# Raspberry Pi Mobile DAq Station

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Raspberry Pi Mobile DAq Station

This month I started setting up a test stand to develop controls and monitoring for the ECAL silicon heaters. I will need to test the heater to determine if the system is a viable method to heat a supermodule. The tests will be conducted in the EEL building oven, but I will need to monitor the system locally and remotely to log temperatures from RTDs, as well as power supply settings.

Recently, I procured a seven-inch touchscreen monitor system designed to have a Raspberry Pi installed so that it can be a standalone computer with GUI support. I planned to use the Raspberry Pi for data acquisition for the ECAL heater test in the EEL building, with remote login access. But first I had to assemble it and install the necessary software and drivers.

7" monitor (back view)
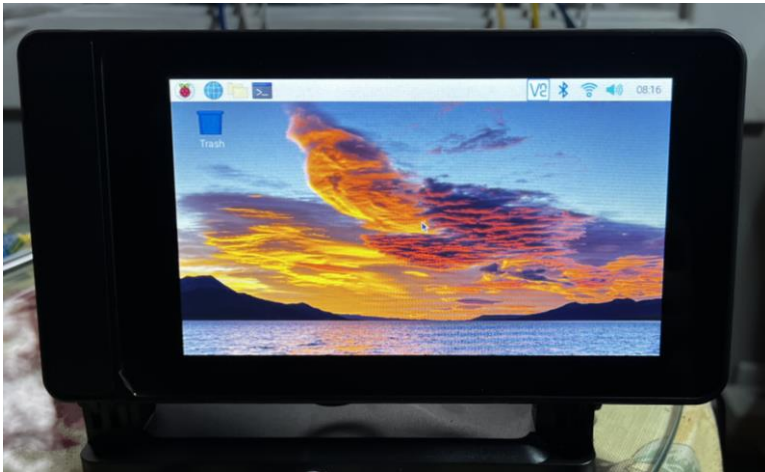
Raspberry Pi

Fan/cover
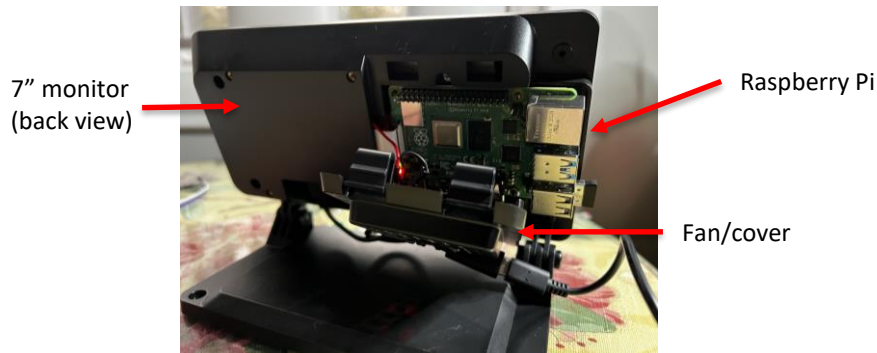
After the initial assembly and installation of the Raspberry Pi, I booted up the system but the touchscreen monitor had no video displayed. After a couple of checks to make sure the components were installed correctly I disassembled the monitor and connected the Pi to my PC monitor to see if the Pi was functioning as I would expect.

- Assemble a touchscreen monitor with a Raspberry Pi single board computer
- Install the current software for the single board computer with the necessary drivers

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After booting it up, I noted that the system was not updated to the latest version of the Raspberry Pi software. So I downloaded the most current software to the SD card using my laptop and retested the Pi which booted correctly.

I then connected the touchscreen monitor to the pi without assembling the monitor as a final product to test the update. Voila, the monitor was now displaying the standard backdrop I expected to see on the Pi. After reassembling the monitor, I installed additional drivers needed for the touchscreen.

7" touchscreen monitor with Raspberry Pi installed

Next month I will install a four-channel ADC to which I will use to read RTDs and develop a Phoebus screen to display the temperature data from the ECAL supermodule heater test.