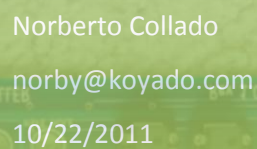


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Revision History and Disclaimer

Revision History		
Revision	Date	Comments
1.0	09/30/2011	Initial draft by Norberto Collado

The purpose of this document is to allow the surviving classic computers to continue to function.

Please don't use any of this material for any purpose other than personal hobby/interest without checking with the owner of the material.

Thank you for your understanding and consideration.

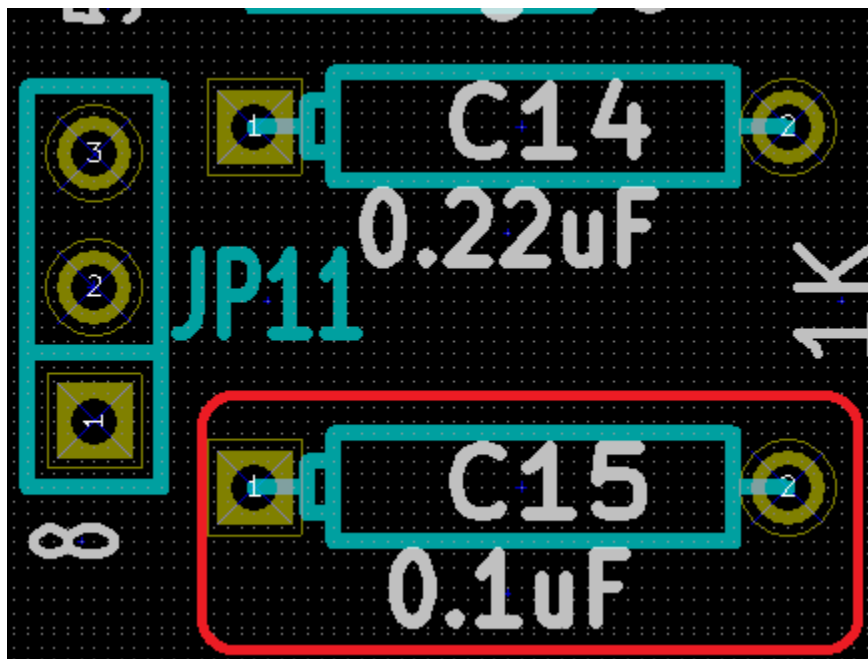


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Introduction

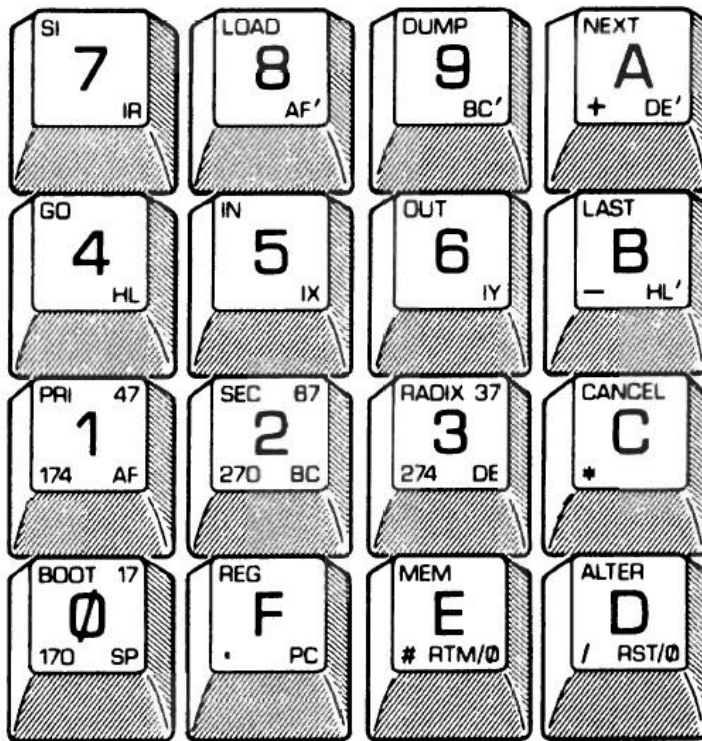
This document provides details on how to calibrate the H8-Z37 floppy controller board design by Norberto Collado for the Heathkit H8 Computer. The calibration assumes that a ***0.1uF*** is used in location **C15**.



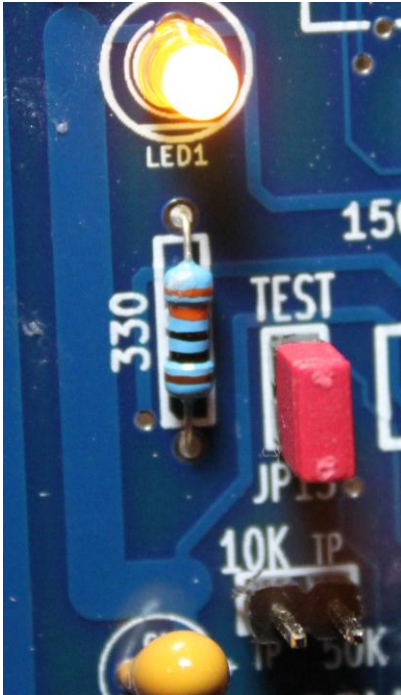
Floppy Disk Controller Alignment with Oscilloscope

Write Precompensation Adjustment

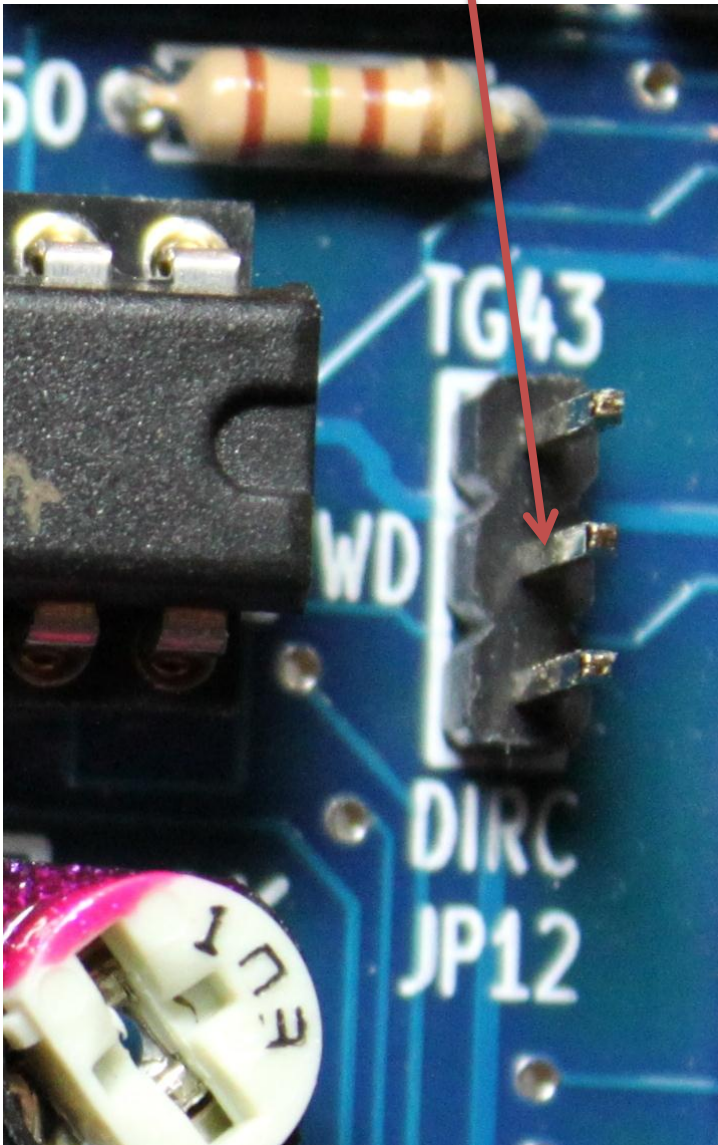
1. Power-on H8 computer
2. Warm up the Computer for a minimum of 15 minutes with the lid closed
3. Press the “D” key simultaneously with the “0” key to initiated a master clear sequence “RST” to strobe the MR pin



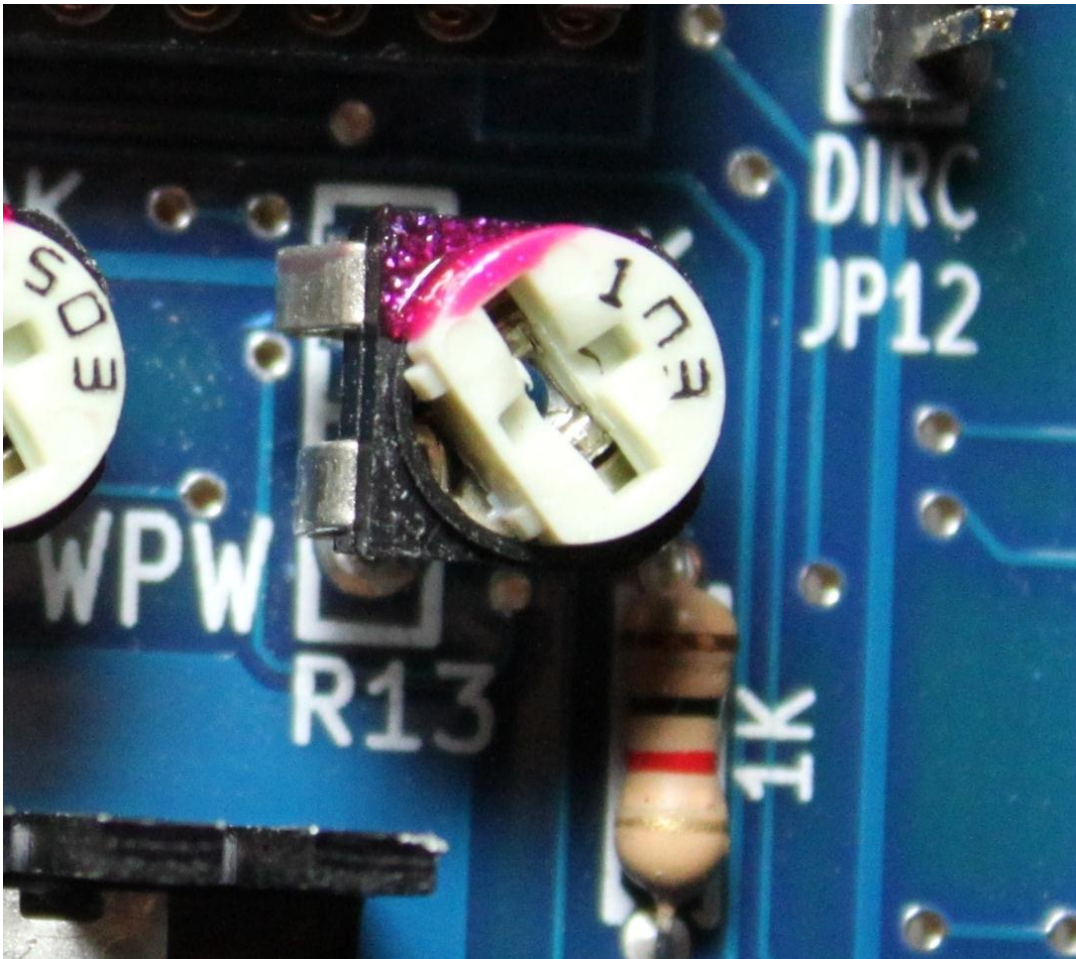
4. Insert the “TEST” jumper as illustrated below

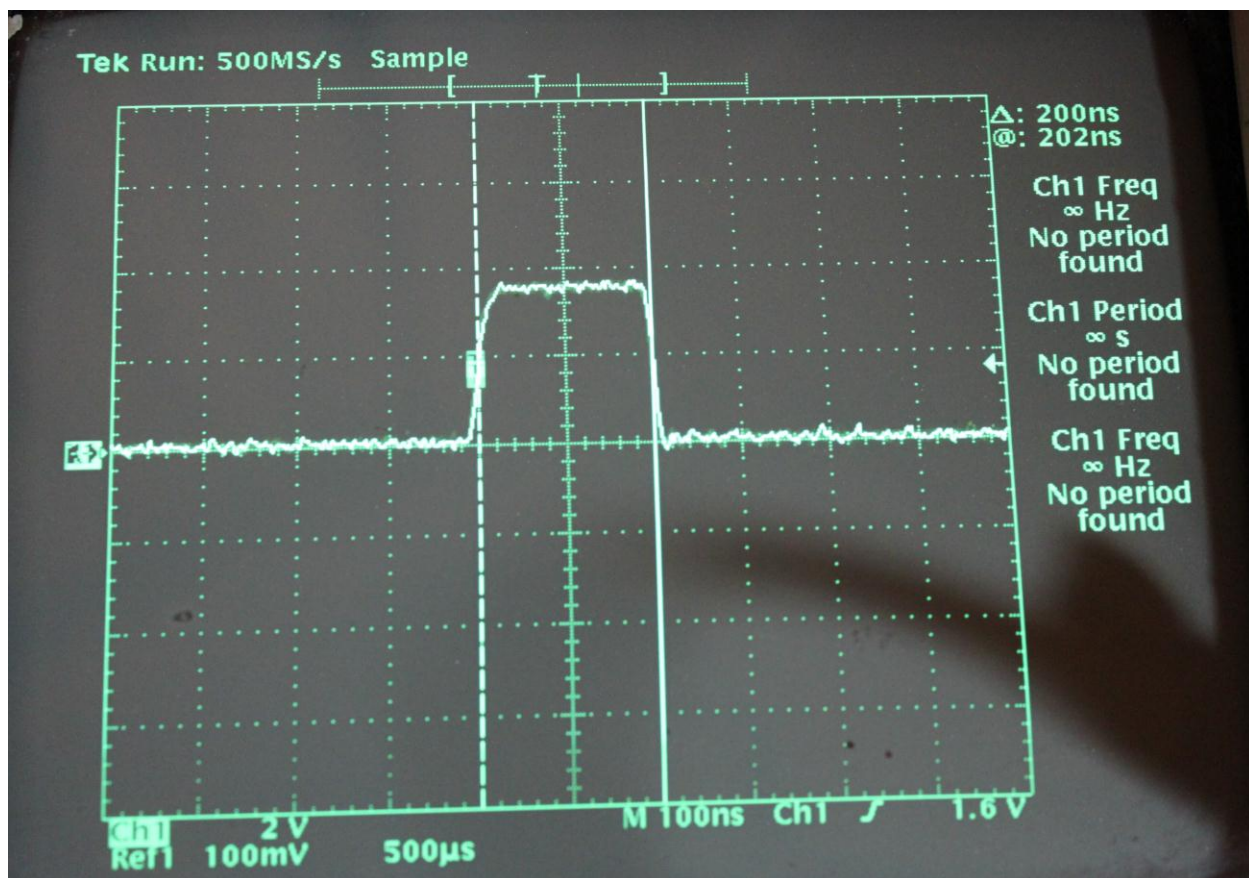


5. Connect scope probe to the “WD” test pin (2) as shown below



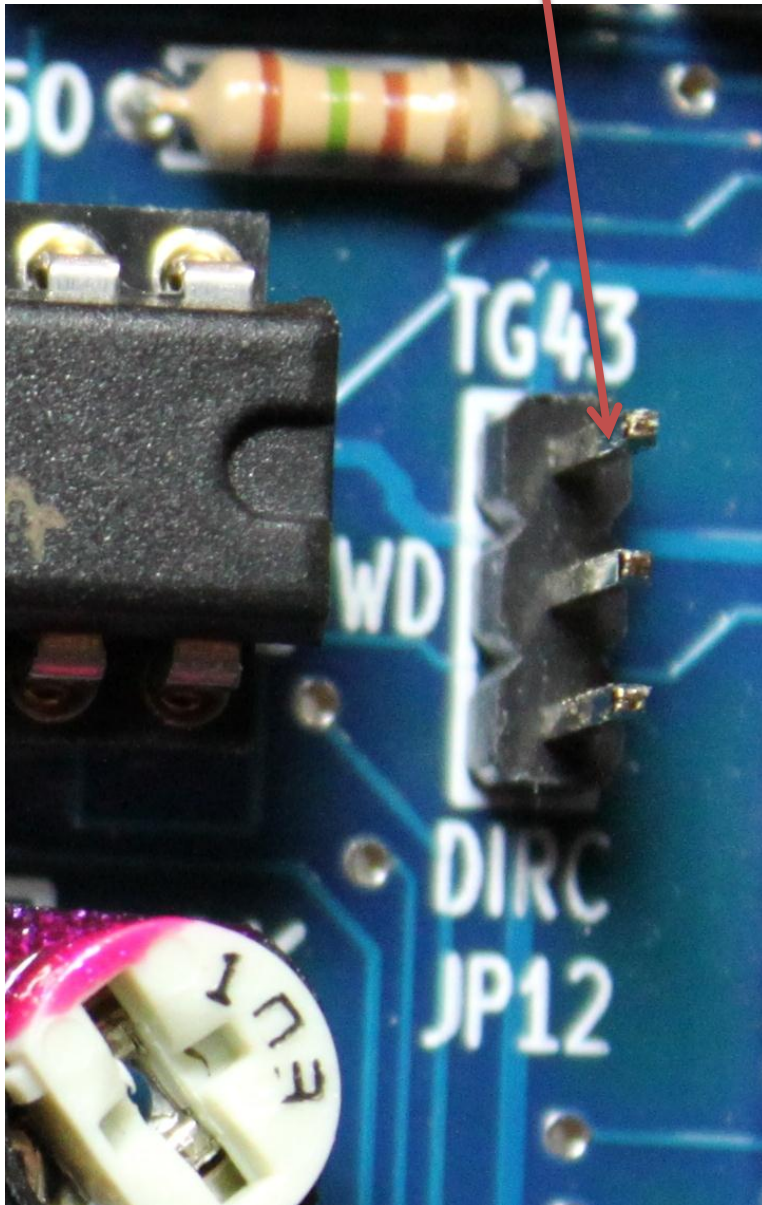
6. Adjust WPW potentiometer (R13) for the desired pulse width of 200ns as shown below



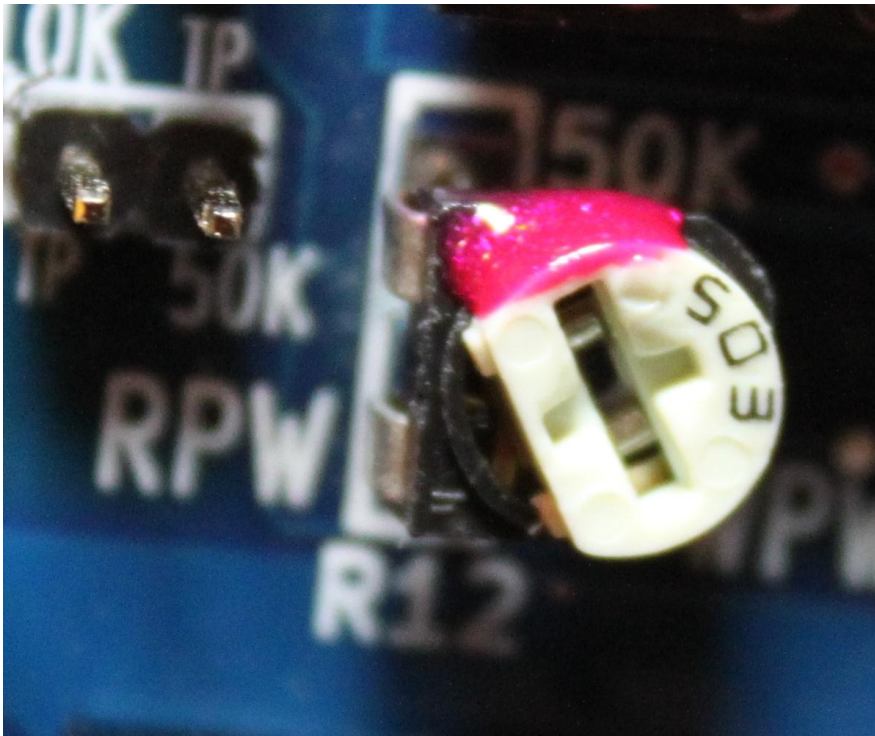


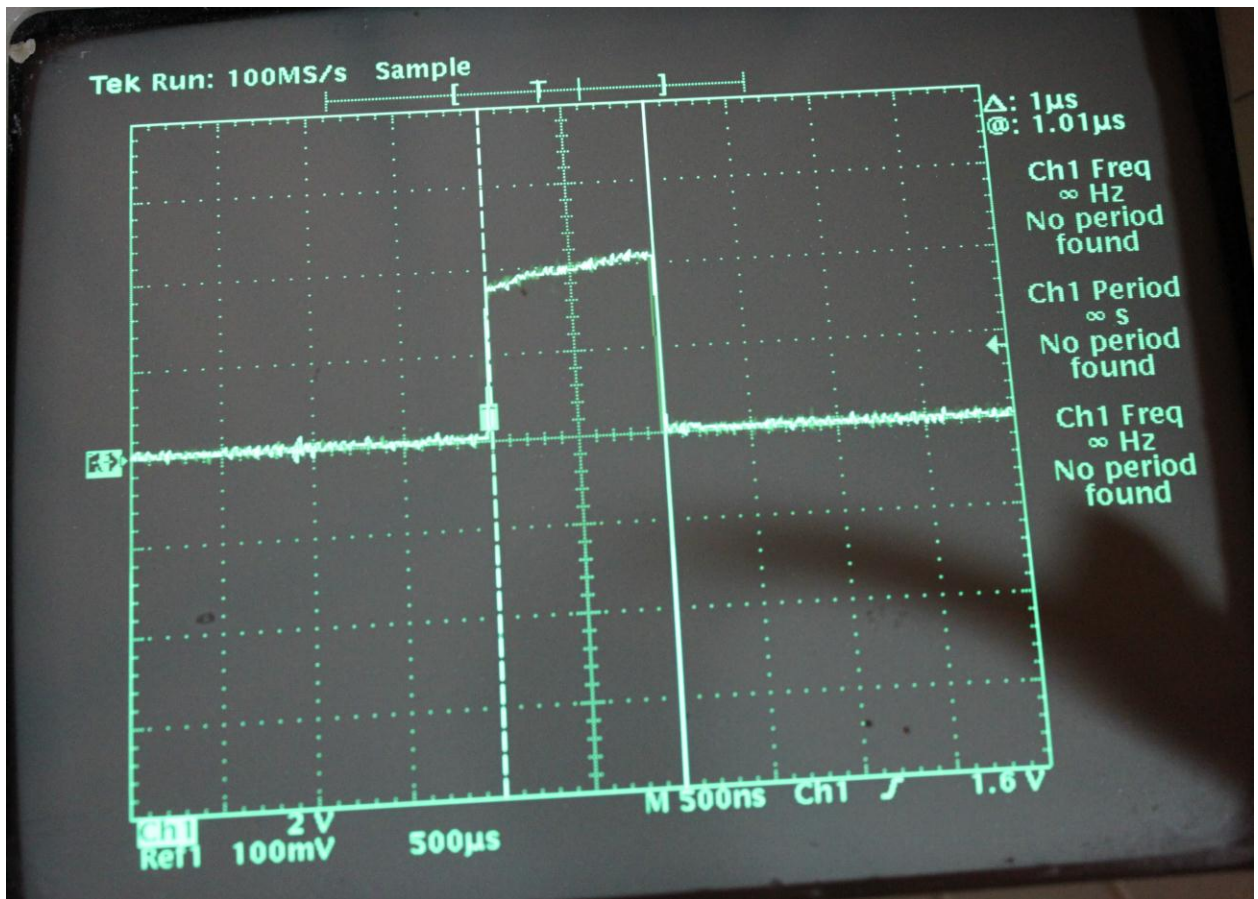
Data Separator Adjustment

1. Observed the pulse width on the "TG43" test pin 1 as shown below



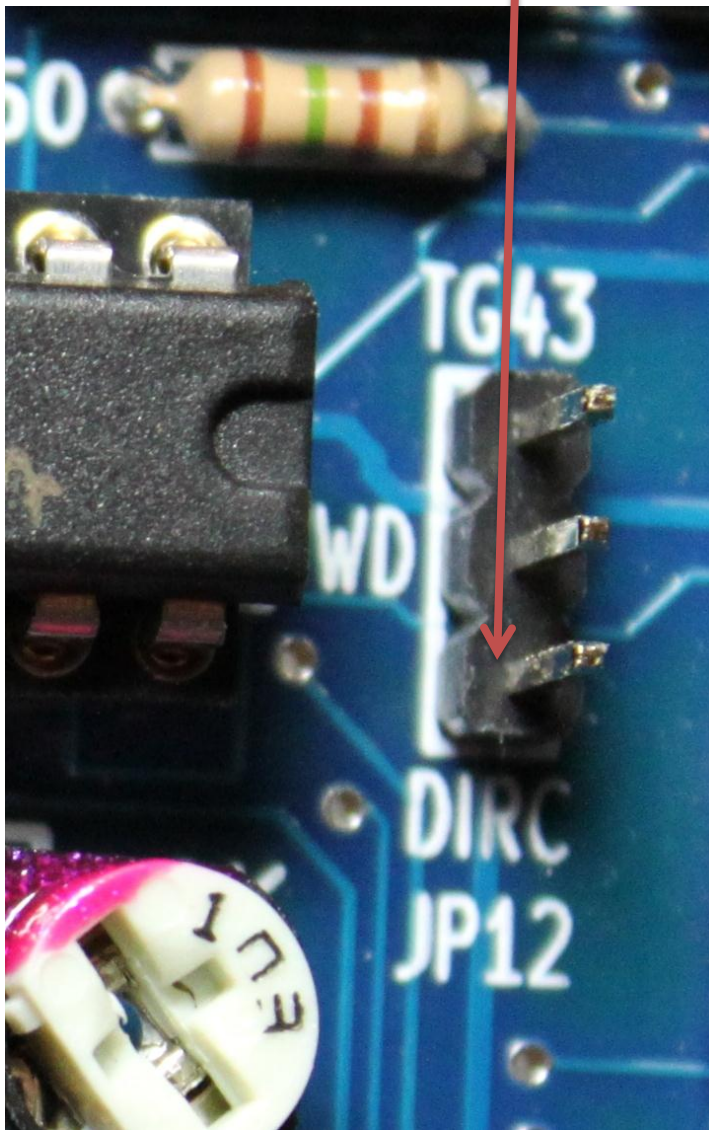
2. Adjust the RPW (R12) potentiometer for “1/8” of the read clock of 1us as shown below



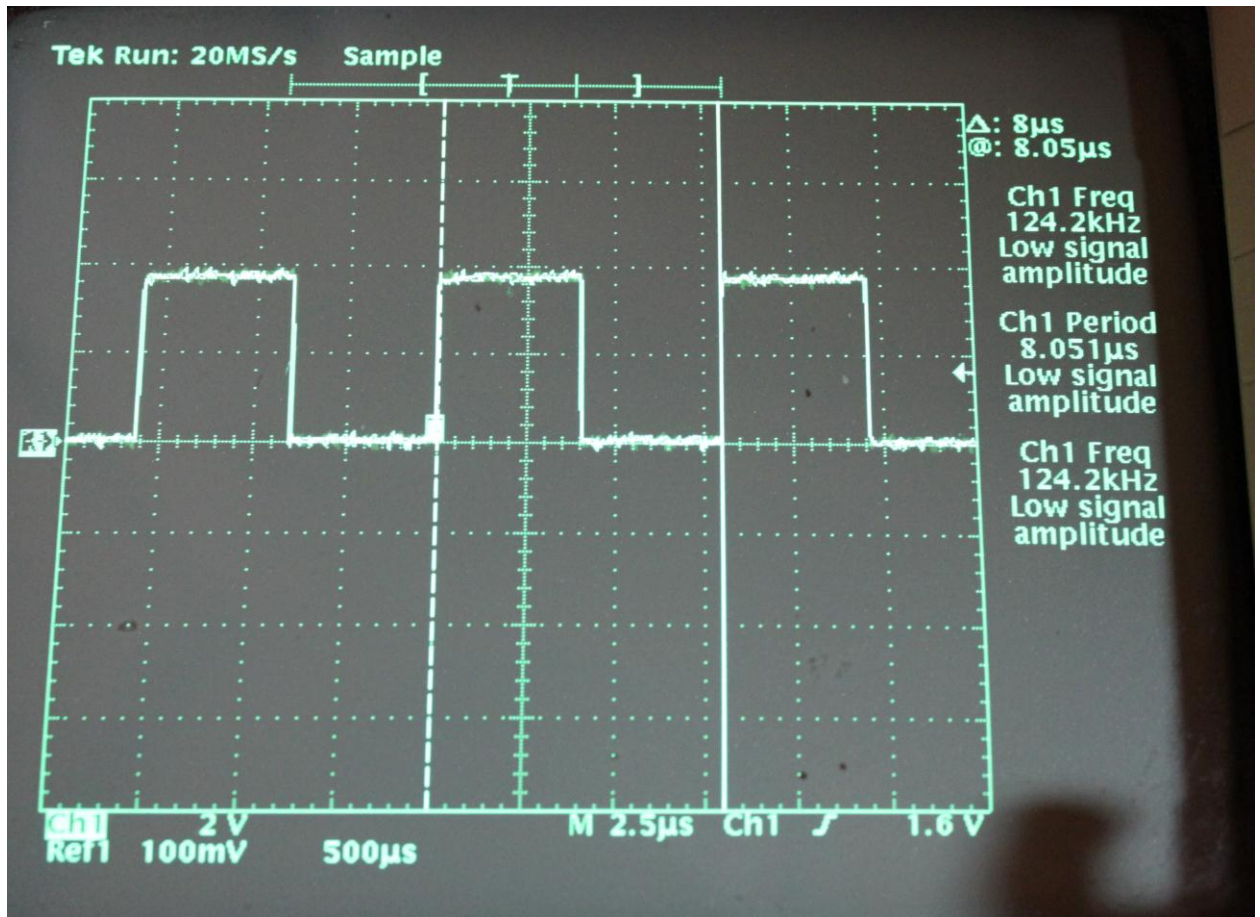


VCO Center Frequency Adjustment

1. Observed the pulse width on the "DIRC" test pin 3 as shown below



2. Adjust the variable capacitor (C4) for a period of 8 μ s as shown below



3. Remove the “TEST” jumper as shown below

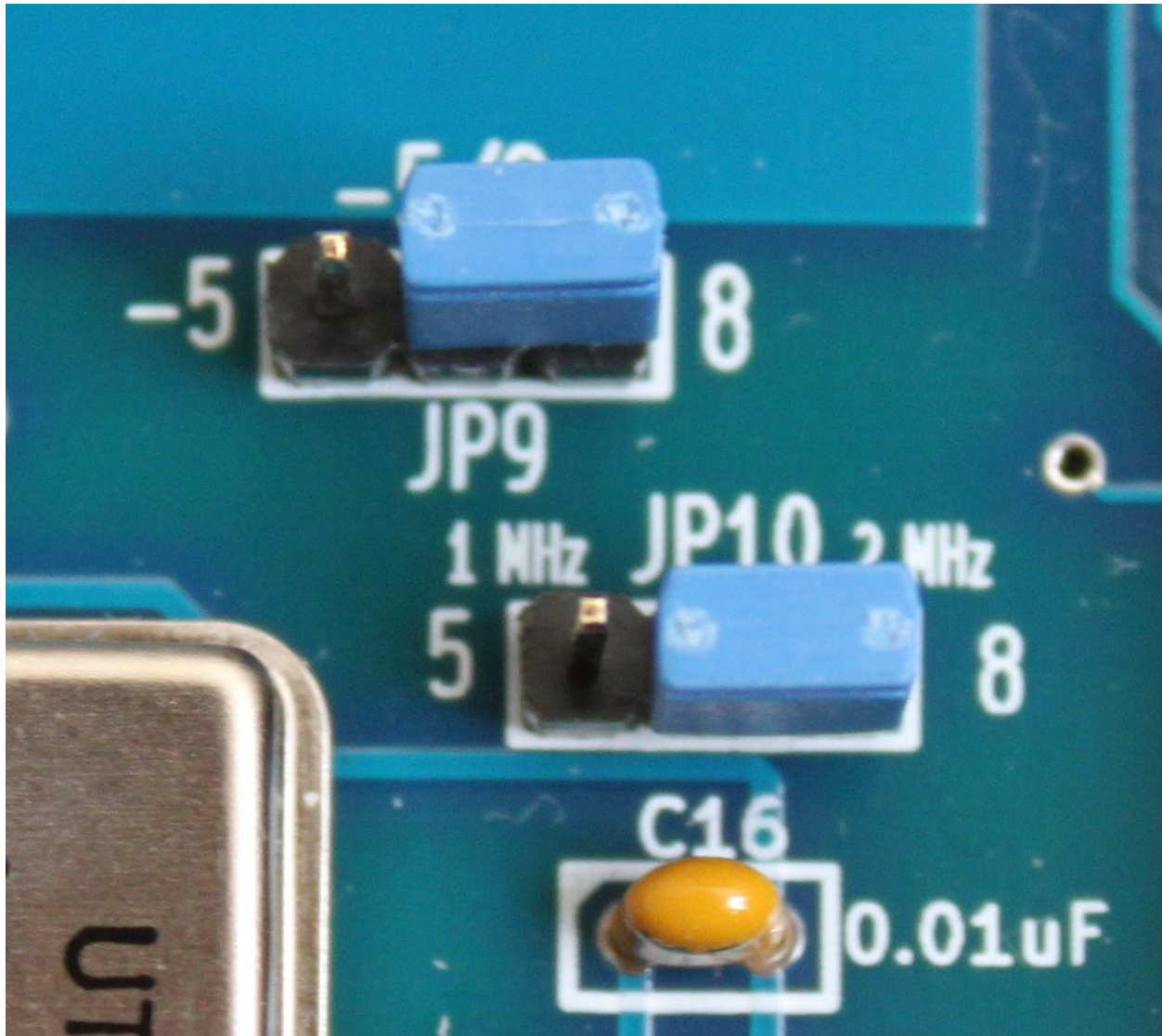


Note: If planning to seal the potentiometers and the variable capacitor, then repeat all the steps above to verify proper calibration.

4. Press the “D” key simultaneously with the “0” key to initiated a master clear sequence “RST” to strobe the MR pin

8" Floppy Drive Support Selection

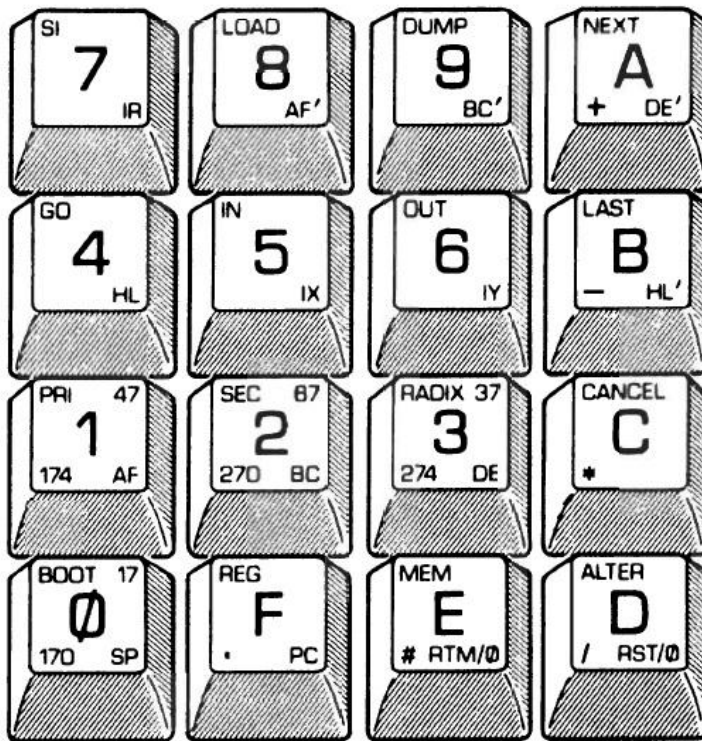
1. After calibrating the board, please change the following jumpers to enable 8" floppy support.
2. Move JP9 to "8" position
3. Move JP10 to "8" position



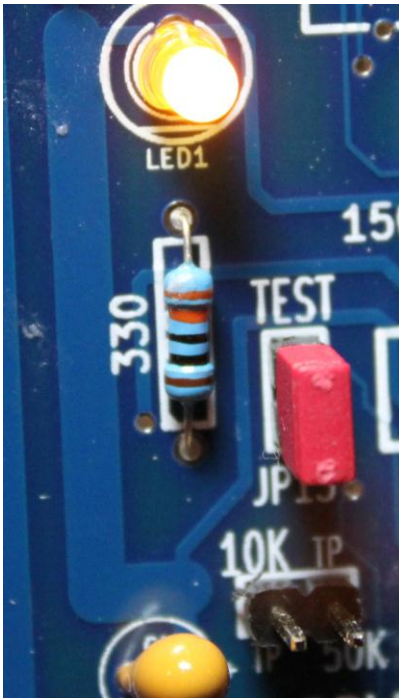
Floppy Disk Controller Alignment with a Digital Volt Meter (DVM)

Write Precompensation Adjustment

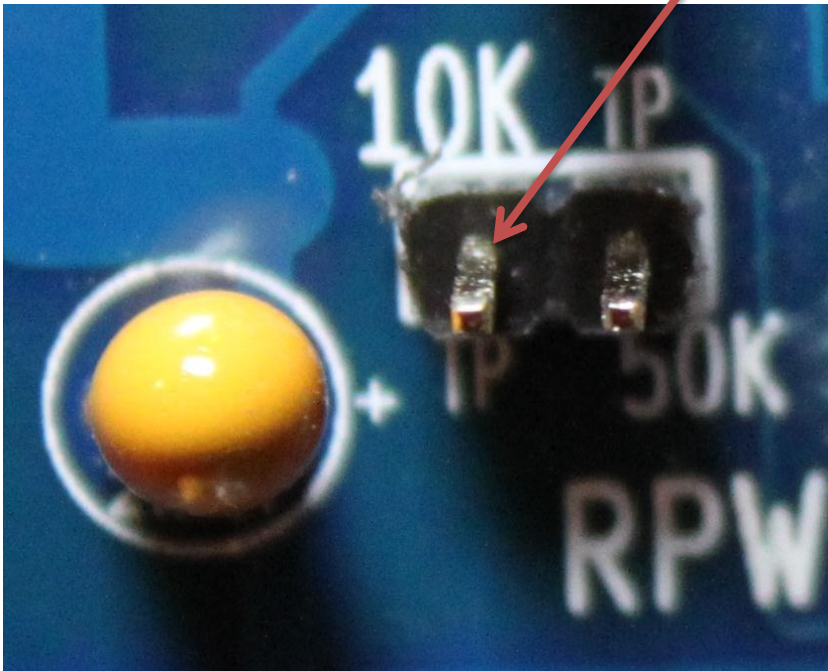
1. Power-on H8 computer
2. Warm up the Computer for a minimum of 15 minutes with the lid closed
3. Press the "D" key simultaneously with the "0" key to initiated a master clear sequence "RST" to strobe the MR pin



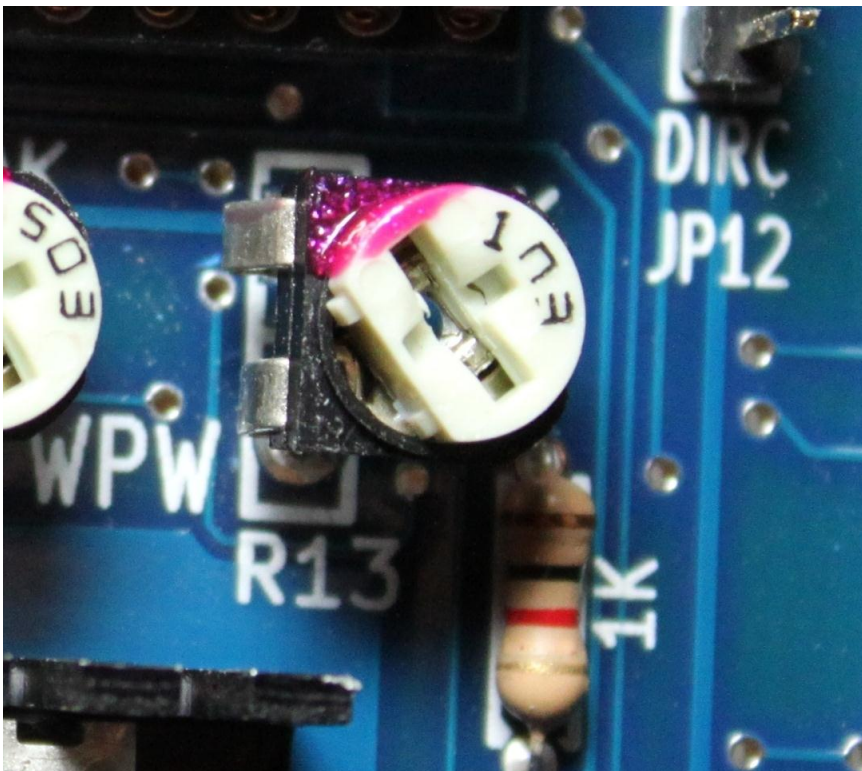
4. Insert the “TEST” jumper as illustrated below



5. Using the DVM observed the voltage on the “10K” test point as shown below

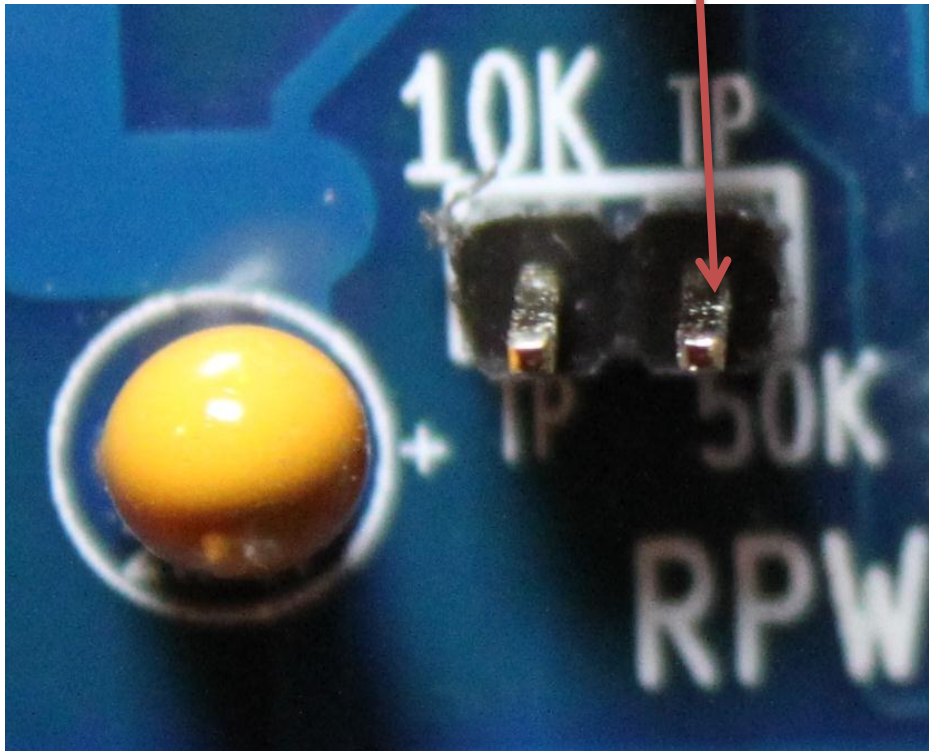


6. Adjust WPW potentiometer (R13) for the desired voltage of 1.540 volts

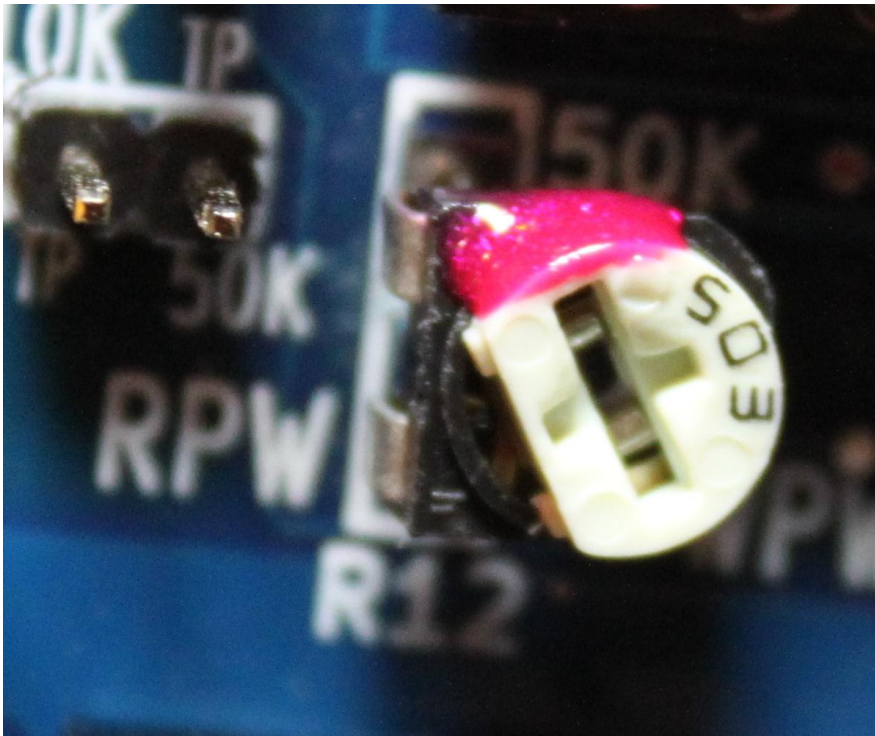


Data Separator Adjustment

1. Using the DVM observed the voltage on the "50K" test point as shown below

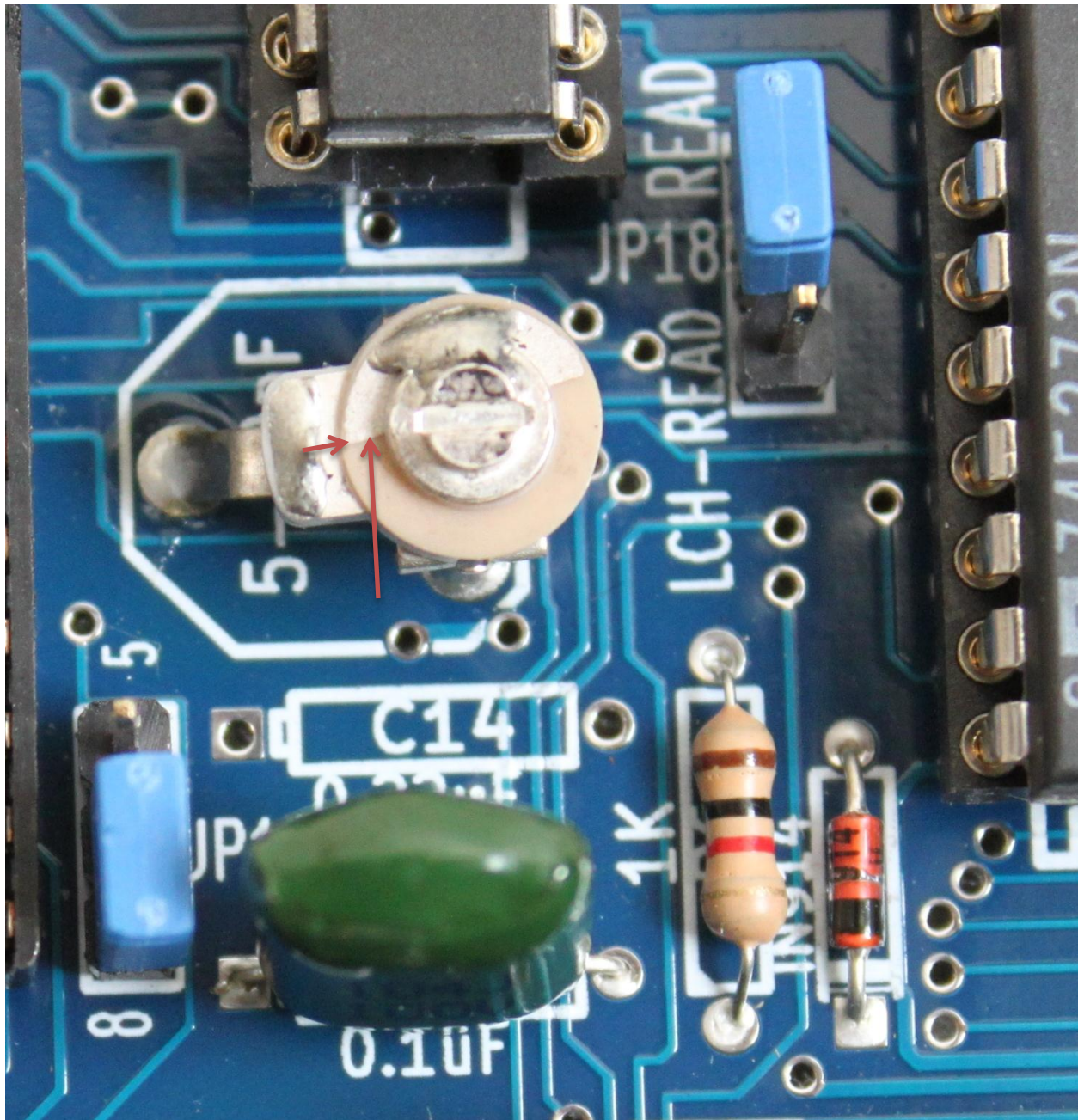


3. Adjust RPW potentiometer (R12) for the desired voltage value of 1.764 volts



VCO Center Frequency Adjustment

1. Rotate the variable capacitor so that lines are in the position as shown below



2. Remove the “TEST” jumper as shown below



Note: If planning to seal the potentiometers and the variable capacitor, then repeat all the steps above to verify proper calibration.

3. Press the “D” key simultaneously with the “0” key to initiated a master clear sequence “RST” to strobe the MR pin

8" Floppy Drive Support Selection

1. After calibrating the board, please change the following jumpers to enable 8" floppy support.
2. Move JP9 to "8" position
3. Move JP10 to "8" position

