

A quick instructional: How to add LCD backlight to your Roland R8. Document Rev 2, 21 march 2025

This document will instruct you, through text and pictures, how to add display background lighting to the display of a Roland R8. Before you start, ask yourself if you can perform this task. If in doubt, don't do it or get help. You can destroy your R8 in the process, or at least the display which is one of the most expensive parts to source a replacement. The job is not incredibly difficult but has many steps where you could break something. If there's anything in the text below that you fail to understand, make sure you get it before continuing. The concept of "I don't get it so it's probably not important" may probably be applied to the terms and conditions of Facebook or Google but for modifying your R8 it does not exist.

Some disclaimers (Please read!):

- a) This is an instructible how I did this job. I cannot take responsibility for any damage that may arise from someone else doing this task.
- b) The instructions in this document instruct the removal of a reflector in the display. While this is a loose part in my R8's, I found it was **sticked to the backside of the glass in my R8mkII** and I did not dare to remove it for the risk of destroying the display. **In essence, this document may not apply to all R8 models.**
- c) In this document there are multiple images that have some light distortion due to the window over my workplace.

So, let's continue!

The shopping list:

- One Roland R8.
- a few tie wraps for getting all the wires tied up.
- an inch or a few centimeters of dual side adhesive foam tape.
- One sheet of EL foil in a color of your liking. The only place to get this stuff affordable, unfortunately, seems to be AliExpress. Get a sheet that is considerably larger than the display area of the R8's display. Don't try to find the right size. We'll get to that.

I got this one:



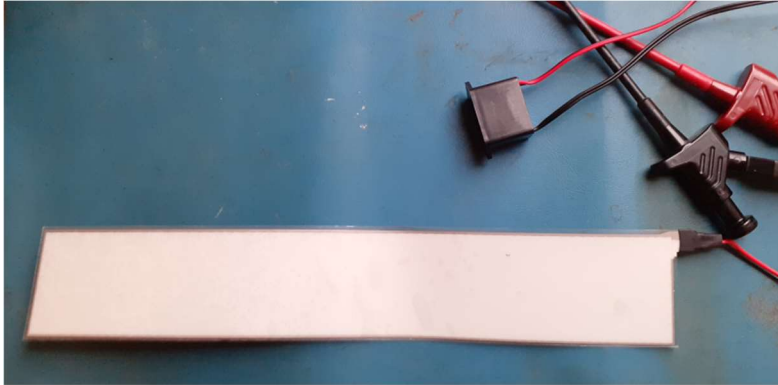
Also important is that this foil comes with a small driver unit that provides the right voltage for the foil. Ensure you do not have to purchase this separately.

Tools required:

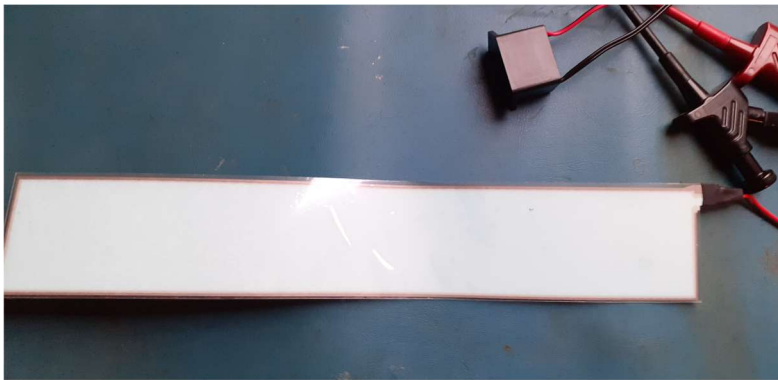
- A Phillips head screwdriver
- a small flat screwdriver
- A needle nose plier
- Scissors

- a Sharpie
- a soldering iron suitable for electronics (No, a soldering gun is not (ever) suitable for electronics (or whatever else. Bin the thing) and some solder.

Fresh arrival: Light Off



And Light turned on

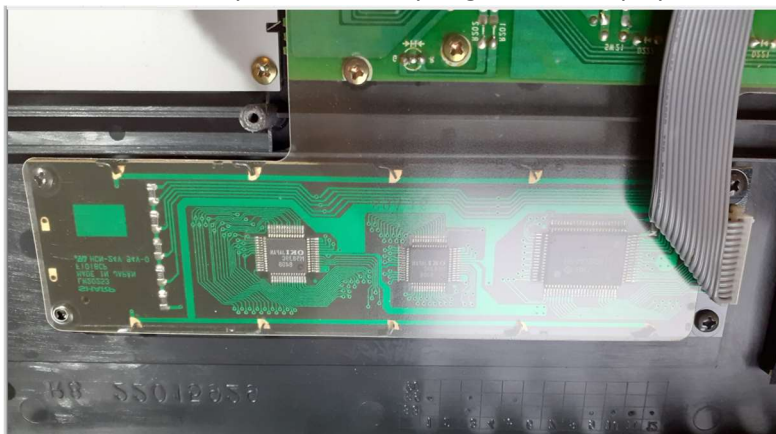


That looks like not that much is happening. Plenty is. Bear in mind you want backlight in dark environments. You don't want to be blinded in these cases.

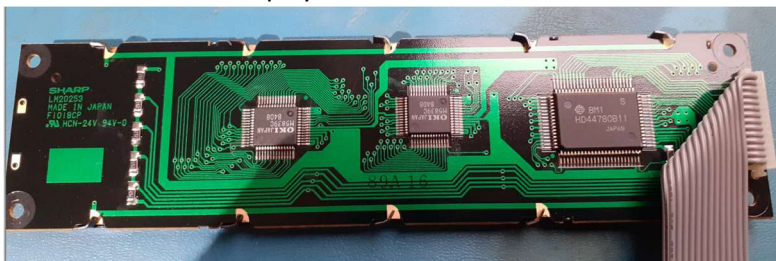
And here's that R8 ready for surgery



Disassemble your R8. Put all parts aside in a place where they cannot accidentally get damaged. Get them out of the way! Continue till you get to the display:

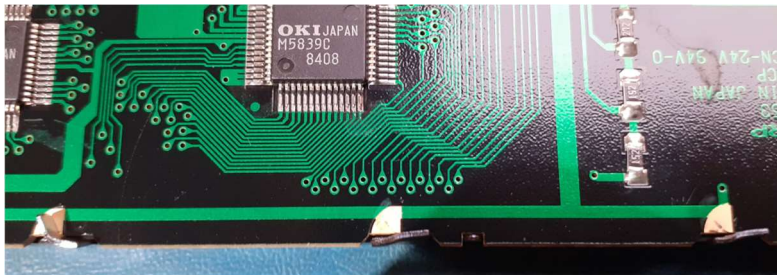


And take it out the display





Now what we need to do is remove the back metal frame. Notice those small tabs on the back? These hold the frame. Bend them straight:



When they are all out of the way you can take off the metal frame. **Make absolutely sure** the metal frame **is the only thing that comes loose**. Do not stick anything under the frame to make it come loose. Just push the tabs with your fingers.

Here we are.

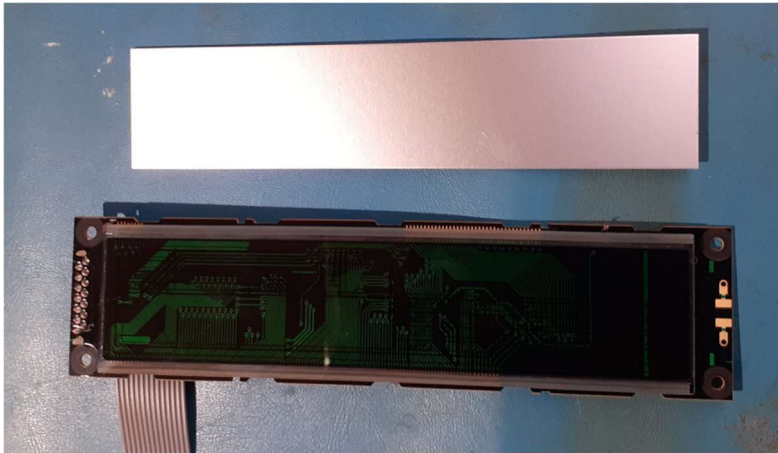


Now comes the trickiest part. The glass, with the LCD pattern, connects to the PCB with some “connectors” made of conductive rubber. You don’t want these connections to come loose as you may have a hard time aligning them again. Misalignment means segments in the display not working. Meanwhile, under the glass is a silvery reflector which needs to be removed by sliding it out from under the glass. While this reflector is a loose part under the glass it has been given some lines of silicone stuff that gives it a little friction to keep it in place. Push the reflector at the short end until it comes out with a small screwdriver or the tip of a tweezer. Be gentle.

Here it comes!



And completely out:



That was the hardest part! Put the display aside in a safe spot. Keep the reflector at hand. We're going to prepare the EL foil now.

Use the reflector to determine the length of EL foil. Oversize somewhat. Some excess length is no issue. Draw a line.

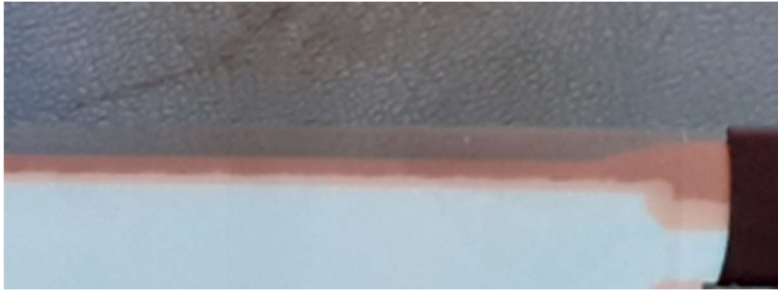


and use scissors to trim to length. Yes, you can just cut the stuff to size!

See it still works?



As well the unlighted top edge of the foil is quite wide (only transparent plastic) which may result in a small part of the display not being lighted.



Therefore, using the reflector again, determine the height of foil needed and decrease the width of the edge while you're at it. Cut all outside the lines away.



And it still works!



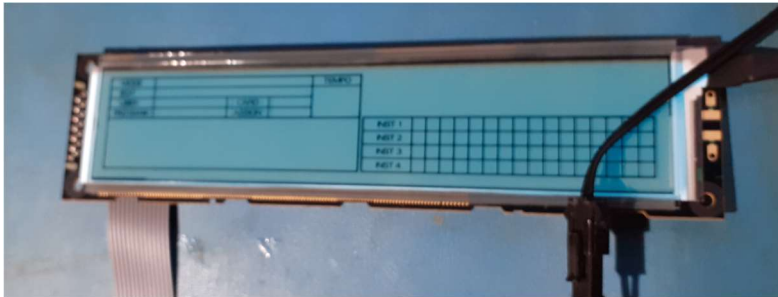
Take the display assembly and slide the foil under the display. If it does not slide in easily it's probably still too wide. Trim it a little smaller. But in essence, if anything having to do with force or friction is happening in this stage, stop and find out what is wrong.



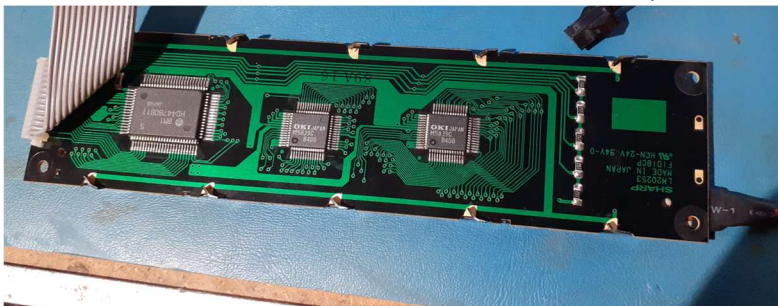
Till it's fully "in"



Test drive!



Remount the metal bracket and bend the tabs back in place:



And start reassembling your R8. Due to the location of the tail of the EL foil I found I had to leave one screw out.



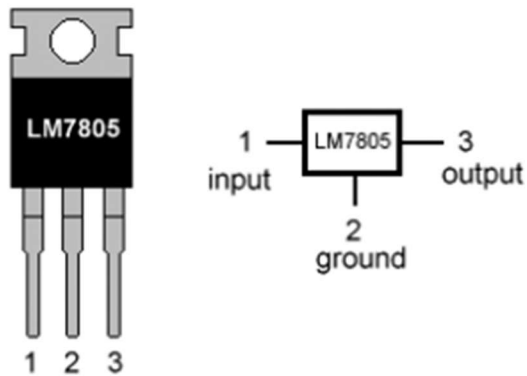
The driver unit is stuck to the metal backplate in the device with some double-sided adhesive foam tape.

Wiring:



The driver's input, Positive (red) wire is connected to the 5VDC net (that's correct, not the 12V) and connects to the output of the 7805-type voltage regulator. The drivers ground wire connects to the 7805's reference/ground terminal:

LM7805 PINOUT DIAGRAM



IC 7805 Pinout

Update: 21 mar 2025

The inverter accepts 12VDC input. While it works like a harm powered with an input voltage of 5VDC it can be connected to the 10VDC input of the 5V regulator (pin 1) as well, giving a little more brightness and less load on the 7805 regulator.

See also:

<https://www.electronicsforu.com/technology-trends/learn-electronics/7805-ic-voltage-regulator>

And here's the result:



Closeup:

