FT-710 Contest Observations December 11, 2022

The last two weekend contests have been the ARRL 160m CW and ARRL 10m CW & SSB contests. I didn't update to the December 6th production firmware until mid-day on Saturday December 10th.

The CW key-up thump on 10 meters that was corrected previously has returned. I am aware the sidetone key clicks are to be addressed in a future firmware update. Some of my comments are a summary of previous user input. I realize that ergonomics and user interface evaluations are subjective, and I draw on having used virtually every amateur transceiver introduced in the past 10 years.

While contesters who are running (calling CQ) typically don't use the band scope, even they have to do some S&P to look for mults where the scope and waterfall are important. In general operating outside of contesting I always use the scope and waterfall to find stations to work.

The two most effective band scope and waterfall implementations that Yaesu should consider emulating are the Kenwood TS-890S and the Icom direct sampling transceivers.

The 890S is the most efficient as the waterfall not only doesn't smear when tuning, but when a signal on the waterfall is centered in the DSP passband, the waterfall automatically updates accounting for the tuning shift. The waterfall does not have to reset since it is always up to date in the bulk of the screen.

The Icom waterfall in Cursor mode (much like Yaesu Cursor mode) doesn't smear, but when the edge of the selected span is reached, either tuning up or down, a whole new span begins filling in so it is very easy to keep tuning the band without having to manually reset the scope. The Elecraft K4 is similar to this though the default is not optimum.

Having to manually reset both the FTdx10 and FT-710 display span every few minutes in a contest is a frustrating waste of time. If engineering doesn't have a TS-890S and IC-7300 or IC-7610 "in house" for comparisons, they should seriously consider this option.

One other issue with the FT-710 is the limitation to DSP filter bandwidth selection. The "narrow" button needs to be able to toggle between Wide, Medium and Narrow. What three user-programmed bandwidths per mode will be different for each user, here is what I find most useful for any type of operating, not just contesting. SSB: 2800 Hz, 2400 Hz, and 2100 Hz. Each bandwidth should be able to store its own Shift offset. With the two current bandwidth options, I could never save separate Shift values for each bandwidth. CW: 500 Hz, 250 Hz, and 150 Hz are what I use. Whether contesting or rag chewing, QRM conditions vary minute to minute and I regularly shift through my three programmed bandwidths on the fly. The LCD

display should show the selected bandwidth and shift at all times. This information doesn't have to take up a lot of LCD space.

While some functions such as NB and NR allow a long push on the dedicated buttons to bring up an adjustment menu, no such feature is available on the current bandwidth "narrow" button. The current method of adjusting Shift, Width, and APF is far too cumbersome. (I don't use Contour.)

The lack of mode-specific tuning speed became quite apparent during the ARRL dual-mode CW/SSB 10 meter contest. On CW I need the 5 Hz tuning rate, while on SSB 5 Hz is far too slow. I had to go into the menu and change tuning speed each time I switched from between CW and SSB.

The "fine" 1 Hz tuning option is of little practical value except for measuring DSP filter bandwidth and when receiving an AM signal in Exalted Carrier SSB mode.

Link, section 6: https://swling.com/blog/tag/exalted-carrier-single-sideband/

When operating CW with AGC mode default of Auto, strong signals are quite distorted unless the RF gain is backed off to the station's average signal level. Using Slow AGC does not have this distortion issue. I would prefer the AGC speeds be user adjustable as they easily are in Icom transceivers. The Slow selection is too fast for my liking on SSB and CW.

The waterfall Speed soft button needs at least an additional Slow 3 that is between 50 and 60 seconds before a signal runs off the screen.

The bottom line is the radio's basic features function very well: selectivity, sensitivity, dynamic range, RMDR, blocking, CW transmit bandwidth (key clicks) and transmit composite noise are excellent. For the past two weekend contests I have switched back and forth between the FT-710 and FTdx10. On CW the FTdx10 is easier to use in respect to adjusting bandwidth, shift and APF. Yesterday I spent about 30 minutes using my third operating position with one of my IC-7610s. (Photo attached to email). Its lab numbers aren't as good as the FT-710, but it was far easier to use in the 10m contest. Note: It is my "reference radio" but it is not a perfect radio. No radio is perfect and Icom has some engineering issues that likely will never be fixed be it a 7300, 7610, 9700 or 705. For years my "reference radio" was a pure analog IC-781. It couldn't compete with features of today's products in general, but it didn't have digital anomalies we put up with today. One ham friend in Germany said in an email, "Will today's software controlled radios ever be finished". That is an interesting question.

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Rev 1b