30Video HC LCD Kit Brightness Control DIY

A potentiometer that fits in the original footprint is difficult/impossible to find. However, it is possible to bodge another one into working. For the 30Video LCD kit, a 10 Kilohom part is required.

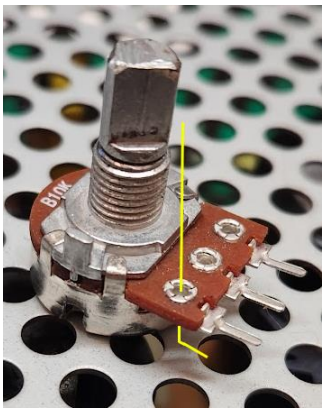
Physical Requirements (original):

1. 6mm D-type ("flatted") shaft, 15mm shaft length
2. No shaft collar for panel mount
3. Linear taper
4. Long leads required: Appx 15mm from top of PCB to bottom of shaft

I used this part number: **Bourns PDB181-K420F-103B**

This part has a 20mm shaft, a shaft collar, and too short leads. However, it is still possible to make work by extending the leads.

Note: all pictures show the potentiometer shaft having been shortened, you should not need to do this.



You will also need (parts):

- 19-20 gauge **solid core** wire
- Two female-female single jumper wires. Two pins per connector will also work.
- 2.54mm header pins (2)

Procedure

1. Put a small 90 degree L-bend in a piece of the solid core wire and pass it through one of the crimp holes for the leads to front of the potentiometer. Solder in place, with the L aligned flush to the existing pin.
2. Repeat for other two leads.
3. Bend the leads downwards, forming a J shape.
    a. **The brightness knob should end up just short of the potentiometer holes.**
    b. You will need to adjust by bending until spacing is correct.
4. Solder a single lead to PCB, such that the bottom of the shaft to the PCB is ~ 15mm.
5. Test fit the analog board and verify the knob fits correctly and operates well
6. Solder other leads.
7. Install the 1x02 header at the "Brightness" header near the top of the PCB
8. Install the jumpers from these pins to the EXT_BRIGHT header on the rear of the PCB (<u>polarity unimportant</u>)
9. Adjust brightness potentiometer <u>on rear of LCD</u> fully counter clockwise (maximum brightness).
10. Power system and verify operation of new brightness knob.