

Improved CW Operation of Collins 75S-3 Series Receivers

by

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With the Collins 75S-3, 75S-3A, 75S-3B, and 75S-3C receivers, when a CW filter is installed (200 Hz filter was included in every 75S-3 and 75S-3A when shipped from the Collins factory), the frequency of the CW signal (when centered in the passband), is way too high in frequency for most people. Collins does recommend, in the manual for the receiver, that the variable BFO be used to lower the tone frequency of the CW signal. However, using the variable BFO can be a "pain in the posterior" with most people.

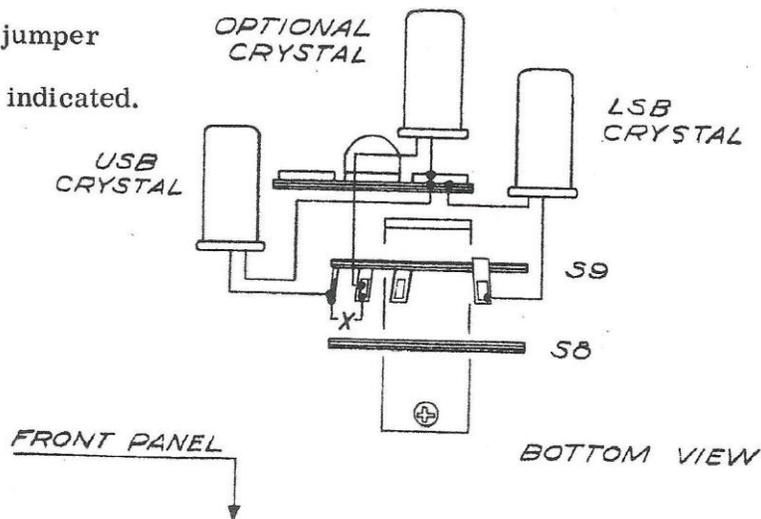
The solution to this high frequency CW tone was implemented in the 75S-1 and 75S-2 receivers when the optional 500 Hz mechanical filter is installed with the optional BFO crystal. This optional BFO crystal operates on a frequency of 455.800 kHz and produces a received audio frequency of 800 Hz when the signal is centered in the passband of the CW filter. The 455.800 kHz crystal is automatically selected when the receiver mode switch is placed in the CW position. In the 75S-3 series receivers installing a 455.800 kHz crystal definitely makes for a more comfortable tone when receiving CW.

A suitable 455.800 kHz crystal is available from several sources including Inrad (International Radio). The Inrad crystal sells for \$30.00 each (as of August 2013) plus shipping.

As wired at the factory, the BFO crystal for USB connects to the mode switch and that connection is jumpered to the CW terminal on the mode switch. This jumper has to be cut and then the 455.800 kHz crystal installed. The following diagram is from the instruction sheet for the installation in the 75S-1 receiver. However, the installation procedure is the same for the 75S-3 series.

75S-1 OPTIONAL CW BFO CRYSTAL INSTALLATION

- STEPS: 1. Clip or remove jumper marked "X."
2. Wire crystal as indicated.



Optional Crystal Type 455.8 kc, part number 290 8707 00

After the crystal is installed, verify that the circuit is working correctly and then put the receiver back in the cabinet.

When this modification has been completed, the received tone on a CW signal is considerably more pleasant on the ears! However, the variable BFO will still operate when the mode switch is placed in the CW position.