Why I like a K4 a little better than a K3 for CW contesting

~20 minutes of presentation
~20 minutes of Q&A

K3S Transceiver is no longer available.
Quick Elecraft History

Started as QRP portable rig specialist with the K1 in various band combinations from 2-4 bands with plug-in modules. Later followed by the KX2 and KX3.
K2 was their first all band SSB/CW rig. Late 90s?

- Through hole component kit. 60-90 hours of construction (I built TWO!)
- 80-10m, fixed crystal filters, optional SSB board
K3/K3S was their first 160-6m competition grade rig.

- 10 year firmware growth path. 2007 – 2017?
- Added upgraded SYNTH boards which improved close-in filtering greatly. Added “S” to the name (2014?)
- External P3 needed for PAN feature
- No longer produced.
K4 Next Generation 100% SDR

Announced 2019, Started shipping 2021 after COVID, California forest fires and global supply chain issues
We Elecraft Cool-Aide drinkers were ecstatic!
### K4 Added to Sherwood List 5/21

<table>
<thead>
<tr>
<th>Device Under Test</th>
<th>Noise (dBc/Hz at 1kHz)</th>
<th>AGC Offset (dB)</th>
<th>1kHz Spurious</th>
<th>Sensitivity (dBm)</th>
<th>LO Noise (dBc/Hz)</th>
<th>Spacing (kHz)</th>
<th>Filter Response</th>
<th>Dynamic Range</th>
<th>Dynamic Range Narrow Spaced (dB)</th>
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<tbody>
<tr>
<td>YAESU FT-8900D</td>
<td>-138 b</td>
<td>1.0</td>
<td>1kHz</td>
<td>0.40</td>
<td>0.23 b</td>
<td>130 kHz</td>
<td>110 kHz</td>
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<td>ELECRAT KX5</td>
<td>-135 b</td>
<td>0.4</td>
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<tr>
<td>ICOM IC-T851</td>
<td>-133 b</td>
<td>1.2</td>
<td>1kHz</td>
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<td>-131 b</td>
<td>0.3</td>
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Down to business
4 independent ways to connect to the K4
- IP (good for remote if you use a VPN)
- COM via DB9
- Two virtual COMs via USB

Built-in PAN
- Highly configurable
- External PAN via HDMI connection
- Touch screen VFO movements

Filters
- 50 Hz to 4500 Hz continuously variable or 3 presets
- No ringing!
- Steeper skirts coming in a couple of weeks (R29)
Excellent I/O connectivity
- Beverage antennas (one per RX)
- Audio CODEC or analog
- Outboard transverters
- Up to 4 transmit antenna connectors (assignable)
- Save rig settings per operator to thumb drive

Excellent RX audio (and TX audio for that matter)
- Clean sounding audio amp, no hiss
- Deep “full” sound even with 50Hz filter
- APF with 30 or 50 Hz (30 Hz rings currently)
- AFX gives spatial offset of signals

Functionality
- Keyboard and mouse plug into K4
- No external firmware update software needed
Functionality

- Internal DVK (partially implemented so far)
- "Remote-Rig" equivalent capabilities (about a year away when the K4/0 comes out)
- Superhet module “coming in 6 months” which makes it a K4HD
The “ONE BIG THING” list

- It just sounds quieter and signals pop out a little better.
- Full bodied sound like I remember from a Collins 75-A4
- Contest accuracy has gone up.
- Contest fatigue has gone down (Is that because of the new toy syndrome or better rig sound?)
- Weaker signals seem to make it through when I wouldn't expect them to.
Here are a couple of SO2R stereo samples. (Mind your volume controls!)

2-3 minutes each

K3 in 2020 NAQP
- My side tone was set very low for my Bose headset.
- Mini pileup hard to distinguish at times
- Guys are sending their calls twice because I'm not copying well even though band is pretty clear. (or I haven't learned all the Morse letters yet)

K4 in 2021 SSCW
- Signals seem to have more punch. Not as many repeats needed.
- Mini pileups easier to distinguish
- Even with nearby thumping CQ'ers, most calls came through well.
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The difference between the two recordings is subtle.
I tried to find reasonably equal samples even though different years.
The K4 VOX delay was probably too fast.
The K4 AGC settings could have been better.
The K3 sounded pretty good.
Why I'm sticking with the K4

- K4 CPU speed is ~2X and RAM ~8X Flex. Room for growth!
- Made in U.S.
- I lived through the K3's firmware evolution and have confidence the K4 will mature the same way.
- I really like the PAN and other bells/whistles along with the new tech.
- Remoting “should” be a dream when it is fully implemented.
- Can't wait to see if the “H” (heterodyne) module moves the K4 up Sherwood's list.
- All the rigs in Sherwood's Top 15 are REALLY good but none of them are going to make me a better contester but I keep hoping!
- I want to be K5GN when I grow up. ;-)

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Questions and Comments?