

## At the Repair Bench – Yaesu FT-65 – March 2025

Sometimes, repairs will come in that are not actually “repairs” at all, although they seem to be to the owner of the equipment of concern. That was exactly the situation with a recent “repair” to a Yaesu FT-65 handheld dual-band transceiver (Figure 1).

The unit was brought to me during the 2024 Hamfest, and its owner demonstrated that the transceiver would apparently not transmit when the PTT switch was activated. There is some history of these radios losing microphone connectivity, especially after being dropped, so I agreed to take a look at the unit.

When I put it on the bench, I attempted to verify the complaint, as I normally do. The radio was tuned to 147.180MHz, and it was set in the automatic repeater mode with the correct offset, so when keyed, the display showed full power and a frequency of 147.780MHz. Further, the CTCSS tone was set to 131.8Hz, the correct value for the repeater to which the radio was tuned. Sure enough – although the radio showed full signal output on the LCD panel, nothing was received and passed on by the repeater.

However, the fact that the repeater was not responding was not conclusive that there was no radio RF output... just that it was not making the trip *through that repeater*. I decided to experiment a bit, and I set the radio to transmit on a separate simplex frequency outside of the normal repeater frequency range. Immediately, the signal was received by a nearby receiver tuned to the same simplex frequency. This conclusively showed that the radio did in fact produce an RF output and put it on the air.

That fact caused me to look more deeply into the various settings in the repeater configurations of the radio. The first thing that I did was to connect the radio to a PC via a programming cable and back up the existing configuration. Then, I took a look at what was shown in the downloaded data from the radio. What I found was surprisingly simple... the squelch mode was set to “OFF”.

I disconnected the radio from the PC and went into the menu system to make some changes manually. As soon as I set the squelch mode to “TSQL” (tone squelch), the unit came up as expected on the repeater.



Figure 1 - Yaesu FT-65 handheld radio

I tested a bit further by programming in some additional repeaters and testing them. All, of course, worked properly and the signal was successfully received and repeated by each of the test repeaters so programmed. I then cable-connected the radio again and did some programming via the PC... enough to once again verify proper operation of the radio on both the VHF and the UHF bands.

To finish up after all of the testing was complete, I reset the radio to factory settings and then re-programmed the frequencies that were in memory when I received the unit by restoring the backed-up configuration to the radio. Finally, I once again manually set the TSQL value again, and the job was done.

This was a case of simple mis-configuration of the radio. Interestingly enough, the owner, in a subsequent conversation, informed me that he had just obtained a programming cable for the radio, and would be programming the set via his computer when he got the radio back. Had the original programming been done via the computer instead of being done manually, where each separate step must be accomplished individually, the problem most likely would not have occurred. Setting the squelch mode is a routine component of the computerized programming process.

So then... what is the primary “take-away” from this story? If anything, it is that the devil is in the details, and that we cannot assume a malfunction just because we do not immediately get the results that we anticipate. When things do not seem to work properly, go back to basics and check everything, especially all modes of operation that are available. It may well turn out that there is no actual failure.