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Free Adventure With KX2/KX3 Purchase (Limited time offer)

"So, Wayne," we asked our CTO and co-founder, "since you're already taking our radios out hiking every weekend, could you take along some new customers, too?" We pointed out this would be especially useful for new hams.

"Sure," he said. "More the merrier!"

We weren't exactly shocked. Many of you know that Wayne (N6KR) is an avid hiker and pedestrian-mobile operator. He's also a principal designer of our KX2, KX3, and AX1 product lines. He has trouble not talking about them.

Here's the deal: When you purchase a new KX2 or KX3, let us know if you'd be interested in joining Wayne on one of his weekend outings. Adventure, camaraderie, operating tips — what's not to like? If you're interested, we'll send you a list of upcoming dates and see if one of them works for you.

NOTE: This offer is first-come, first-served, based on available dates and limited total attendance. You can be added to a waiting list on request, but we can't guarantee that additional slots will be made available.

Wayne -- maybe even Eric, if we can get him out of the office -- will take up to five new KX-line owners at a time on a

local 2 to 3 hour outing, where you'll get hands-on time with your radio (or one of ours). This will be an opportunity to ask questions and, if you're interested, go over features and settings that work best for field operation, and how to put up ultra-portable antennas. You might even learn a bit about our local flora and fauna. The Bay Area is rich in scenery, trails, and antenna trees.

The catch, of course, is that we can't cover your expenses for travel and accommodations ... you'll need to find your way to the San Francisco Bay Area. But if this "field trial" proves popular, perhaps we'll fly Wayne out to another part of the country for a weekend to expand his horizons. (Rocky Mountains? Appalachia? Key West?)

We're resisting calling this the "Buy one, get Wayne Free" program. But it's pretty close.

Email us at sales@elecraft.com if you're interested. Please place "KXLine Training" in the subject line.

-- Elecraft Sales Team

Feature Density of Portable Transceivers: K1 vs. KX2

By: Wayne, N6KR

A morning break in the rain today in the Bay Area allowed me to sneak out for some field operation with the KX2. While using every weapon in the KX2's arsenal, I thought about how to best convey just how feature-dense this radio is.

To appreciate it, you really need to hold the rig in your hand and try it out. Since that's not always an option for a potential user, the next best thing might be to create an engineering metric.

Granted, "features per cubic inch" (feature density) isn't exactly science, but it is useful for comparing portable transceivers, where both size and versatility really matter.

Here's one possible formula:

$$F_{in} = (\text{bands} + \text{modes} + \text{internal_options} + \text{other_significant_features}) / \text{in}^3$$

Fuzzy? Well...yeah. Nonetheless, here's what happens if we apply this to our legacy 4-band K1 transceiver and the KX2.

K1:

bands: 4 (owner's choice of HF bands)
modes: 1 (CW)
options: 3 (battery, ATU, noise blanker)
other: 3 (keyer, CW messages, variable-BW xtal filter)

$$F = (4 + 1 + 3 + 3) / 64 \text{ in}^3 = 0.17 \text{ features per cubic inch}$$

KX2:

bands: 9 (80, 60, 40, 30, 20, 17, 15, 12, 10 m)
modes: 5 (CW, SSB, AM, FM, DATA)
options: 5 (mic, battery, ATU, paddle, real-time clock, 100 W amp)
other: 36 (keyer, CW messages, int. mic, DVR, speech compression, VOX,
IF DSP (SDR), switchable preamp, switchable attenuator,
audio peaking filter (APF, for CW),
RTTY decode/encode, PSK31 decode/encode, CW/data auto-tune,
fully adjustable AGC slope/threshold/decay, RF gain & AF limiter,
dual watch, variable-passband filters, passband shift,
noise blanking, noise reduction, audio effects, RX/TX EQ,
dual VFOs, split, wide-range RIT/XIT, cross-mode (SSB/CW),
CW/data logging, 4 user-programmable functions, Amp-hour tracking,
scanning, freq. memories, direct frequency entry,
full remote control interface, freq. up/down buttons (on mic),
measurement of PWR/SWR/ALC/CMP/supply voltage/supply current,
adjustable carrier-operated relay)

$F = (9 + 5 + 5 + 36) / 26 = 2.1$ features per cubic inch

By this metric, the KX2 packs about 12 times as much "punch" as a K1 per unit volume. (As a principal designer of both radios, I have to admit this is a bit alarming. In 2001 we felt the K1 was pretty much state of the art for small CW rigs.)

Of course, holding the KX2 in your hand, then actually putting it on the air, provides a much more satisfying comparison.

Calculation of feature density of the KX3 is left as an exercise for the reader.

News & Updates

Elecraft Proudly Sponsors...

South Orkney 2020 VP8/VP8DXU

Feb. 20 - Mar 5, 2020

Elecraft is a proud sponsor of the **South Orkney 2020 VP8/VP8DXU**. The team will be operating seven K3S transceivers and KPA500 amplifiers.

2020 Trade Show Schedule

Below is a list of trade shows that we'll be attending in 2020. We'll let you know if we add any more shows to our list. If you're attending any of these events, come on by and say hello!

- February 7-9, Orlando Hamcation, Orlando, FL
- April 24-26, Int'l DX Conv, Visalia, CA
- May 15-17, Dayton Hamvention, Dayton, OH
- June 5-7 - SeaPac, Seaside, OR
- June 12-13 - Hamcom, Plano, TX
- June 26-28 - Ham Radio, Friedrichshaven, Germany
- Aug 22-23 - Huntsville Hamfest, Huntsville, AL
- September 11-13 - Northeast HamXposition@Boxboro, Boxborough, MA
- September 11-12 - W9DXCC, St. Charles, IL
- September 25-26 - W4DXCC, Pigeon Forge, TN
- October 16-18 - Pacificon, San Ramon, CA



K4 Update

High-Performance Direct Sampling SDR



A Comparison of the K4 and P3 Displays

by Wayne Burdick, N6KR
& Eric Swartz, WA6HHQ

The K4's LCD has nearly 3x the area of the K3s P3 panadapter, and has 5x as many pixels. The resolution (pixels per inch) is about 30% greater. It's faster as well as brighter -- the K4 screen was easily readable in diffuse daylight during Field Day, while some other rigs' displays were not.

The K4's panadapter area using the standard display format is 25% greater than the P3's. This doesn't include the per-VFO "mini-pan" displays that overlay the S-meters, when desired, for fine tuning of signals.

Thanks to the much larger LCD, variations on the panadapter could be created that are much larger than this, at the expense of some per-receiver icons and the S-meters. So far we haven't felt the need, partly because the K4 includes an HDMI output that can drive an external monitor of any required size. This external monitor can be configured to display just the panadapter, with independent settings from the panadapter on the LCD.

Beyond this the K4 display provides:

- dual-pan mode (separate panadapters for main/A and sub/B)
- single or dual text decode windows
- far more digital signal processing horsepower (in aggregate, roughly an order of magnitude greater than the K3S+P3)
- built-in display IQ data streaming for use with computer applications
- a configurable multi-band panadapter mode, allowing a quick check of activity on several of your favorite bands
- more flexibility in display functions and signal processing
- overlays for various functions (e.g.: help information on all controls, RX/TX graphic EQ, alphanumeric keyboard for message/macro/menu entry, etc.);
- code space for future expansion; examples might include high-performance data decoders, AZ/EL rotator control and display, custom station controls, image display, etc.

In short, the K4's display is much larger and more versatile, providing the kind of control visibility and convenience that's only possible by integrating the display into the transceiver itself.

Oh, and it's really fun to use :)

We are continuing to take deposits for the K4 - the first shipping group will be filled soon. At this time, we don't have final pricing for the K4 models. We are still gathering material prices from our suppliers; however, the full deposit for the K4 and the K4D will be close to the price of the radios.

GREAT PRODUCTS FROM OTHER MANUFACTURERS

PRE-WOUND TOROIDS FOR THE K2, K1 AND KX1

(Note: K1 and KX1 are discontinued products and are no longer available for purchase.)

For those of you who don't have the time to wind toroids and to strip and tin their leads, Mychael Morohovich - AA3WF, an independent contractor, is offering this service directly to Elecraft customers. His work has been evaluated by our support team



and found to be to Elecraft standards.

All toroids come wound, stripped, and tinned - completely ready to be dropped into your PCB.

It is not necessary to send Mychael your supplies (toroids and wire). The entirety of his cores and wire are purchased directly from or through Elecraft, or their approved suppliers. So please keep the toroids and wire supplied with your kit. They may come in handy on a future project. Also, if for any reason a toroid would need to be removed by you, it would probably have to be rewound unless the leads were kept uncharacteristically long.

Mychael accepts payment via PayPal and regular mail. For your convenience, we've added his order form to our website.

Toroid Guy [Order Form \(PDF Format\)](#)

You can also email Mychael at: toroidguy@earthlink.net

Check out our list of Great Products From Other Manufacturers [HERE](#).