

## SSB-01 TRANSCEIVER PERFORMANCE

### **SENSITIVITY:**

I have been recommending people use antenna noise gain for years as a way to answer their questions about sensitivity. A noise gain of 6 to 8 dB is certainly adequate to take one's concerns of needing a more sensitive radio out of the equation.

One is hard pressed to find a radio since the 75A-4 that doesn't have adequate sensitivity (and I am including the 75A-4 as actually having a lower noise floor than needed).

What good is a -138 dBm noise floor (500 Hz BW) on any band 20 meters and below?

### **DYNAMIC RANGE (DR3):**

We have become obsessed with wanting 100 dB dynamic range (DR3) radios in addition to noise floors of approaching -140 dBm. I can be blamed for part of that by focusing on close-in DR3 that is needed for CW contesting / DX pile-ups.

When all we had were up-conversion radios with DR3s around 70 dB, one really had to optimize a radio's gain by keeping the preamp OFF and the attenuator ON, particularly on the lower bands.

Now, except for the FT-2000 disaster with its low 60s DR3, there are lots of radios to choose from that have 85 dB or better DR3 performance.

### **THE BIG PICTURE:**

With 10 or more radios with 85 to 105 dB DR3s at 2 kHz, it is time to look at the big picture:

- Clean receive audio,
- clean transmitter IMD,
- a good AGC that doesn't go nuts over an impulse click, tick or pop,
- a reliable radio that doesn't beak all the time,
- an ALC that doesn't overshoot and fault your linear amplifier, or even worse blow your amp.
- And when service is needed, good and reasonably fast factory service.
- How about long term support of radios out of production, such as on-going firmware updates and parts availability. (Unfortunately there is only so much an

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OEM can do about supplying out-of-production chips, PA transistors, LCD screens, etc.)

### **At the end of the day, do you enjoy using your radio on the air ?**

I hate to tell you how many radios I have had the good fortune to borrow and use on the air in contests that I really would not want to have to use on a daily basis. I sold one very expensive radio that just wasn't a good fit for me. I took the money and put up two more towers and Yagi antennas.

Hopefully when you turn off your rig after a contest, a DX contact or just a rag chew, you feel that "that was fun". This is a hobby, and using your radio should be enjoyable.

**73, Rob, NC0B**

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