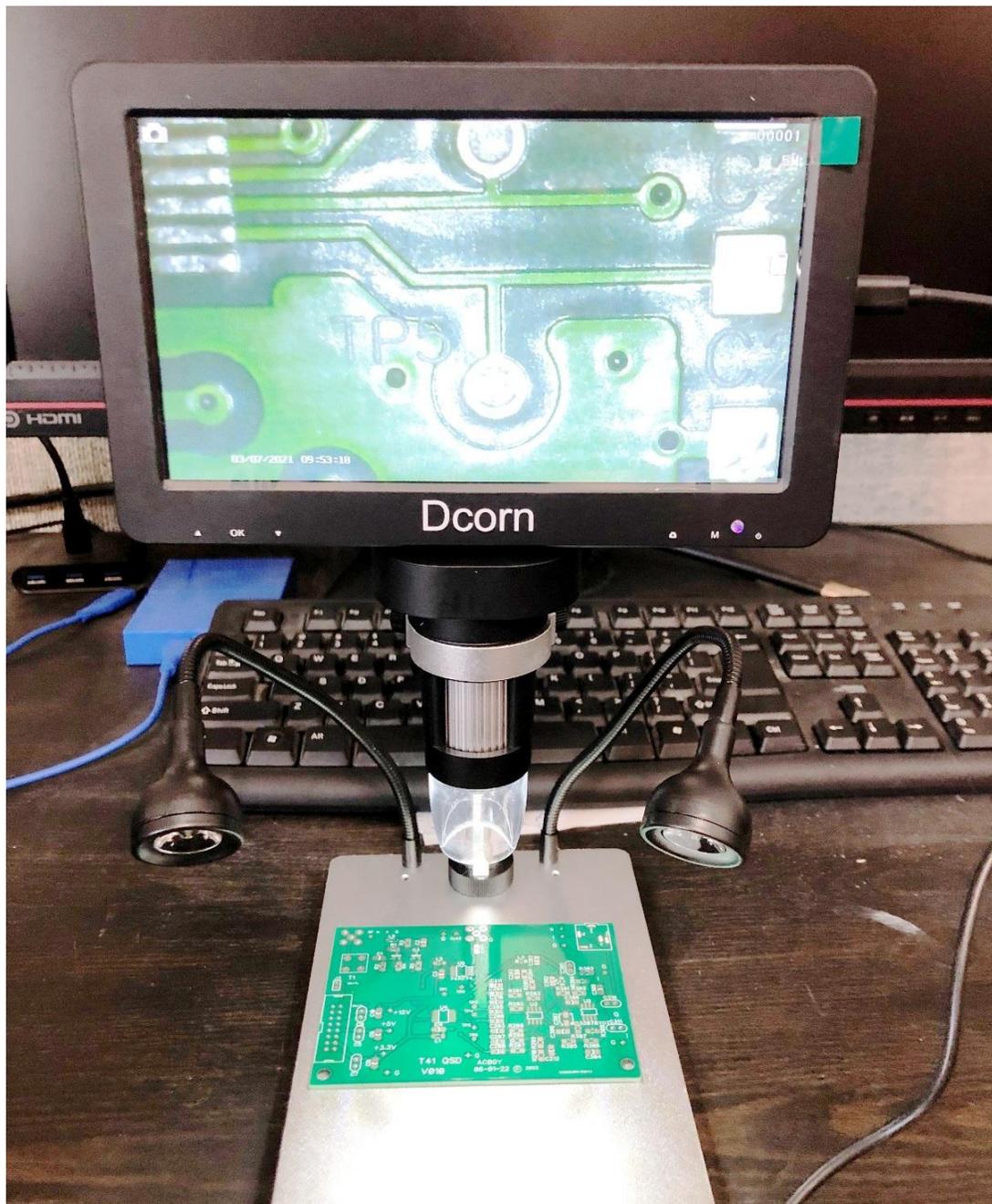


LCD Magnifier - Soldering Solution Howard VE3HBH

When I started the T41 project I realized that the optical magnifier I was using was difficult for me to use in order to properly solder the SMD components.

I began looking at electronic magnification options. Because of my limited bench space, I don't have room for a dedicated monitor so a camera on a stand wouldn't work for me plus I needed something that I could easily put away in order to use the bench space for other work. Therefore I started looking at the stand alone LCD magnifiers and ordered this one from Amazon.

<https://www.amazon.ca/Microscope-Dcorn-Magnification-Soldering-Compatible/dp/B08K7FGY9Q?th=1>



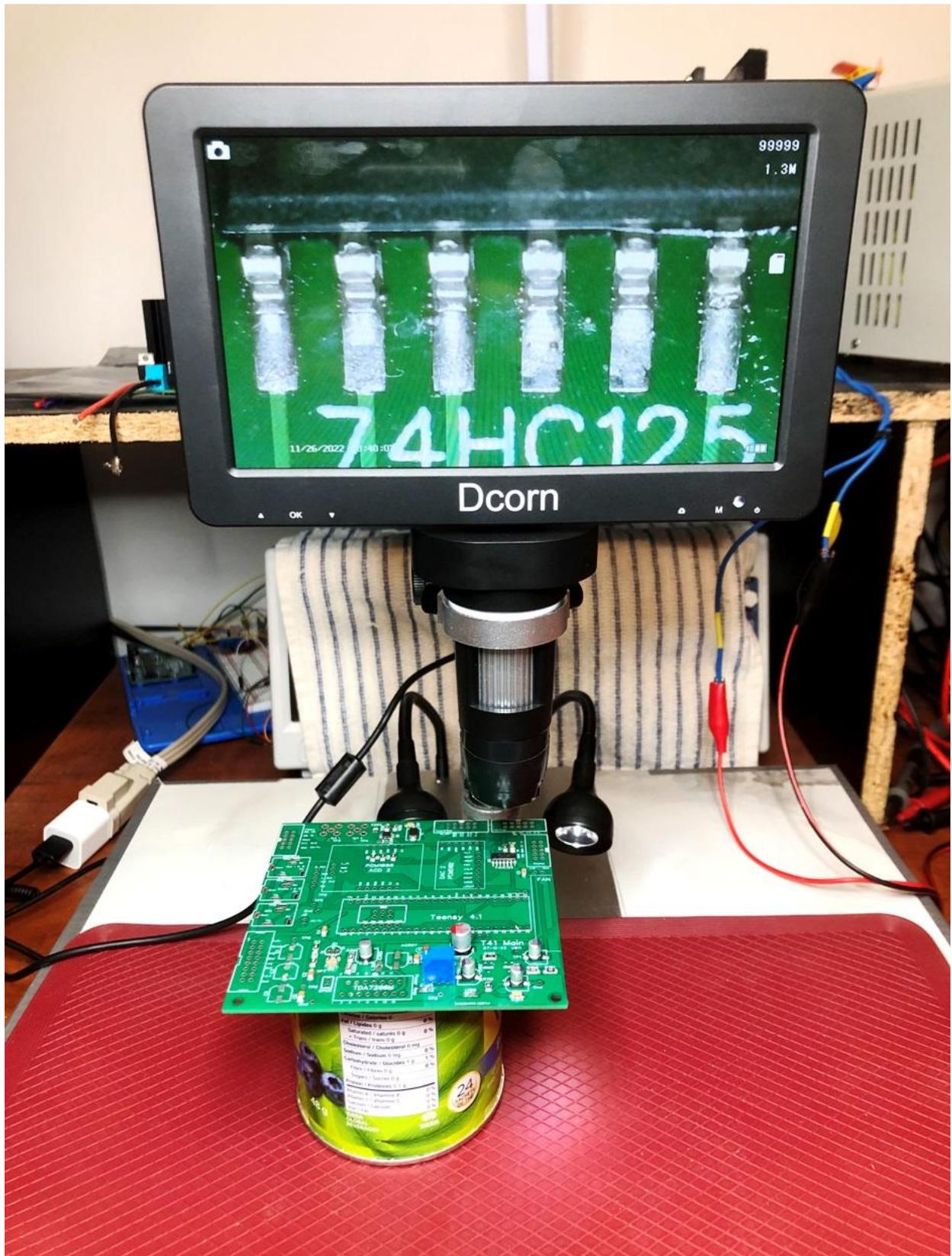
I found the image quality of the LCD along with the resolution of the camera to be excellent. It takes a bit of manipulation with the light from the camera and stand LEDs to reduce glare on the PCB but once you do so the image is very clear. I found that using a back light source also helps to eliminate glare. I have been using the light from my optical magnifier as a back light source.

There were a couple of issues that didn't work well for soldering. First the stand that supports the camera and LCD is very short. Too short that even when the camera is all the way up the field of view is too small to see some of the larger ICs in their entirety. This makes it impossible to align the pins because you can't see all of the IC. I noticed that the more expensive models come with a stand extension. Now I know why.

I checked the focal length of the camera and it was able to focus at larger distances. Since the stand it came with had a 3/8th thread, for a proof of concept test I used 3/8 galvanized pipe sections to extend the stand. With the camera at a greater distance I was able to increase the field of view to see more of the PCB. In addition, the extra height provided more room for the soldering iron.



The downside is that the camera won't go as low as before. As a result, in order to magnify the component as much as possible, I use an empty tea bag container as a stand in order to support the PCB to bring it closer to the camera.



Once I used the unit for a bit I noticed that when trying to maneuver the PCB for soldering even a small board would hit the stand. In addition, the base is very smooth so sometimes the PCB would move while soldering. To provide more working room I built a larger base from an old piece of countertop and cut out a space to place the unit in. In addition, I bought a silicon mat to add some friction so the PCB wouldn't move. I made the new base a little larger than necessary so that I can rest my forearms on it to help steady the soldering iron.



So after the modifications I am happy with the setup and I am able to see the components far better than with the optical magnifying lens. I like the product, although the goosenecks on the stand LED lights seem a bit light and I am not sure how long they will last. The rest of the unit is well built and I like the remote which reduces camera shake when taking pictures or video.

This solution worked for me but if you have the room a simple camera on a stand with a monitor would work just as well.

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