IC-7800 Reference Oscillator Replacement

April 2010

I bought my IC-7800 used on April 12, 2010 S/N 0201262. According to ICOM Service in Bellevue WA it was first purchased from an ICOM dealer on 12/10/2004 and had the ICOM upgrades performed on 9/7/2006.

When it arrived I performed my usual battery of tests and found two things wrong - RFI in the headphones and the OCXO was off (low) at 9.999940MHz. That was the best that could be done with both the Service adjustment and the Ref Adj in the user menu section. That discrepancy causes the radio to be off frequency by +23Hz at 3540kHz to +190Hz on 10-meters. I ran the 7800 using the reference oscillator's output on the IC-7700 and it worked fine - dead on 10MHz +/- 1 Hz.

Fixing this is costly. ICOM Pricing:

OSC - Unit which is the board and oven cost $806.36 with a 4-month wait or buy the oven only OCXO CR-772 for $425 ICOM list. ICOM "had" 7 in stock - tells us something? I got it for $315.00.

As with other posts on this reflector, the replacement oven (ICOM part number 6050012210) is different - a vendor change. The original CR-772 is 2" x 2" where the replacement is 1"x1" and is incompatible with the PCB holes and traces. Frank W6NEK has a good description of how to make the change. His message is #7237 on the IC-7300 groups.io group.

I used a 3/32" drill bit to drill the 5-holes in the OSC Unit PCB to align with the new oven's pins. Frank's suggestion to use spaghetti to ensure the pins don't touch the PCB foil was excellent. The teflon sleeving fit snugly in the 3/32" holes.

Each piece of spaghetti was clipped off about half the distance from the board's surface to the oven pin's tip. That left a comfortable length to solder the jumpers too. Be sure to pay attention that pins 3 and 4 are swapped as Frank noted in his message. Click here for pictures.

If you remove the front panel as I did, be sure to note the video ribbon cable uses a zero-insertion-force socket. It has a small fragile locking mechanism. It is not like the other ribbon connectors.

Another approach to the Osc Unit is instead of removing the front panel, release the antenna tuner and slide it back an inch or so. I removed the front panel because I wanted to work on the headphones jack assembly relative to the notorious RFI problem.

After carefully reassembling the radio it worked. Resetting the software adjustments put the oscillator dead on 10,000,000Hz with not even 1 Hz drift.

73,

Bob – W6OPO