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WEB Link with Photographs:
https://www.hollywoodcontrols.com/pdf/HP004OK-kit-assembly.pdf

Hewlett Packard HP004OK OCXO Assembly Instructions

Thank you for purchasing this kit form of our HP004OK OCXO timebase. In order to successfully complete the kit assembly and install the device, you will need soldering equipment, a PCB vise or holder, water-soluble or rosin flux solder 20mil diameter or similar.

Whether you have an HP5315A/B or 5316A/B frequency Counter, the OXCO works the same. Both mount in horizontal positions.

Cautions:
First and obvious, un-plug the meter from the mains! ***Use reasonable ESD protection methods like mats & wrist bands***. Read all of the instructions first! ***It is important that the sequence is followed for ease of assembly and testing!*** The 5-6 pin header strip should be installed last.

Bill of Materials

1. LD1085 or LD1086
2. 1 6-pin strip
3. 2-100 ohm resistors
4. 1-680 ohm resistor
5. 1-560 ohm resistor
6. 2-330uF E-caps
7. 1-10uF E-cap
8. 1 – 1nF leaded capacitor
9. 3 – 0.1uF leaded capacitors
10. 1-20K 25T pot
11. 1 PCB
12. 1 heatsink
13. 1 heatsink insulator
14. 1 #6-32 heatsink screw & washer & nut
15. 2 #6-32 screws & spacers & lock washers
16. 1 optional Morion MV85 OCXO module
    If you purchased the kit w/o the MV85, they are readily available on eBay or Aliexpress.

Assembly Instructions

1. Temporarily fit the LD1085, heat sink & insulator with the included #6 screw to the PCB. Mark and bend the leads to fit the PCB holes.
2. Insert LD1085 into PCB holes and stack op assembly as follows:
    a. Regulator
    b. Thermal paste if available
    c. Heat sink
    d. Insulator pad
    e. PCB
    f. Insulator washer
    g. #6-32 screw from bottom
    h. Nut from top

3. Tighten mounting screw & solder regulator in place. With an ohmmeter, check that the #6 screw is insulated from the ground plane! If not, FIX NOW!
4. Attach and solder the 0.1uf & 1nF (4) capacitors.
5. Attach & solder the 4 resistors. Measure them first for correct positioning!
6. Insert and solder the 330uF capacitors from the top paying attention to polarity. WHITE CRESSENT IS NEGATIVE!!
7. Insert and solder the 20Kohm pot.
8. The original design was made for the HP5316A/B in which connector pins 1 & 6 appear to both connect to un-switched 9-10VDC power. However, on the 5315A/B things are a bit more confusing. The 5315A originally was available with battery power and NO OCXO option. (The 4hr normal battery run time would be severely reduced with OCXO.) On the series numbers below 2XXXA pin 1 is switched and is a separate circuit from the pin 6 10VDC. So in this situation either trim one pin off the header (5-pin) or cut pin 1 off after attaching the 6-pin header. In either case, don't use pin 1 in a 5315 meter. Ok, attach the pin strip and solder.
9. Clean the PCB as necessary and check visually and with an ohmmeter that there are no shorts.
10. Insert and solder the MV85 oscillator and clean again as necessary.
11. Attach a scope or counter to pin 2 (10Mhz) & GND and a 9-10VDC current limited (~600mA) power supply to pin 6 (+9VDC) & ground and ramp the supply from zero monitoring the current and scope. Initially 500-600mA is needed to heat the module. It should settle down to ~150mA.
12. Using the 20K pot, adjust the frequency to 10Mhz.
13. If all is well, insert the module into the meter and fasten to the A1 PCB with included fasteners.
14. You will need a reference source such as a GPSDO to accurately set the time base. But even without a GPSDO, you should see a vast improvement in the time base temperature stability.

Please refer to the following photos as guidance.

Feedback on these instructions is always encouraged!

HWC LLC
Sedona, AZ

Figure 1 - Assembled Top View

Figure 2 Back View

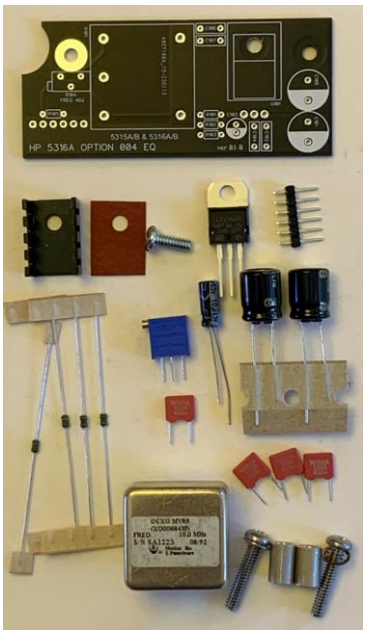

Figure 3 - Parts Kit HP004OK

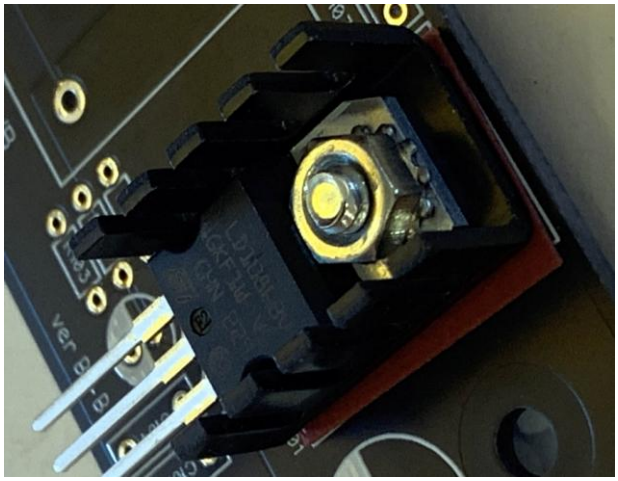

Figure 4 - Mounting LD1085 Regulator