

Received an interesting letter from Bill, K2SIL/1. His comments follow word for word:

"The dedicated CW man values highly the audio cue which tells him the beat note whenever he transmits (it also serves as a "sidetone"); at a minimum, he must be able to generate the beat by the "spot" function. The RIT circuits which switch the VFO frequency do not satisfy this fundamental requirement.

After 5 years of ownership, I am still distressed by the inability to monitor myself with the CX7. Early on I devised a switching circuit modification which turned on the spot mixer during transmit (in CW), but it failed because the necessary input signals were not all present. There's a good reason for this -- if unnecessary oscillators were not shut off in transmit, the CX7 would output many spurious signals, due to poor isolation. This probably can't be overcome short of a complete repackaging job.

Lacking the audio cue, I'd like to have a visual display of the transmit and receive frequencies. Here again, the CX7 has problems. In CW, although the single display switches between receive and transmit VFO's, the keying rate makes the transmit display unreadable, particularly with the low sample rate of the newer counter board designs. If you're using A/TO, the transmit display is wrong anyway; in fact, both are wrong unless you calibrate whenever you change the bandswitch. Furthermore, extra mental arithmetic is required for those of us who have installed HFO crystals to eliminate knob-spinning to reach 1.8 and 3.5 Mhz.

I've experimented with the old Heath digital display, the SB650, which they don't make anymore. Turns out that this unit will display the CX7 frequency very nicely, by counting up the HFO frequency and then counting down the 31 Mhz and BFO signals .. I.F. shift does not affect the display, but transmit offset does!

The total frequency is displayed, so no mental arithmetic is needed. The count gates are generated by an internal clock; no recalibration is required when bandswitching.

There are problems, though. One is coupling enough signal out of the CX7 to drive the SB650. Also, the SB650 won't count fast enough to generate a display on 15 or 10 meters. Finally, the display still goes ape when the CX7 is keyed (because the 31 Mhz signal shifts). This can be solved fairly easily by adding a few gates to the SB650 to inhibit transfer into the latches if the CX7 changes state; the display then acts as a memory during transmit (or receive) mode. Two SB650's then give simultaneous displays of receive and transmit frequencies. (Note, however, that the transmit display won't change even if the TX VFO is moved, until the CX7 goes to the TRANSMIT mode; a more general latch gate logic would enable the counter whenever all the necessary oscillators are running, as in SPOT)

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I've found that it's difficult to adapt to using a display physically removed from the CX7. Anyone who wants to tackle compressing the SB650 approach into space available within the CX7 would have my enthusiastic support."

Bill also has two questions .. can anyone help in these areas?..

1. My CX7 transmits two signals in A/TO. The "spurious" signal evidently results from VFO A mixing with stray signal from the "normal" 34.2 Mhz source. Cure?
2. On FD we found the CX7 transmitter emits broadband noise; e.g., CX7 on 10-meters (straight into tribander) wiped out 15 and 20-meters. Fixes?

Many thanks to Bill for the above thoughts .. ed.

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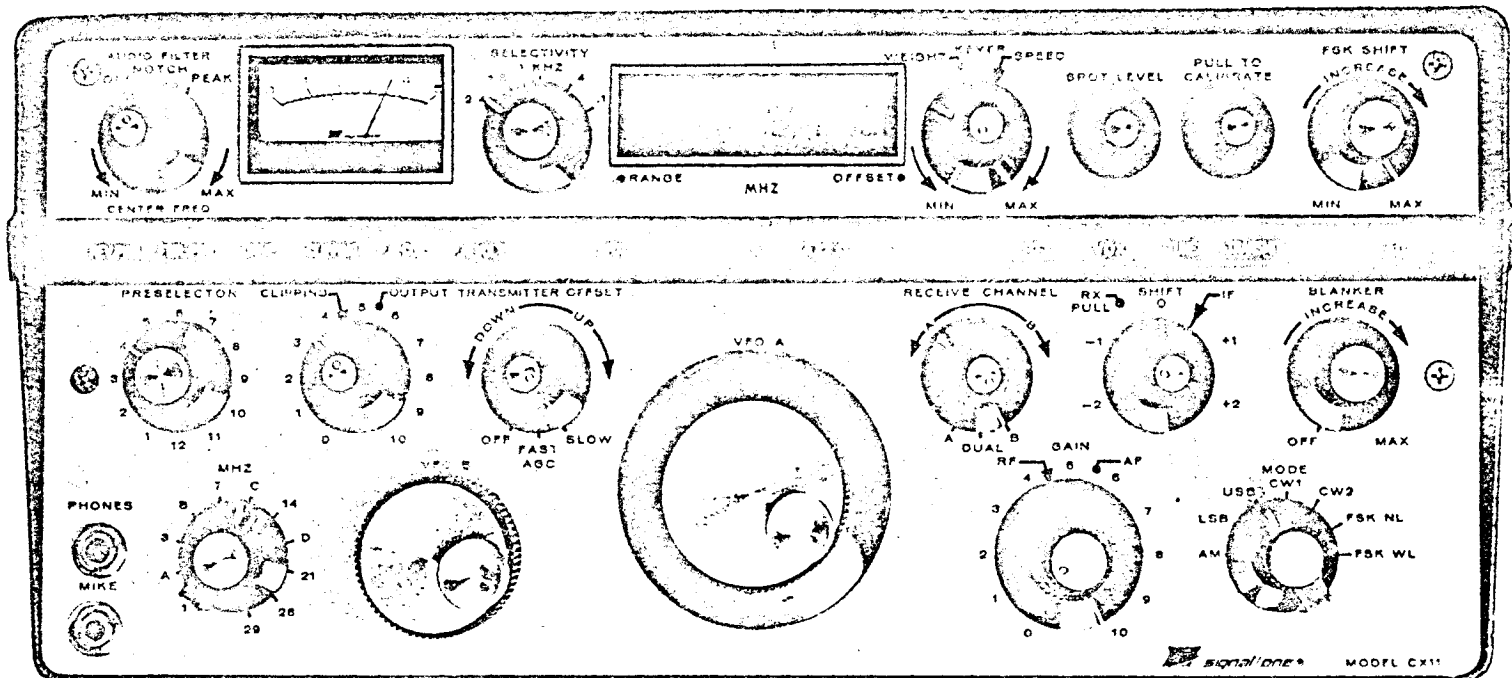
Woody, W8QCK, reports on a problem of intermittent loss of bias on the 8072 which results in very high screen and plate current. The problem was cured by replacing Q5 on the driver board. (This is the kind of failure that makes it a good idea to use a screen fuse for the 8072 as suggested in S/1 NEWS .. ed). Woody also suggested the use of a switch to turn off the 8072 filaments. This is safer for long unattended periods with the rig on and saves wear and tear on the 8072 when only switching the rig on to listen.

Has anyone made any front end modifications (such as replacing Q1 or Q2 with a different unit) to increase sensitivity?

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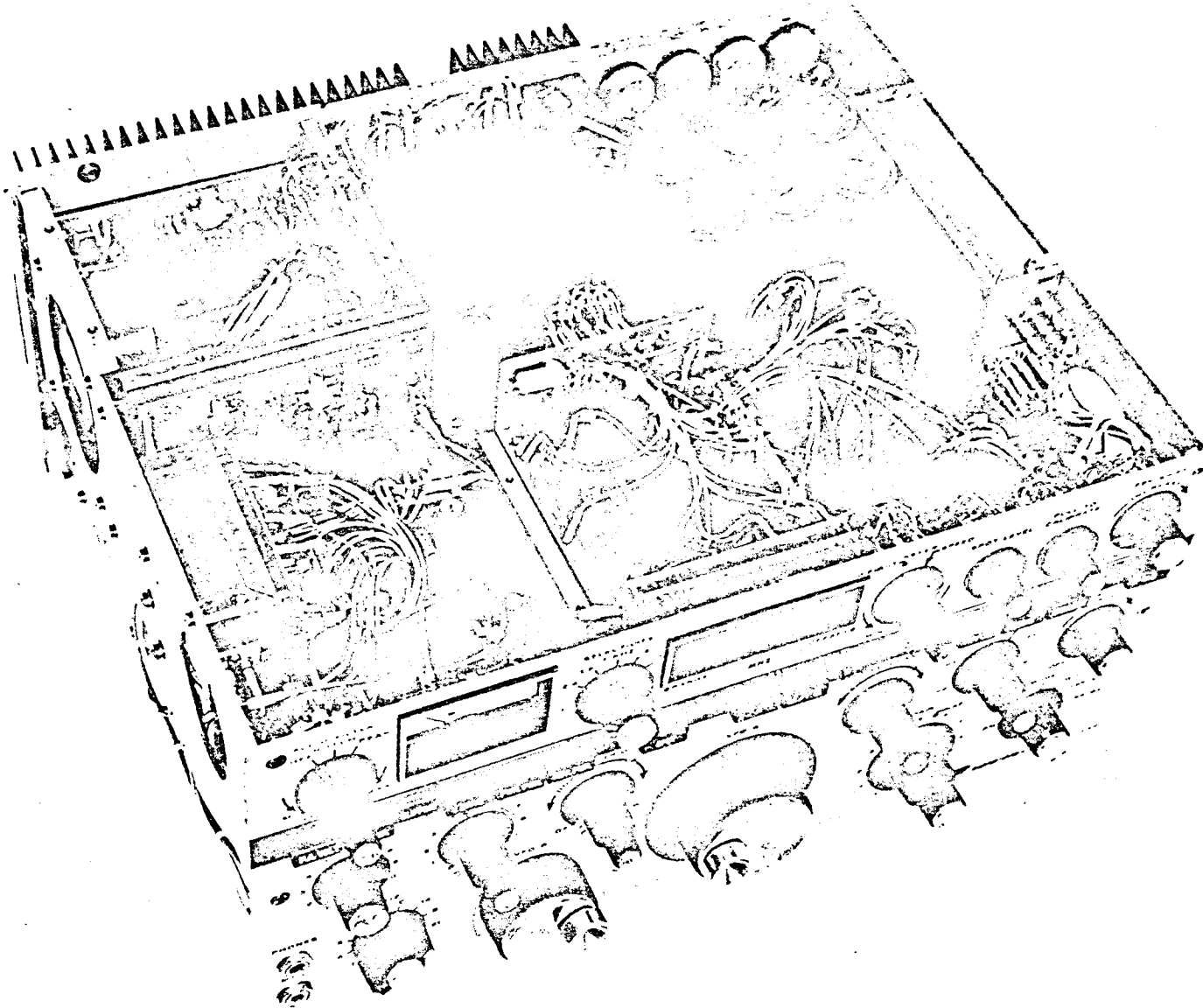
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