

Apple IIc LCD mod



For the Apple IIc I have made a nice LCD display that can be powered by USB-C 12V.

Parts used:

- Eyoyo 8" LCD monitor S801H for the LCD display and the driver
- Generic USB-C PD sink PCB (<https://www.amazon.sg/Trigger-Module-Charge-Charger-Delivery/dp/B0BY8H5MS1>)
- RCA cable with minimally 20CM cable
- 2 strands of standard electrical cable (Red+Black)
- 2 hex keys 3mm (need to be cut to size)
- 8X M3 12mm screw
- 2X M2 screws 15mm
- 2X M4 screws hex head 40mm
- Inserts melt-in type M3 2X 10mm
- Inserts melt-in type M4 2X 10mm
- Inserts melt-in type M2 2X 10mm
- Filament Polar filament PLA retro platinum PLA

- Spacers nylon 20mm diameter M4 hole 1mm thick (needed to hold the display and as thrust bearing)
- Double sided tape (the foam type, ideally 3M)

Preparation of LCD panel:

Remove PCB from the monitor and remove (de-solder) all the tall connectors:

- BNC connector
- VGA connector
- RCA connectors
- USB connector

The easy way of doing this is either with a hot air soldering station, or if you don't have one, solder wick and ideally a 100W or more soldering iron. Be careful though, as the PCB quality is not very good.

Remove the button board from the front panel and set the panel / driver board / button board + cable aside.

3D Printing:

Now it is time to print the parts, the most demanding print is the bezel, if we want it to look good we print it front side up with organic supports. This takes more filament but the results look much better, even on my Prusa MK4s printer.

The print is done at normal speed, 0.10mm step height with a 0.4mm nozzle

Next print is the display base part, this is printed with the same settings, also with organic supports everywhere.

Last print is for the back panel and all the small parts also with supports:

- Base side panels (left and right)
- Tension knobs
- LCD backplate
- Cable hook
- USB connector seat

Assembly:

After removing all the support material you can start adding the inserts with a soldering iron, set to 230C to melt them in to the holes.

The M4 inserts are fitted to the bezel hinge and can be pushed a bit deeper, around 3mm deeper than the surface of the hole.

The M3 inserts go in to the bezel upper corners

M2 inserts in to the lower holes in the bezel.

Next is to mount the button board to the back panel, use the same screws from the monitor to do this, they will fit.

Check if all buttons click nicely, and set it aside.

Take the display base, and the USB-C board,

- Solder the 12V jumper to set the board to 12V output
- Solder 2 wires to the USB-C board long enough to comfortably reach the LCD driver board (20CM)
- Use glue to glue it in to its cavity in the bottom. You can fill it with hot glue once tested.
- Route the cables through the canal towards the display bezel part.
- Cut your RCA cable to the correct length, and also route it through the canal.
- Place your LCD display inside the Bezel, and affix with double sided tape around the outer edge it should fit perfectly, and make sure the mating surface on the bezel is smooth enough, either with some sanding paper or a Stanley knife to give an even surface
- Use double sided foam tape to fix the controller board to the back of the LCD panel, make sure your flat-flex cable to the display is properly seated (connector is not that good) and place the board so that there is no tension on the cable
- Solder the 12V power cable to the power connector pads (remove the power plug)
- Solder the composite video cable to the BNC input pads
- Take the 2 washers (ideally nylon, or another softer material might do, such as silicone, rubber, or perhaps felt. They should be 1mm thick.
- Place them on the base plate where the M4 screws meet the Display bezel and then place the bezel in the hinge part.
- Mount the M4 bolts no need to tighten just yet.
- Mount the button board connectors and hook it up to the LCD controller board
- Mount back panel with M3 and M2 screws, leave extra cable inside and lay it on the bottom of the bezel below the LCD panel
- Press-fit the cut hex keys in to the tension knobs and allow for about 5~6mm to stick out the ends
- Press fit the blinder piece in to the knob (covers the hex key)
- Place the knob in to the side panels

- Mount the side panel in to the base plate with M3 screws, straight in to the plastic (sometimes you may have to widen the hole a little, you can also use plastic screws)
- Once the plates are on, you can test fit it on the computer, the rails should fit nicely with the cooling slots in the computer, giving the monitor stability when on the computer.
- You can use the side knobs to tighten the display bezel (they usually loosen over time)
- Enjoy your monitor!

