

## Control Forge – OLED Display PCBA Replacement

Rev 1.1 - 20231130

Symptoms: OLED display is “burned in”, the image of the burned in screen can be seen beneath the current screen, or the display may look “out of focus.” The OLED may also have become excessively dim, even on the brightest setting.

Remedy: Replace OLED Display PCBA

### Tools and Materials Required

- Control Forge/Morpheus OLED PCBA (See “Mounting OLED to PCBA”)
- (If an early Control Forge) spare M7x0.5mm washer
- (If non-current software) Audio Player with latest firmware .wav file & cable
- Small Straight Slot Screwdriver
- 10mm nut driver
- 5/16” nut driver
- Small Phillips Head Screwdriver
- Container(s) to hold knobs, nuts, washers etc. during disassembly

### Note

- Do not remove the protective film from the OLED panel until instructed

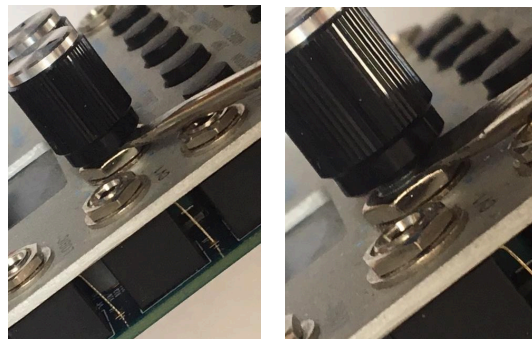
### Steps for Replacement

#### **Before Starting**

1. Verify the Control Forge is in working order, disconnect power and remove from the rack.

#### **Remove Old OLED Display PCBA**

2. Remove all 3 knobs from the module. Use the small straight slot screwdriver to pry gently in several places around the bottom of each knob while lifting straight up.



If the screwdriver will not press against the mounting nut, use a piece of cardboard or tough plastic under the screwdriver to prevent scratching the Front Panel. Work slowly and gently to avoid separation of the nylon inner sleeve from the knob. Very occasionally the metal knob may separate from the nylon inner sleeve when removed. Refer to the “Separated Knob Repair” document should this occur.

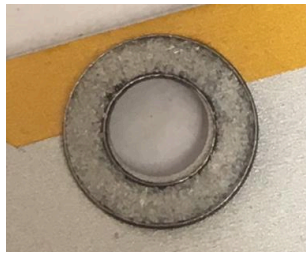
3. Remove the 12 jack nuts with a 5/16” nut driver; also remove the 12 washers.



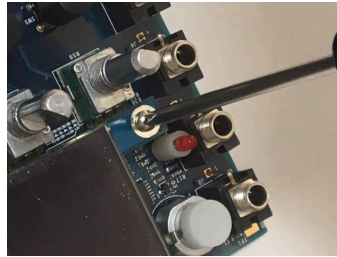
4. Remove the nuts beneath all 3 knobs with a 10mm nut driver. Be very careful not to scratch the panel during this operation. Covering the nut driver with heat-shrink tubing can be helpful. The skirted knob will not have a washer under the nut, the non-skirted knobs may or may not have one. The washers under the non-skirted knob are not necessary.



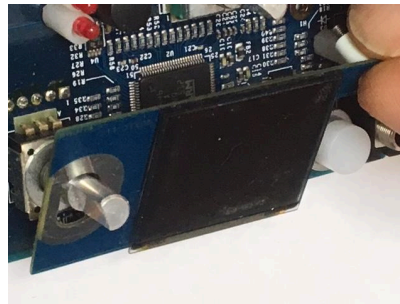
5. Carefully remove the Front Panel.
6. Remove the thick washers from the pots and encoder. Tip: they sometimes stick to the back of the Front Panel. Note: Sometimes these washers are greasy. If so, be careful not to touch the panel with greasy fingers, as it will become stained. The washers can be cleaned with soap and water and dried before replacement.



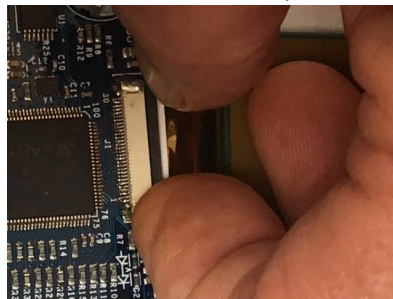
7. Unscrew the one mounting screw for the OLED display PCBA, set aside the screw, nut, lock washer and spacer.



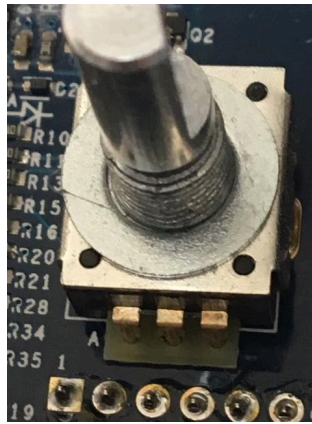
8. Fold OLED Display PCBA up from the encoder.



9. Pull on the sides of the flat cable connector lock to unlock the connector, and pull out the flat cable and remove the failed OLED Display PCBA. (The locking piece may be either white or black in color; black is shown here.)

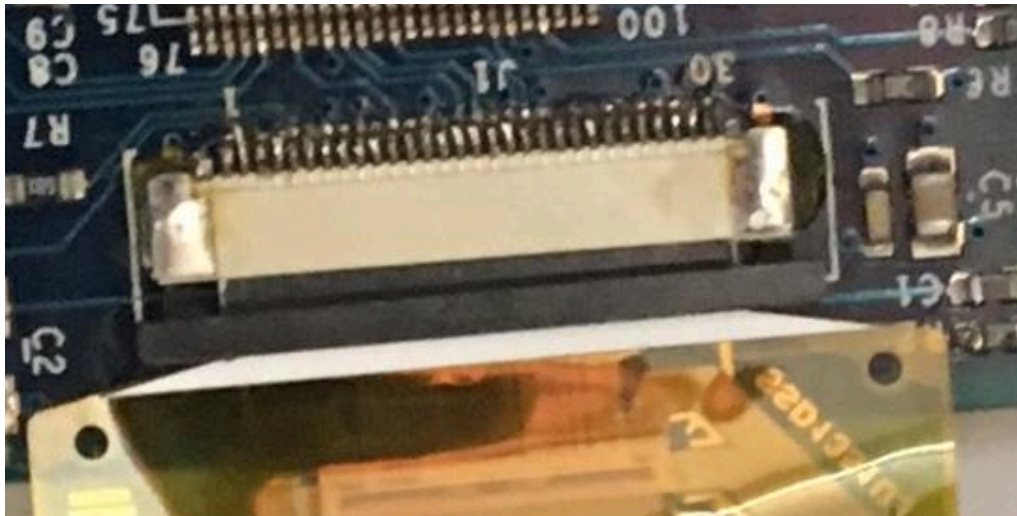


10. Before proceeding, verify that there is a flat washer on the encoder as shown. Some older Control Forge modules do not have this washer. If the washer is not present, install an M7x0.5mm washer. It is completely acceptable to use the washer that was located on the front panel under the encoder nut. Front panel nuts do not require washers under them. Contact Rossum Electro if you need an M7x0.5mm washer.



### Install Replacement OLED Display PCBA.

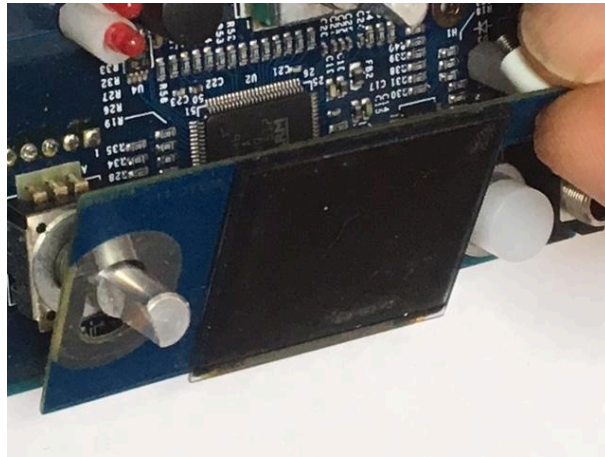
11. Push the flat cable into the connector, make certain that it is all the way in and completely seated. Note: lock plastic may be either black (as shown) or white.



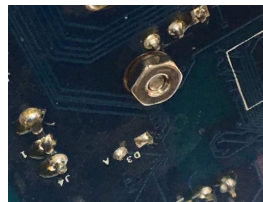
12. Carefully push the connector lock into the locked position, leaving the flat cable completely seated and the white cable area parallel to the connector.



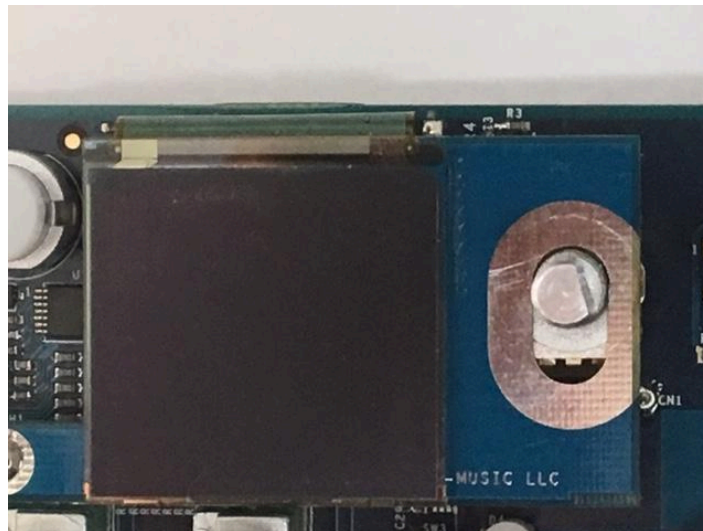
13. Fold the OLED Display PCBA back over the encoder with the mounting screw and spacer attached. Insert screw into hole in main PCB.



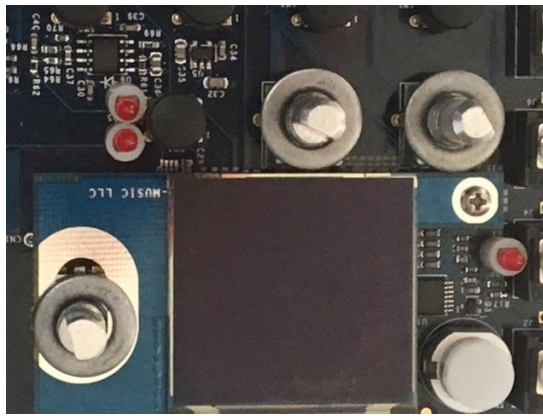
14. Apply lock washer and nut on rear of module and tighten. The screw goes through the OLED Display PCBA board, then through the spacer then the main PC board. The lock washer and nut go on the other side of the main PC board to secure the screw.



15. Make sure OLED display is parallel to the main board and module edge. Remove the protective film from the OLED.



16. Replace all three thick washers on knob pots and encoder.



17. Reinstall front panel. Tip: If getting a button through a hole is difficult, use a pencil with an eraser to re-align the button slightly so it fits through the panel hole.
18. Install washers and nuts FINGER TIGHT on ONLY the top left jack, the top right jack and the bottom middle jack.



19. Now power up the Control Forge and check the module to make sure there are no issues and that the new OLED Display works and is visually level.
  - a. If there is a problem, remove the nuts, washers and Front Panel.

- b. If the display does not work, the connector was not fully seated. Reinsert the connector as shown in steps 11 and 12.
  - c. If the OLED display is not level, loosen the screw, and gently move the display into alignment by pressing in the appropriate direction.
20. When satisfactory, reinstall the Front Panel and 3 washers and nuts; check again.
21. Install all washers and nuts. **DO NOT OVER TIGHTEN.** On an older Control Forge (the jack plastic has a “double D” shape that fits into the panel) the Jack nuts should be only a little more than finger tight. In ALL CASES, the encoder nut should only be slightly more than finger tight.
22. Press the knobs on fully.
23. Retest the Control Forge.
24. Check the Installed version of the firmware. Put the Control Forge into **Play Mode**. Press and hold the **Global** button until the **Utilities** screen appears. Scroll to the bottom of the menu to see the installed firmware version. Compare this version to the latest firmware release shown at [http://www.rossum-electro.com/products/control\\_forge/](http://www.rossum-electro.com/products/control_forge/) in the Downloads tab. If the firmware is not up to date, download the software and follow the instructions on that page to install the latest version of Control Forge software.
25. To prevent screen burn-in, set the screen saver to 5 minutes or less.