Step 13

Attach the metal baseplate with the four silver screws as shown below.
Attach the rubber feet in the locations shown below.

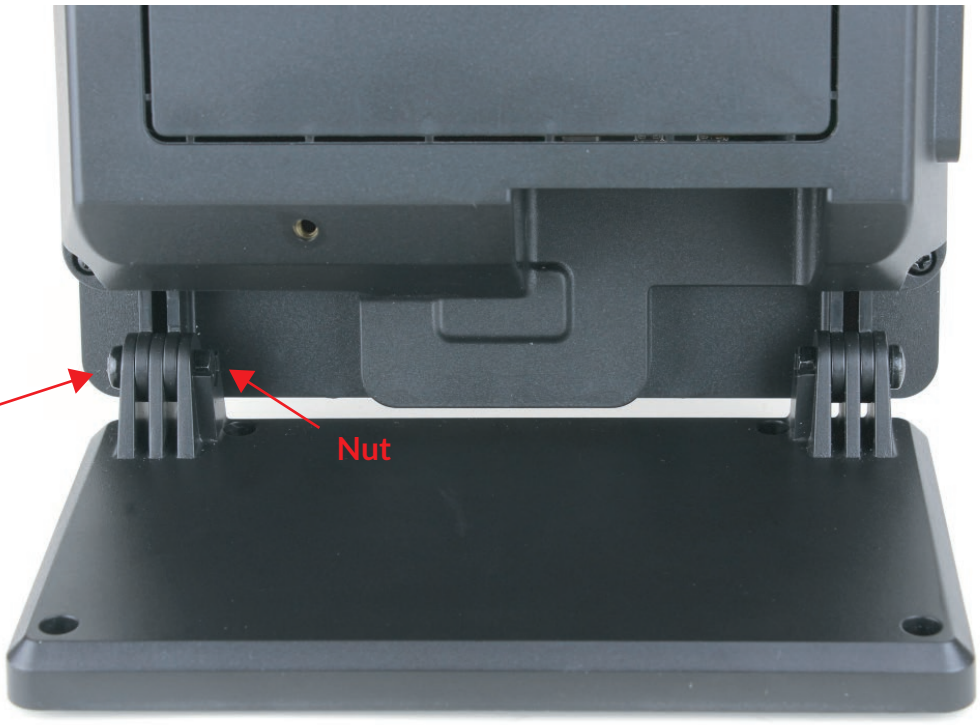




Step 14

Attach the base with the large black screws and nuts. Do not over-tighten.





Step 15

When using a Raspberry Pi 4, a short USB-C extension cable is included to make power access easier—so you don't have to reach underneath the tilted case to unplug the power cord directly from the Pi. This cable is tested for compatibility with the Official Raspberry Pi 4 (15W) power supply and may also work with many USB-A to USB-C cables connected to USB-A power adapters. Note: It is not compatible with the Raspberry Pi 27W power supply.



The USB-C extension cable is optional, as the power cable does not need to be accessed to turn the Raspberry Pi 5 on or off.



Step 16

If you're using a Raspberry Pi 5, the actuator installed in Step 1 can be used to power the device on and off (depending on the operating system).

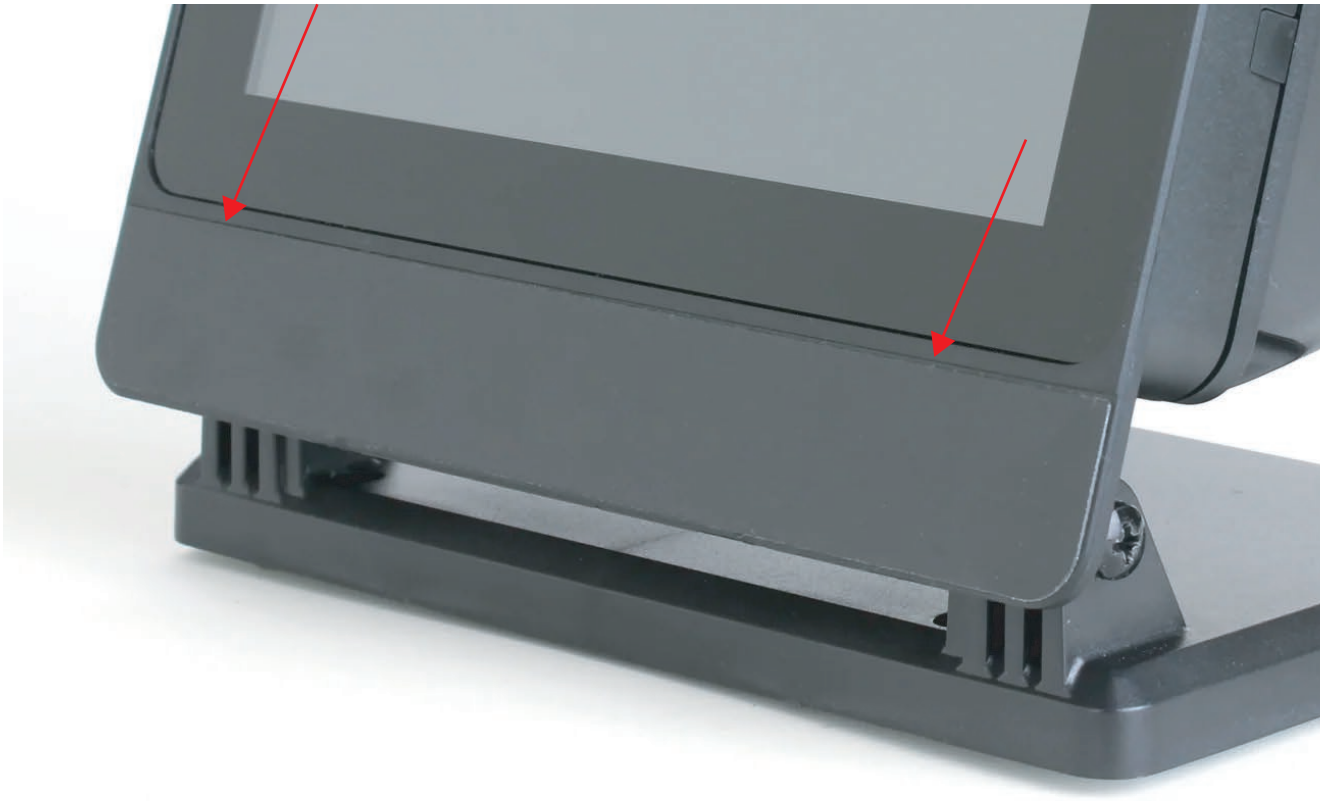


Step 17

If you are not using the camera, the front adhesive label can be applied to cover the camera hole. Simply peel off the backing and apply the label to the front, aligning it with the small ledge shown by the red arrows.

Once the label is applied it cannot be removed without destroying it.





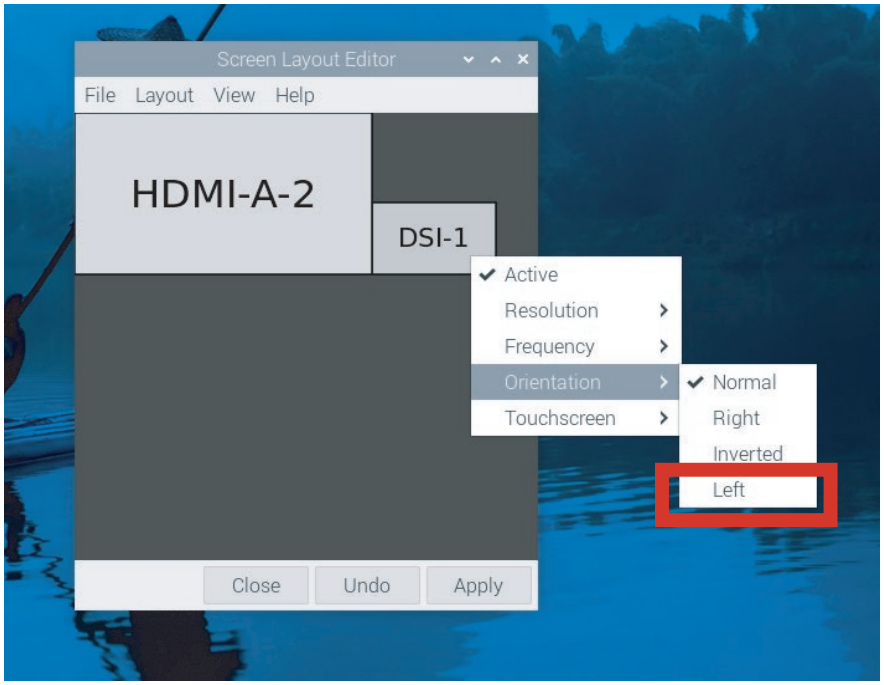
Step 18

When you first start up the display using Pi OS, the orientation will be in portrait. In order to rotate the display for use with our case you will have to rotate the display. Depending on the Pi OS version, you will access the DSI screen settings via one of the methods below.

Preferences -> Control Centre-> Screens

Preferences -> Screen Configurations

Once you find the DSI display, click on it and change the orientation to left.



Step 19

Because the camera is mounted upside side down, you will have to flip it in config.txt

Open a terminal and enter *sudo nano /boot/firmware/config.txt*
Set *camera_auto_detect=0*
Add the following line directly below:
dtoverlay=imx708,rotation=0

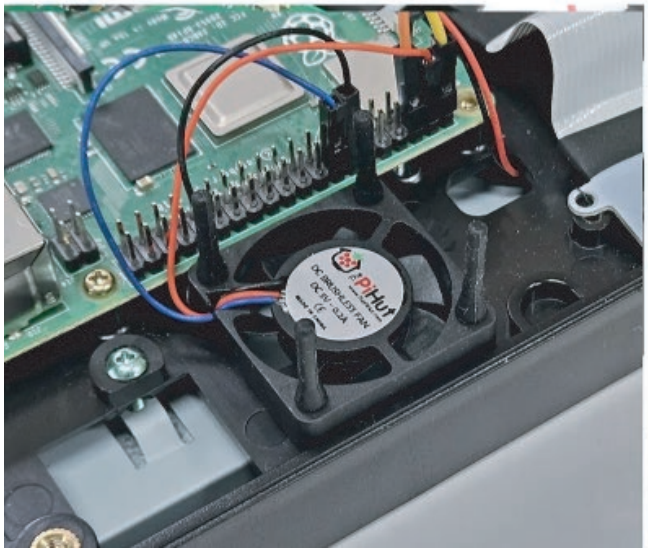
Replace the imx number with your camera model v2- imx219 v3 - imx708

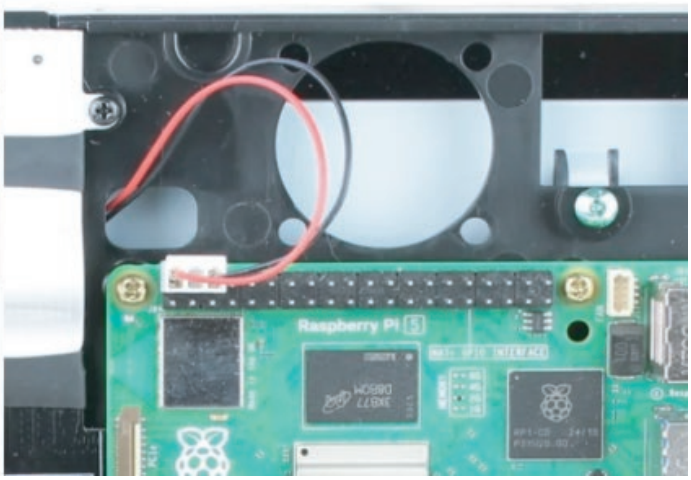
If using a Pi 5 and the camera is connected to the 0 connector *cam0* must be added to the command.
dtoverlay=imx708,cam0,rotation=0

Cooling fan

A cooling fan is not included, but can be purchased at smarticase.com. We have software controlled fans for the Raspberry Pi 4 and 5 in our shop. The fan mounts to the hole above the Raspberry Pi and blows air out the top vents. Most 30mm fans you will find at Raspberry Pi shops may also fit this hole.



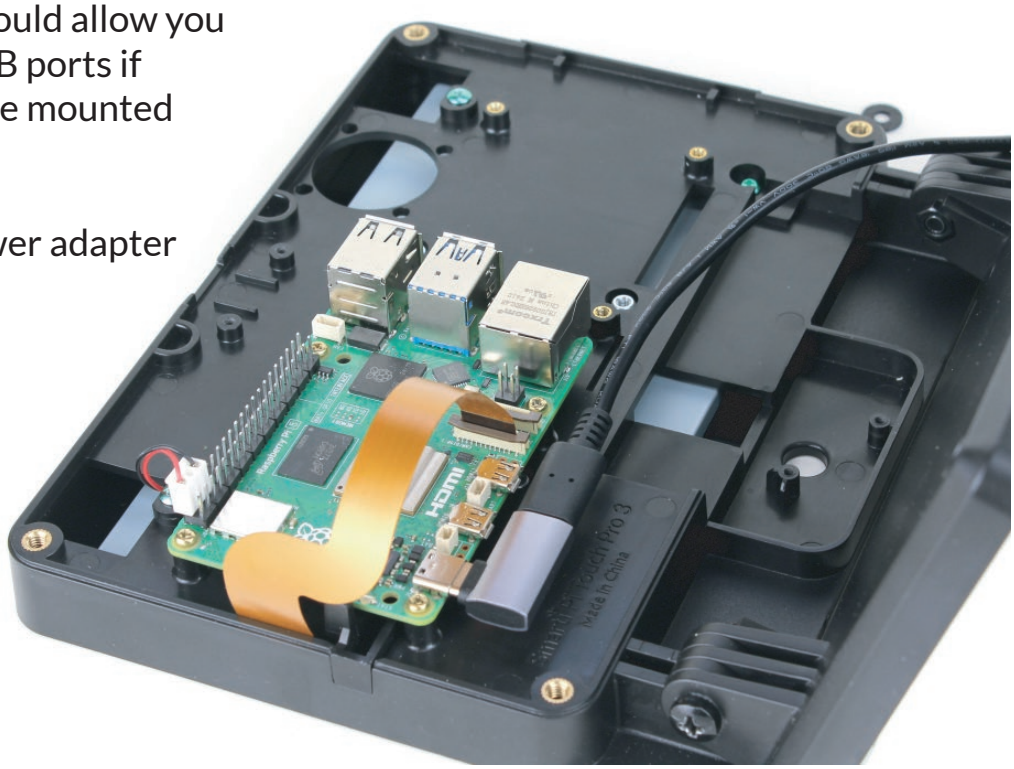


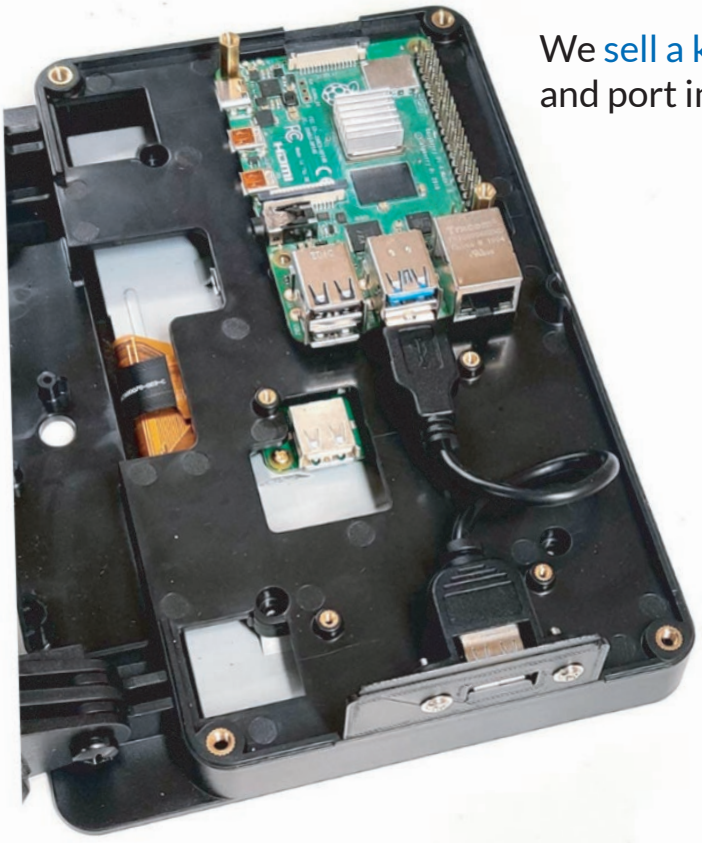


Alternative Raspberry Pi mounting option

The Raspberry Pi can also be mounted on the other set of brass mounting points. This would allow you to connect peripherals to the USB ports if desired. HAT boards could also be mounted here.

A right angle adapter USB-C power adapter would be needed if using this mounting method.



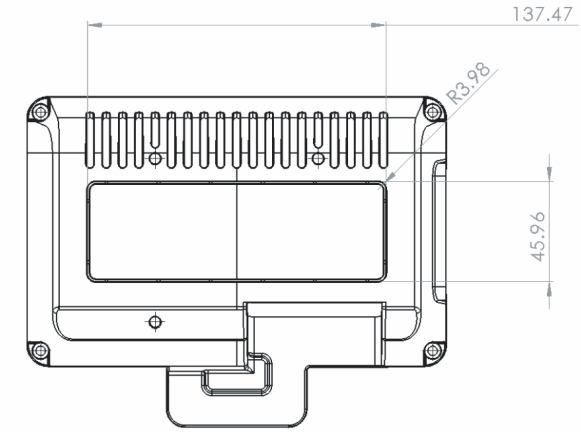


We sell a kit that includes a short USB-A extension and port insert that brings one USB-A port to the outside.

Back panel knockout

The back panel can be cut out with a utility knife, allowing you to install a custom panel with connectors or create your own cable-routing layout. The 3D STEP file shown below is designed to fit into the opening once it's cut out. Download it and modify it as needed for your application. It can be attached to the back cover using 3 mm screws or double-sided tape. If using screws, you'll need to drill mounting holes in the back cover..







Blank 3D STEP file to customize



We can also customize this 3D printed panel with holes and graphics for your application. Contact us to learn more.



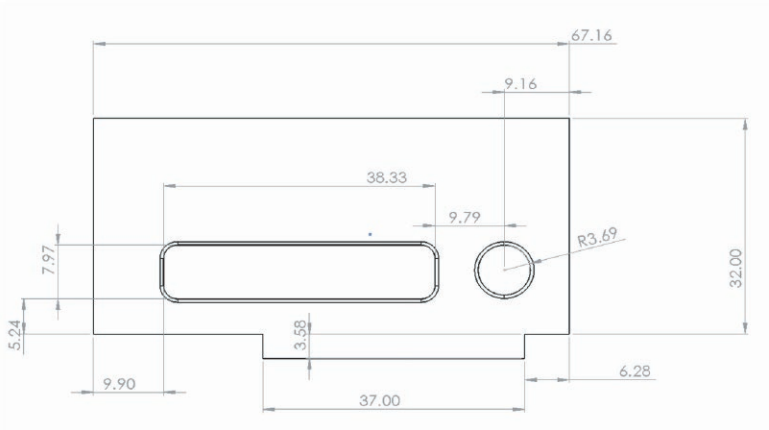
Lower panel customization

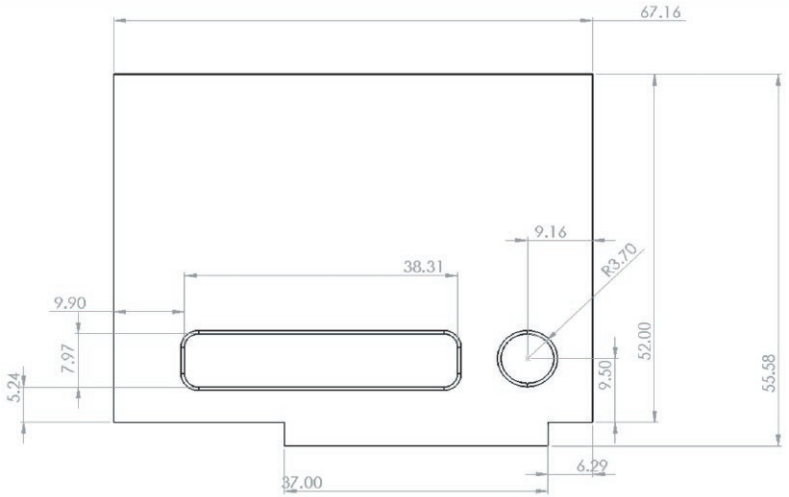
If you wish to fabricate you own lower panel for connectors or any other custom modifications, below are the drawings for the parts. The panels are 2mm thick. 3D STEP files of these panels can be downloaded here.





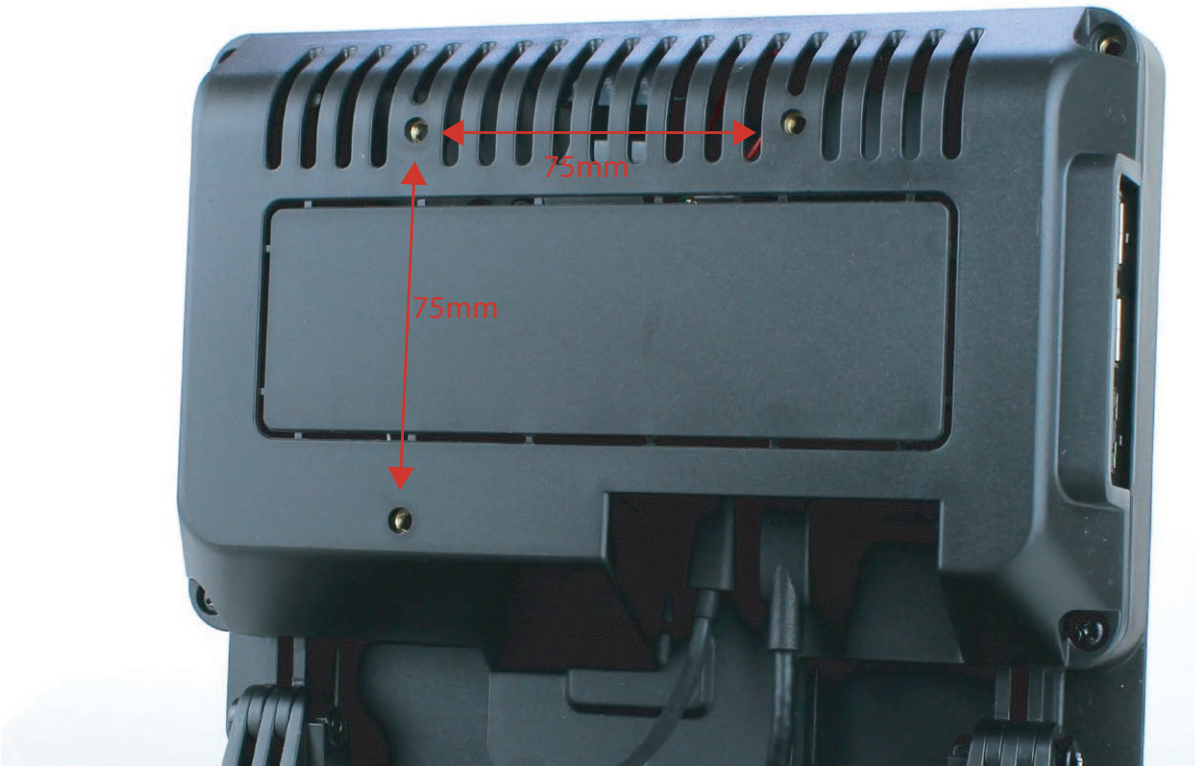
We can also customize this 3D printed panel with holes for your application. Contact us to learn more.

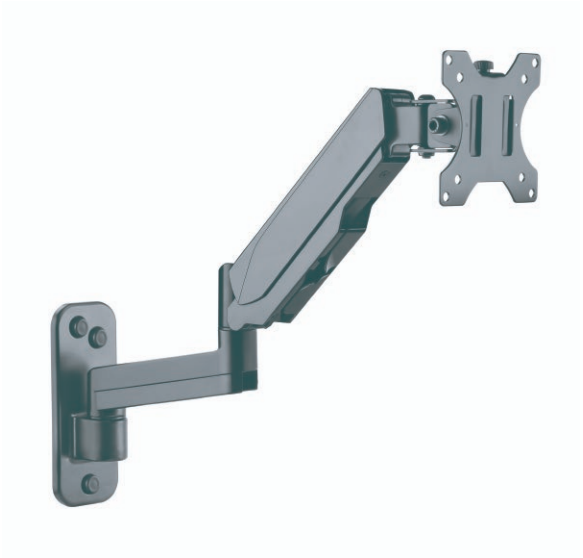




VESA mounting

The back of the case has three threaded M4 mounting points to attach to a VESA stand or arm. The points are 75mm apart. VESA is a standard pattern for mounting displays and usually comes in 75 mm and 100 mm variants.









Front label customization

The front label can be customized with a full-color logo starting at just 100 pieces.
Contact us for pricing and lead time. info@smarticase.com



Accessories

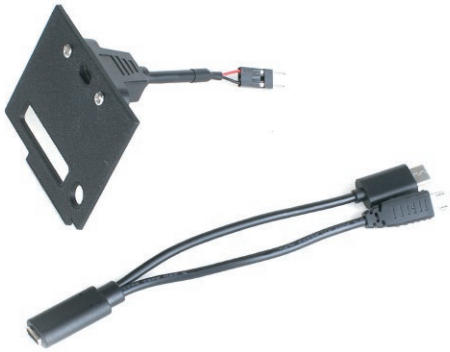
We've got plenty of extras on our site to help you with your project.



Articulating VESA arm



Base extension for power banks



Display power kit



Base extension



USB Extender



Front enclosure