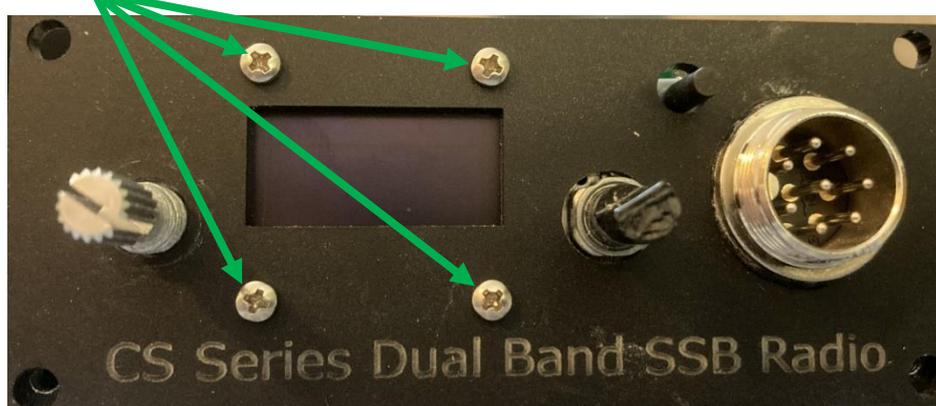


OLED Modification and ALX-SSB Modification

Created 21 July 2022 by Larry Lovell, N7RGW

Caution: As with any modification of original equipment proceed at your own risk with caution.

Modification for reducing 50 Hz hum caused by the OLED display. In order to resolve this issue, there are several things to consider. Open up the radio and remove screws that are supporting the faceplate and the 4 screws securing the OLED display.



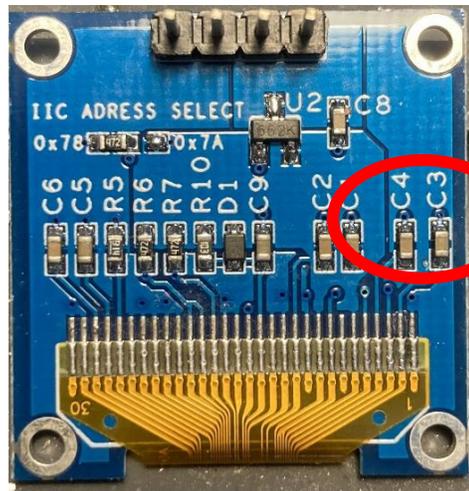
Remove the faceplate. Be very careful not to damage the OLED screen. It is very fragile.

Carefully unsolder the 4 pins, VCC, GND, SCL and SDA on the OLED display. Carefully remove it so that we can modify the back of the display. (Note: the order of VCC and GND may be different on your radio)

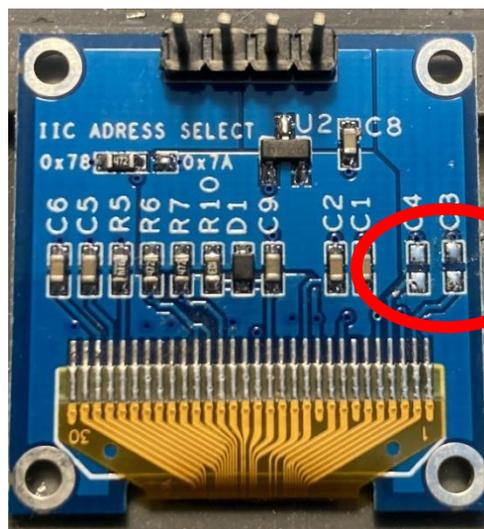
Regulator



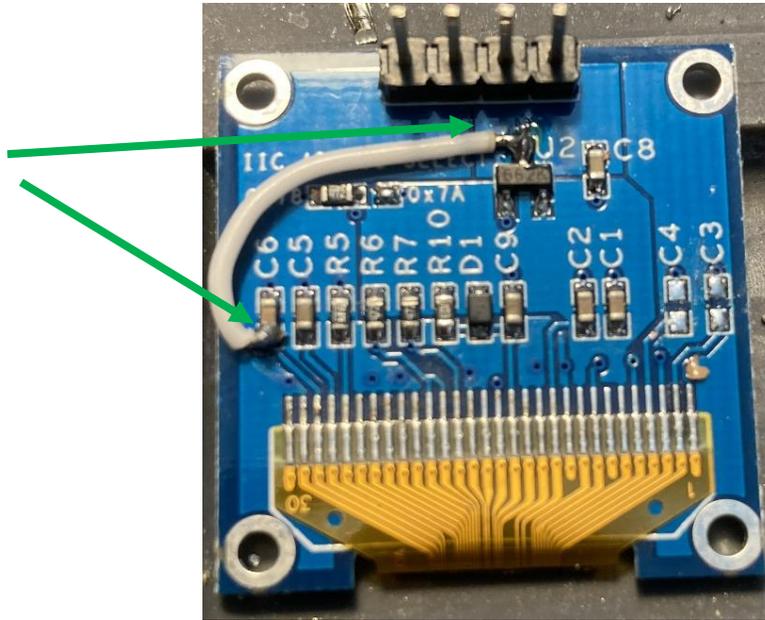
Now, view the back of the OLED display. Yours should look something like this.



1. Remove capacitors C3 and C4 and clean up with a solder wick

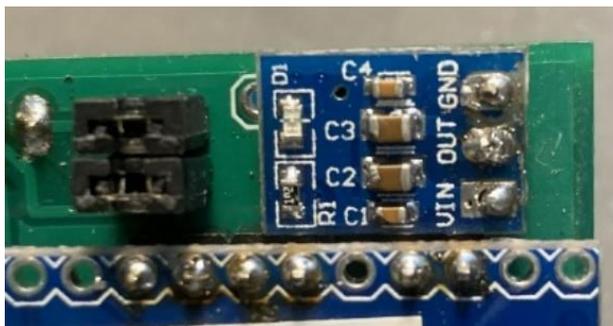


2. Add jumper wire between C6 and top of U2 Regulator. Use a wire that will not cause the insulation to melt. Be as neat as possible. (No one will ever see it, but you know it's there.)



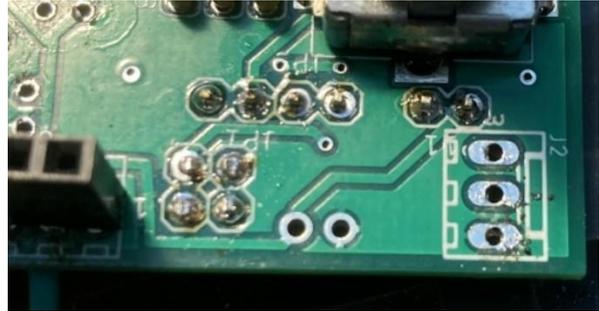
This completes the modification for the OLED display. This display will eliminate the 50 Hz tone that was caused by the Charge Pump of the OLED display circuit.

This change will eliminate the 50 Hz tone, but it causes the display to be a little dimmer than most people like. We will therefore boost the voltage to C6 by removing the 5-volt regulator. (It really wasn't needed).

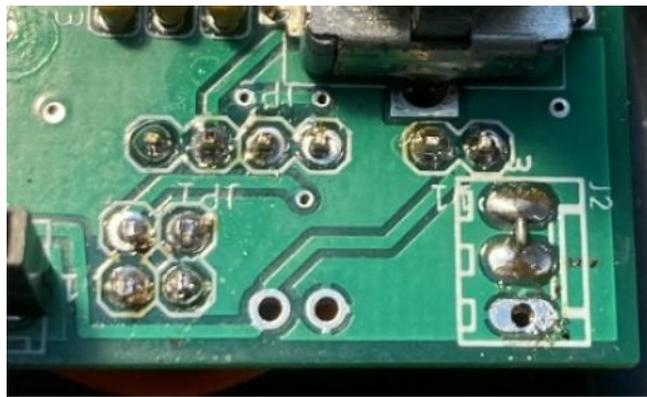


3. Locate the regulator and remove it from the PCB. I suggest that you remove it from the front of the PCB as shown in the next screen shot.

4. Next, clean up the holes on the front side of the PCB.



5. Solder a jumper between the holes where OUT and VIN were located. This will provide 8 volts directly to C6 of the OLED display.



6. Solder the OLED display back in place and reinstall the front faceplate. Again, be careful not to damage the OLED display.

You now have removed the 50 Hz from your background noise and kept the brightness of the display the same as it was before.

(Note: The Charge Pump circuit provided about 7.6 volts at C6.) Some YouTube videos have connected C6 to 12 volts, but I think that this is excessive.

NOTE: I have modified several radios successfully without any major issue. However, I have had several OLEDs become damaged. Still exploring the cause.