The Eastern Iowa DXer

The Official Newsletter of the
Eastern Iowa DX Association

An affiliated club of the American Radio Relay League

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	Tom Vavra	WB8ZRL
	Nelson Moyer	KUØA

Packet Cluster **WB8ZRL**
147.51, 144.91, 223.40, CRNETROM

Repeater: **NØDX/R**
144.59 / 145.19 (tone 192.8)

July EIDXA Meeting

Friday, July 24 at Kirkwood Community College, Room 219C, beginning at 7:30 p.m.

President's Propagation, Pronouncements & Pontifications

- **Joe Hetrick KCØVKN**

Hope everyone is staying cool! Unfortunately I think the heat is yet to come. This past week has been a welcome break; it was 65F down in IC yesterday, I was wishing I had a jacket!

Projects around the VKN QTH have been nil, but, some winds took down my 2 wire antennas and spurred me into action in replacing some feedpoints for the 40M vertical I improved last year, but didn't finish as well as my inverted L (80M). Both feeds had been up for quite some time and were simple plastic pill-bottles. UV had rendered them pretty brittle and adding additional radials to either was quite a mess. I replaced them with some outdoor plastic housings and added a better radial attachment (I used terminations for AC power box grounds–they screwed right onto the feed posts perfectly and give me several screw terminals to attach radials with). As the summer has progressed I'm now dropping a few radials on each one after each mowing and should have a good field under both of them by the time fall arrives.

Hoping to swing WØDXCC this summer as I missed Dayton this year. There's an advert about it in this months newsletter, so have a look.

President's Propagation, Pronouncements & Pontifications

I promised a look at my CW keys this newsletter, but KUØA has done a nice write-up on his coincidental trip to Visalia and his K3. I'll have something for the fall installment!

Looking forward to seeing everyone at the meeting on the 24th. Program will be a video provided by WØWP. I believe we'll discuss the plans for the picnic, which Terry WØAWL has graciously offered to host again this year.

Dit Dit, Joe KCØVKN

Veep Ramblings

- **Tom Vinson NYØV**

Dayton 2009

This year's Dayton was still a hoot, as usual. The crowds may be down to 15k or so, but that just means that you can get into and out of the parking lots without any hassle and there's still lots o stuff to pick up. The DX forum is always one I try to get to on the Saturday sessions. This year my favorite was the student who was chosen to go on a DXpedition to VK9W. He just shared his experiences as a newbie and it was refreshing to hear his excitement articulated so well.

Field Day

You never know what will happen on any given contest or Field Day. This year we were surprised to see 20m stay open all night long and some good 6m openings around the country to late in the evening. We made some contacts on 15m but 10m was still pretty poor. We did have a GOTA station up this year at NØMA. Those new young hams made like 185 contacts that all benefited our score, as the GOTA station didn't count for an extra transmitter.

W0DXCC

If you are looking for some fun, try the WØDXCC in Rochester on July 18th. You can pre-register on-line for $25. The price goes up near the day of, so commit, sign up, and save some bucks. Brad has a list of all of the vendors who have committed to being there this year a bit further into the newsletter.

FR/G

It sounds like Glorioso is delayed once again due to travel arrangements. But, it does look like the end of August could be for real. They have added two more French operators and will be on 24/7. Now if we could just have a few sunspots please…?

See you in the pile ups!
Tom, NYØV

Impressions of Visalia: The 60th Annual International DX Convention

- **Nelson P. Moyer KUØA**

The 60th Annual International DX Convention cosponsored by the Northern California DX Association and the Southern California DX Association was held April 17-19, 2009 in Visalia, the usual venue. I happened to be visiting my grandkids in San Diego, so I drove up for the weekend to scratch one more item off of my bucket list. Visalia is in the San Joaquin Valley between Fresno and Bakersfield, about 300 miles North of San Diego.

The convention is held in the Visalia Holiday Inn, located West of town near the airport, just off of Highway 99. The Holiday Inn was booked with a waiting list by the time I decided to attend, so I stayed in the Visalia La Quinta located two miles East of the Holiday Inn. I'm sure it was a much quieter place to sleep, given the fact that the Holiday Inn was booked solid with lots of room sharing.

Visalia is known for the number and quality of raffle prizes, and this year the prizes totaled about $35,000 worth of merchandise. The top prizes included an IC-7700 and an FT-2000 to give you an idea of the kinds of stuff being given away. Each registrant got two raffle tickets, with another special drawing for early pre-registration. Additional raffle tickets were available for purchase at $1.00 each. No, I didn't win anything. I heard that some of the W6s purchased up to 80 raffle tickets each, so the odds weren't in your favor unless you joined the frenzy or were exceedingly lucky.

Program highlights were the contest Academy Friday afternoon, Topband dinner (of Contest dinner if you preferred) on Friday night, the banquet Saturday night, and several of the programs on Saturday that I'll talk about below. There was a full day of spouse tours on Saturday for those who brought the XYL.

Each registrant was given four drink tickets to use at the happy hour on Friday and Saturday evening, but that turned out to be not such a good deal because bottled beer, wine, and mixed drinks cost two tickets each. Bud Lite was available on tap for one ticket, but the glasses were small. The beer selection was extremely lame, featuring mostly domestic light beers. The funds to support the drink tickets came from magnanimous DX'ers who sponsored $5 drinks as part of their registration. I used my four tickets for two Jim Beams on the rocks, thanks to the generosity of some anonymous donor.

The exhibit hall was open Friday and Saturday with thirty exhibitors, including Icom, Yaesu, Alpha Radio Products, Array Solutions, Elecraft, Flex Radio, Force 12, Heil Sound, M2 Antennas, SteppIR, US Tower Corp. to name the larger ones. It was quite a kick to see the $12,000 rigs working side by side with the K3. I'll keep my K3.

The Topband dinner was held Friday night. It was a barbecue buffet that was well worth the price of admission. Glenn Johnson, WØGJ, gave a presentation on the K5D operation with some interesting contrast between DX'ing in Bemidji, MN and the Caribbean.

Impressions of Visalia

The Saturday speaker list read like a 'who's who' of DX. Because there were two concurrent sessions all day, you had to pick and choose which one to attend. I went to the New Product Showcase, but nothing earth-shattering was introduced. Next, Bob Heil and Chip Margelli gave a presentation and demonstration on the physiology of human hearing. Bob demonstrated how a mic element and equalizer could add 3 dB to your signal strength as a fraction of the cost of a new amplifier. The DX Forum was similar to those at Dayton, except many present was on the Honor Roll. Martti gave a presentation on the ARCLA project in Finland, and handed out calendars to advertise their efforts to bring young people into amateur radio. Next came a session on interfacing computers and radios, followed by a presentation on advanced receiver design by Elecraft. I passed on the Contest Forum (head to head with the DX Forum), the TO5DX DX'pedition, IOTA DX'peditions, and the TS7C DX'peditions, reasoning that the DX'pedition videos will probably be club programs at some time in the future.

The Saturday night banquet speaker was Vice Admiral, U.S. Navy (retired) John Scott Redd KØDQ. Admiral Redd served as Director of the NATIONAL Counter Terrorism Center after retiring from a Navy career that included commander of naval forces in the Middle East during both Gulf wars. He is a brilliant, though unassuming gentleman, and I had the privilege to talk to him in the hallway of the Holiday Inn Friday evening before the Topband dinner. He saw my nametag and struck up a conversation about what a W0 was doing at a W6 convention. It turns out he retired to the small Southwestern Iowa town he came from before leaving to travel the world. While he's outside the geographical radius for membership in EIDXA, I got the feeling he would like to affiliate with us, and maybe we should investigate an Honorary Membership for him. Besides being a CW DXer, he's an avid contester, and he set the single operator CW record while operating from Mexico many years ago.

The Sunday morning breakfast speaker was Bob Allphin, K4UEE, who gave an in depth presentation on K5D, and suggested that Navassa could happen within two years, though not necessarily by the same team that brought us Desecheo. The convention ended after Bob's talk.

Visalia is definitely a W6 gathering, with a sizable number of Arizona and Nevada W7s. Other call areas were represented in small numbers. The international attendance was down this year, as was attendance in general, undoubtedly influenced by the economy. As a solo zero-lander, I was able to meet quite a few people of like mind, and overall, I had a good time and enjoyed the experience. Because you get the same general buzz from W9, I doubt that I'd travel all the way from Iowa City to Visalia just to attend the convention. The W0 has a way to go before it rivals either the W9 or Visalia!

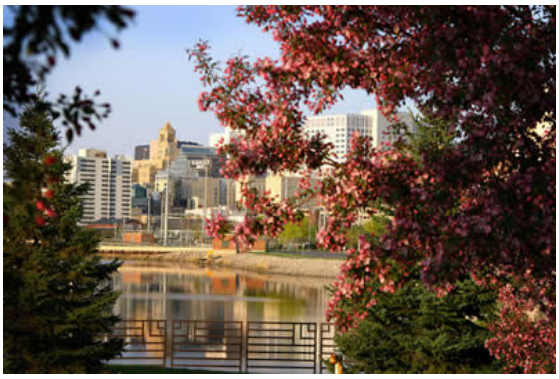
de KUØA

EIDXA Meeting: Friday, July 24, Kirkwood Community College, Room 219C, 7:30 p.m. See you there!

WØDXCC – July 18, 2009, Rochester, Minnesota

- Lots of Gear to See
- DX Banquet 6 p.m. – Order your banquet tickets now!

Submitted by Scott KØMD – This year's WØDXCC will be an EXTRAVAGANZA for hams wanting to touch and test the latest HF rigs. Yaesu, Icom, Force 12 and Alpha Radio products will have big display areas at our meeting. Icom is shipping in an 800 pound pallet with a 7800, 7700, 7600, 7200, 7000 and perhaps a PW-1. Yaesu is shipping the FT DX 9000, FT 2000, and FT 950. We may also see an Alpha 9500. Force 12 is bringing several antennas.



The WØDXCC banquet will feature Ralph Fedor KØIR and Glenn Johnson WØGJ as keynote speakers. John Devoldere ON4UN and Ward Straw NØAX will also attend.

The banquet caterer requires an advance number for order. If you are planning to attend the banquet, please buy your tickets before July 4th. The banquet ticket sales will close one week before the July 18th event and WØDXCC will have only **10** tickets for sale at the door. Log onto banquet ticket sales:

https://services.rochestercvb.org/iebms/reg/reg_p1_form.aspx?oc=20&ct=INTERNET&eventid=6269

For those of you planning on buying your *admission* tickets on the day of the event, please make checks payable to "**RARC.**" Checks for *raffle* tickets must be made payable to "**NCDXF**." Credit cards will also be accepted.

At the door ticket sales from 7:30 to 8:30 a.m. and the program will begin at 8:30 a.m. sharp. Advanced purchase is strongly recommended.

For complete details on WØDXCC, a map to the event center, and an up-to-date program visit the web site **www.w0dxcc.com**.

EIDXA Members Offer DXCC Card Checking

DXCC card checking is available from the following EIDXA members:

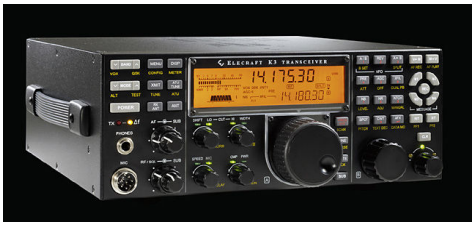
• ARRL Midwest Division Vice Director, and EIDXA member, Cliff Ahrens KØCA attends EIDXA meetings as his schedule permits. You may also send your cards to him by surface mail. Contact Cliff at **cahrens@mywdo.com**.

• EIDXA member Tom Vavra WB8ZRL. Please note that Tom is unable to check cards from deleted entities or cards for 160 meters. Contact Tom at **wb8zrl@arrl.net**.

• EIDXA member Mike Nowack NA9Q. Mike attends EIDXA meetings as his schedule permits. Contact Mike at **na9q@arrl.net**.

The Elecraft K3 – Just Maybe the World's Best Radio

- **Nelson P. Moyer KUØA**



In the January EIDXA newsletter, Rick, NØYY, gave his impressions of the K3 after a 20 minute exposure to the user interface at the NØNI contest station. Rick liked the receiver, but he thought the nested menus were inconvenient to use and the radio was too small. Rick likes a radio with lots of bulk and plenty of knobs to twirl. Now, 20 minutes isn't nearly long enough to savor anything worthwhile, especially a K3, so this month I'm going to give you an in depth look at this ground-breaking radio.

This overview constitutes a description of the Elecraft K3 and my impressions after using the radio for approximately three months. It is not a 'technical' review, rather a story of some bumps in the road, a description of the hardware configuration I chose, an introduction to the user interface, and a summary of my operating experience.

My K3 was factory built and aligned, so it was 'plug and play' right out of the box. The power connection for the K3 is an Anderson PowerPole plug, and having never seen or used one, it took me a few minutes to figure out how to plug them together. They look like two female plugs, but they do indeed mate. I hooked up a 13.7 volt power supply, connected a ground wire, plugged in my paddle, connected the Ant 1 output to my dummy load, and I was ready to hit the power button. Upon applying power, I heard a loud pop and the radio went dead. After checking all the connections, I gingerly hit the power button again, and everything appeared to work normally, except I noticed that the green Shift LED on the front panel wasn't lit. I cycled power again, and it still didn't light. Not good! Given this inauspicious beginning, I decided to go though the Owner's Manual page by page and check out all features. The only other problem I identified was that the 500 Hz filter I ordered was either bad or not installed. As it turned out, the builder hadn't installed it due to a mix-up with the order.

Listening on the dummy load and without any antennas connected, I was surprised that the noise floor wasn't lower, given the glowing reviews. I thought that maybe the noise was from my switching power supply, so I connected the K3 to my Astron power supply and found no difference. I did a sweep across 20 meters looking for birdies, and I happened across an S1 birdie, so I decided to tune slowly across all of the amateur bands to see if I could find others. Much to my chagrin, I found an aviary lurking under the cover of this radio.

After checking out most of the features, I shipped the radio back to Aptos, CA for LED repair and installation of the missing 500 KHz filter. After a month, I inquired about the service status and was told that Wayne (Elecraft K3 designer and co-owner of the company) had taken my K3 home with him to compare birdies with his personal K3. Several days later, I got an email from Wayne that my radio was "as good as it gets", and that he would ship it back the next day. That was on a Friday, and the next Tuesday, UPS delivered my K3 for the second time.

Elecraft K3

I had not tried out the digital modes before sending the radio back to Aptos, so I set the radio up for AFSK RTTY and PSK31 and programmed some favorite frequencies into the main memories. All appeared well for a few days, then suddenly I had no sidetone and the radio stopped recognizing the 500 and 200 Hz filters in the main receiver. I called tech support and spent a couple of hours troubleshooting and eventually going through the parameter initialization process (resetting the processor to default values and reconfiguring). That process was made relatively painless by the K3 Software Utility, which allows you to save menu parameters to a file for later reloading. The K3 Utility is a free download from Elecraft, and it's also used to download firmware upgrades. After initializing the radio, all appeared to be back to normal. Software-defined radios are light years ahead of my FT-100, and I suspect that I'll be learning and perhaps re-initializing the processor again, as cockpit error has a tendency to disrupt synapses in the brains of this radio. The bad news is that software radios can loose their mind, but the good news is that a brain transplant is painless and easy. Technical support is legendary at Elecraft, and my experience supports all the nice things others have said. So far, this has been my last 'problem' with the radio.

Hardware Configuration Options

The K3 comes as a modular 'no solder' kit, or factory built. I chose factory built. I reasoned that I would prefer to have a factory aligned radio so that any problems that developed would clearly NOT be attributable to me. Based upon the shaky start I experienced, that was a prudent choice.

The optional sub-receiver is identical in design and therefore identical in performance to the main receiver. Well, almost. There are audible differences in my receivers, even when I use identical filter settings, gain, etc. As the saying goes, theory and practice should be identical, however in practice, they aren't. The availability of two first rate receivers was a prime motivator in the purchase of this radio.

The antenna tuner option comes with a second antenna input, so you can connect a second antenna to the K3 and select them from the front panel. I found the antenna tuner to be fast and accurate for matching loads presented by my 160 meter inverted-L, HF2V and TH-11. A front panel button allows the antenna tuner to be bypassed.

The transverter In/Out module includes inputs for a receiver only antenna (Ant In and Ant Out) that can be used with a receive antenna and/or external preamp, and there is an IF output for use with a panadapter or other accessory. The LP-PAN system reviewed in the February QST looks interesting, and I've put it on my wish list.

I didn't order the digital voice recorder (DVR) because I'm not a contester, and I don't call CQ on phone. The DVR can be used to record QSOs, but I had little interest in this function. Neither did I order the TCXO option, believing the frequency stability of the stock radio to be sufficient for my needs. I didn't get the general coverage receiver option or the AM or FM filters.

Elecraft K3

Both the main receiver and the sub-receiver come with the 2.7 MHz filter, but you and you can upgrade from 2.7 MHz five-pole to 2.8 MHz eight-pole filters for either or both receivers for around $100 each. I selected the stock five-pole 2.7 MHz filter, together with the 1.8 MHz, 500 Hz, and 200 Hz five-pole filters for my main receiver, and I selected the stock 2.7 MHz five-pole filter and the 500 Hz five-pole filter for the sub-receiver.

Inputs and Outputs

The front and rear panels are busy but not overly crowded, and everything is thoughtfully laid out. I didn't have any trouble connecting the peripherals and learning the controls. The manual is very well written for the most part, though some of the configuration menu descriptions are a bit terse, and the manual could use a good index. Because the manual is available as a PDF, it's easier to search the PDF than leaf through the manual to fine obscure information.

Front Panel

Phones (stereo): The front panel phone jack accepts a ¼ inch stereo plug. I use my Bose QuietComfort headphones on this jack, since it muffles the blower noise from my Alpha 78 and makes it easier to hear those weak 160 meter CW signals.

Mic (8 pin): The front panel mic jack conforms to Kenwood pin-outs, so compatible Kenwood mics are plug-and-play. I purchased a Heil Kenwood mic adapter for use with my HC-10, however, I don't really need it as long as I'm using the RigBlaster Plus PSK31 interface because the RigBlaster Plus has an eight pin mic connector and pin-outs can be set for whatever radio you're using with internal jumpers.

Rear Panel

12 VDC power plug: As stated earlier, the Anderson Power Pole connectors are used on the K3, though they are not particularly popular with hams. Secure mating is critical for reliable performance, as otherwise unexplained dropouts have been reported to occur when the connectors weren't firmly mated.

12 VDC 0.5 A Out (Switched): This output is available to power accessories like a third party panadapter, though I have not used it, since I have two other 12 VDC power strips.

Ground Lug: I attached a short length of ½ inch braid to the ground buss of my station. A good ground minimizes RF feedback and receiver birdies.

Paddle: I use a Bencher paddle, which connects to the K3 using a ¼ inch stereo plug. It doesn't matter whether the tip is wired positive or negative, because the dot/dash polarity is selectable in the configuration menu. This is especially handy if you change hands, change radios, or have a left handed guest operator.

Key: A hand key can be connected using a ¼ inch mono plug. While few CW ops still use a hand key except on Straight Key Night, they are handy for test transmissions.

Elecraft K3

PTT In: The PTT input is connected to my DXP38 Digital Decoder's PPT output. This input can be used to key the K3 from other external sources, including a foot switch. In fact, I added an RCA Y-connector to permit me to key the radio with either the DXP38 or my foot switch.

Key Out: The Key Out jack is connected to the relay of my Alpha 78 to key the amplifier through a preamp protection circuit so I don't destroy my preamp transistors by inadvertently transmitting into my receive antennas.

REF In: This input provides a connection for an external frequency reference standard such as the KREF3-EXT option.

SPKRS (stereo): While the internal speaker is perfectly satisfactory for casual monitoring, connecting a pair of stereo speakers greatly enhances the audio quality of the K3. I use a pair of self-powered computer speakers, and I've noticed I can copy CW on 160 that I can't hear on my ProSet headphones. Listening to the speakers is also less fatiguing to the ears than headphones. Listening to a pileup on one receiver and the DX on the other receiver makes it easy to spot the open frequencies for calling the DX, and this capability will come in handy during the KP5 operation.

Phones (stereo): The rear phone jack accepts a 3.5 mm mini-stereo plug, and I use this jack to plug in my ProSet headphones.

Mic (mono): The mono mic jack accepts the mic output from my ProSet. Both high and low level mic ranges are provided in the main menu, and the mic gain and compression levels are adjustable from front panel controls. I like the ability to have both my boom mic and my desk mic plugged in at the same time and menu selectable, since the desk mic has both the HC-4 and HC-5 elements and I can select whichever I want according to my operational preference.

Line In (mono): Line in can be used with sound card digital modes or external digital decoders like the Hal DXP38. I use mine with the DXP38 for RTTY.

Line Out (stereo): Line out provides audio frequency modulation for the DXP38 on RTTY, but it can also be connected to your computer sound card Line In for digital modes.

Antenna 1 and 2: Either antenna is selectable from the front panel, and both receivers can be configured to share the selected antenna input. The K3 provides several options for allocating and sharing receive and transmit antennas between receivers.

Aux RF: Aux RF is really just another antenna port. The sub-receiver can be configured to receive from this antenna input, while the main receiver can be configured to receiver from antenna 1 or antenna 2 inputs. The flexibility of having three transmit antenna ports and being able to assign them to either or both receivers is one of the major advantages of the K3.

Elecraft K3

Receive Ant In/Out: The receive antenna input/outputs support a low noise receive antenna or an external preamp, which in turn supports a low noise receive antenna. These are BCN connectors, so I had to make up RCA to BCN cables to attach my external preamp.

Transverter In/Out: Elecraft sells transverters for VHF bands, however I chose not to purchase one, since I rarely use 2 meter SSB or CW.

IF Out: The IF output supports a third party panadapter, and addition of a panadapter brings the K3 into the same company with the $12,000 top of the line contenders at a fraction of the cost and with better receivers.

RS232: The K3 is set up for computer control, and the RS232 port is also used to save settings and upload firmware updates. I have changed the firmware yet, believing that a stable system is preferable to experimenting with the latest beta firmware version. I'll upgrade when a feature I need is fully implemented, such as cross band receive.

ACC: The ACC input/output can be used for FSK RTTY, transverter control, and computer rig control. That's down the road for me.

LEDs

The K3 has thirteen LED indicating its operating status, and these LEDs are described below.

TX-Split indicators: These two LEDs are very convenient indicators of rig status, since one lights red during transmit and the other lights amber when split is selected. You have two constant visual reminder then your operating split, the amber LED, and the word SPLIT on the LCD screen. There's no excuse for not knowing what you're doing in a pileup.

RIT/XIT indicators: These three LEDs provide a visual indication of your RIT and XIT selection, with a green center LED lit when either is selected and amber LEDs on either side to indicate plus or minus offset.

DSP Filter indicators: A set of four green LEDs indicate Shift, Width, and LO/HI Cut filter skirt adjustments, plus there is a visual graphic on the LCD display showing the relative filter width, cut, and offset. These indicators are very informative at a glance.

Speed/Mic indicators: The speed and mic LEDs are selected with a push-button knob, and the CW speed or mic gain is adjusted by turning the knob. It's extremely easy to change CW speed or mic gain during a QSO.

CMP/PWR indicators: The speech compression and Power LEDs are selected by another push-button knob. Compression level or output power are easily adjustable by turning the knob after making the appropriate push-button selection.

Elecraft K3

Knobs

The K3 'only' has nine knobs, yet they control many more functions by turning, momentary pressing, or press and hold actions. While these functions are not intuitive at first glance, they are extremely easy to use once the system is understood. Panel labels give functional clues for the properly initiated operator.

VFO Controls

Main Receiver Tuning: the main tuning knob has a rubber skirt, tuning dimple, and a very smooth feel. Knob tension is adjusted by loosening a hex screw and sliding the knob in or out on the shaft until the tension against felt washers is to your liking, then tightening the hex screw.

Sub-receiver Tuning: The sub-receiver knob is smaller than the main receiver knob, and it has no rubber skirt. It is as smooth as the main receiver knob, but has a 'plastic' feel. A rubber skirt would be a nice addition.

RIT/XIT offset: A single knob control plus or minus offset for RIT and XIT according to which buttons are pushed.

Gain Controls

AF Main (Sub): The audio frequency gain controls are gang knobs with the sub-receiver on the outer ring and the main receiver on the inner knob. There is no means of linking them for simultaneous adjustment.

RF/SqL Main (Sub): The RF gain controls are also gang knobs with the sub-receiver on the ring and the main receiver on the knob. These controls function as squelch controls in FM mode.

Speed/Mic (Delay): The keyer speed and mic gain knobs are described together with the relevant LEDs above. This knob has another function when pressed and held, it becomes the VOX delay control.

CMP/PWR (Mon): This knob is described above under the relevant LEDs. The knob has a press and hold function which enables Monitor, allowing an operator to hear transmissions in the internal speaker or headphones, according to the menu selection. This feature is helpful during adjustment of speech compression and during adjustment of the audio equalizer while setting the desired voice characteristics.

DSP Filter Controls

Shift-Lo Cut (Norm): This knob adjusts the filter shift or low skirt cut, according to the push-button setting. A secondary press and hold setting selects returns the filter settings to normal defaults.

Elecraft K3

Width-Hi Cut (I/II): This knob adjusts the filter width or high skirt cut, according to the push-button setting. A secondary press and hold setting selects filter presets I or II.

Buttons

The K3 has 35 buttons, and it is indeed a 'push-button' radio. Button function for momentary press is printed in white on the button, and button function for press and hold is printed in yellow below the button. For the Band and Mode buttons, pressing the left side of the button toggles down and pressing the right side of the button toggles up. Press and hold on either end enables the function printed in yellow below the button. Simple and elegant.

VFO Controls

A/B (BSET): This button is pressed momentarily to exchange VFO A and VFO B, and it is pushed and held to select the sub-receiver mode for setting sub-receiver menu function and controls separately from menu functions and controls of the main receiver, When setting are complete, an quick push returns the radio back to normal operating mode.

Rev: Reverse exchanges VFO A and VFO B while the button is held.

A>B (Split): This button copies the information in VFO A to VFO B when pressed momentarily, and enables split frequency operation when pressed and held. Pressing and holding again returns the VFOs to simplex operation.

V>M (AF REC): This button copies VFO information to memory, or when pressed and held, enables the audio frequency recorder.

M>V (AF Play): This button transfers the selected memory to the VFO when pressed momentarily and plays recorded audio when pressed and held.

Other Controls

Power: The power button is a simple press on, press off function.

Band Up/Down (VOX/QSK): The band button has multiple functions. Pressing the left end cycles to the next lower band, while pressing the right end cycles to the next higher band. Repeated pressing cycles through the bands. Press and hold the left end of the button to turn on and off VOX, and press and hold the right end to turn on or off QSK.

Mode Up/Down (Alt/Test: The mode button is also multifunctional. Pressing the left end of the button cycles down to the next available mode, while pressing the right end cycles up to the next available mode. Press and hold the left end of the button enables alternate modes such as CW reverse, data reverse, and repeater split. Press and hold the right end places the K3 in test mode, during which the transmitter is disabled, but you can hear CW sidetone and voice modulation when talking into the microphone. This mode is great for adjusting

Elecraft K3

CW speed, weight, dot and dash characteristics, mic compression and voice equalization without transmitting.

Menu (Config): The menu button accesses 18 main menu settings and 86 configuration menu settings. Momentary press brings up the main menus, turning the sub-receiver knob selects the function and turning the main receiver knob selects the parameter. Press and hold does the same thing for the configuration menu. Fortunately, most of the menu settings are set and forget. About he only time I have to go into the menus is to change front or back mic selection and to turn on or off the external speaker.

XMIT (Tune): This button may be pushed to manually enter transmit mode, and pressing and holding the button enters tune mode with transmission of a carrier for power adjustments, amplifier tuning, etc.

RX ANT: The receive only antenna is selected using this button.

DISP (Meter): Pressing this button selects sub-receiver frequency or date/time and radio status (volts, amps, power amplifier temperature, etc.). These latter functions are selected by turning the sub-receiver knob, with the data displayed on the LCD screen. Holding this button selects the meter display, either S-meter, SWR meter, and RF output, or S-meter, Compression and ALC.

ATU Tune (ATU): The antenna tuner may be enabled or bypassed holding this button and the antenna tuner is activated by momentarily pressing the button.

ANT: RF output to antenna 1 or 2 is controlled with this button, and pressing it cycles between the two antennas.

By now you get the picture. There is a key pad for manual frequency entry, and these buttons all have three functions. There are buttons for enabling scanning, fine and course tuning, tuning rate, lock, attenuator, preamp, noise blanker (level adjustable), noise reduction system (level selectable), CW pitch, CW spot, ACG action, dual passband filter mode, notch (auto and adjustable), audio frequency enhancement (pseudo-stereo), CW tune, and digital text decode functions. The latter function is perhaps the most novel feature of the K3. Using this function, it is possible to decode CW, RTTY, or PSK with a text string running across the LCD display. It is also possible to operate digital modes using a paddle to input CW. This means that digital mode operation is possible on the K3 without using a computer or any other external interface.

Memories

The K3 has a variety of versatile memories, including ten quick memories, four programmable memories for voice or CW messages, two programmable function keys, and 100 standard memories.

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Menus

The K3 uses an extensive menu list to control operating functions. The menu button controls two menu groups, the 13 setting basic operations menu (press) and the 86 setting configuration menu (press and hold). In the configuration menu, 18 settings are for advanced features such as initial set-up and alignment (technical mode), leaving 68 settings for routine use. The VFO B knob is used to select the menu parameter, and the VFO A knob is used to alter the setting value. Some menus require taping a number keypad button to select between options within a menu setting. If you try to make an inappropriate setting, like changing the mic from front to rear panel while you're in CW mode, an error message gently reminds you that this change is "N/A in CW mode". If you try to access a function that is not supported by the current firmware, like dual band receive, you are reminded that this feature is "unavailable". Whether you're in the basic menu or the configuration menu, a menu button press returns the radio to normal operation. Default menu settings are listed in a table in the Owner's Manual, and you can always do a reset if you hopelessly confuse the radio.

I didn't have any trouble using the menus as long as I referred to the Owner's Manual while tweaking the radio. I suspect I'll eventually memorize the frequently used settings. If you're used to lots of knobs and buttons on the front panel, the menus may take some getting used to. Because I was using the FT-100 prior to the K3, I'm used to nested menus and button punching cycles, so adapting to the K3 was relatively easy.

Receive Audio Equalizer

The equalizer can be optimized over eight frequency ranges by plus or minus 16 dB in 1 dB increments for each range. The equalizer may be programmed for CW or phone settings, but not both, since settings are not saved by mode. CW optimal frequencies are 400 and 700 Hz. By boosting these frequencies and reducing the other frequencies, you can increase the S/N ratio to help dig out extremely weak signals. The same principle applies to phone, where you can optimize the equalizer settings to enhance the other operator's voice characteristics. This may be useful in for optimizing a DX station or contest station from a rare multiplier, but it probably doesn't have much practical value for rag-chewing.

Transmit Audio Equalizer

The audio equalizer functions like the receiver audio equalizer, except that it is used to optimize you voice to your mic. It can be used to emphasize voice frequencies for crisper calls when working contests or DX. Extended SSB is available when suitable filters are installed, and the transmit equalizer may be used to produce near studio quality audio.

VOX Gain/ Anti-VOX

These controls adjust the sensitivity of VOX and Anti-VOX according to your mic, voice characteristics, and background noise in the shack.

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Repeater Offset

This control allows you to set offset from 0-5000 kHz and store settings per-band and per-memory. Pressing the ALT button selects simplex or plus or minus offset.

Audio Effects

This feature separates a monaural signal to produce the impression of stereo. As you tune across the bands, stations become audible in one ear then travel across the inside of your head and out the other ear. I haven't found this feature to be particularly helpful for working DX, but it's an interesting effect for casual communication.

Alarm

A programmable alarm clock is available so you can alert yourself to a net time or schedule, a handy feature if you're multitasking and need a reminder of some pending event.

LCD Backlight and Brightness

The display panel settings allow you to set the brightness and contrast of the LCD panel for optimal viewing in daylight or darkness. The contrast adjustment also controls the width of the off-center viewing angle. I found that I could easily read the LDC screen up to 60 degrees off-center.

Mic Selection/Mic + Line

These functions permit selection of the rear or front panel mic inputs. Both inputs have high, low, or bias settings, so you can optimize the radio for whatever mic you are using. The Mic + Line function transmit audio is available at both the mic and line inputs. Mic gain is set with the mic gain knob, for each input individually.

Message Repeat

Programmable messages in M1-4 can be repeated at specified intervals from 0-255 seconds. Holding M1-4 repeats the message for the programmed interval.

Configuration Menu

The configuration menu has 86 functions, so I won't belabor you by going through all of them. You can download the manual and read them for yourself. Most functions have one time set and forget entries, usually the default setting, for optimal performance. However, some are used to optimize performance according to local preferences and conditions. These functions include AGC controls, CW paddle controls, and speaker/phone controls.

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Filters

Filtering is accomplished using DSP within the range of the roofing filter selected. Filter selection is automatic and continuous, using the XFIL button and the Width, Shift, Hi-Lo Cut knobs. The effects are instantly audible, so you control filter settings in real time while listening to the desired signal. These features offer exquisite control over the receiver for separating signal from noise on a crowded band, and for digging out those 160 meter DX signals just at or slightly below the noise.

Operating Impressions

The K3 is feature rich and offers knowledgeable operators incredible control of radio. The AGC alone has five separate menu programmable functions besides selecting Off, Slow, or Fast. I haven't even scratched the surface of programmable settings to customize this radio for my operating style. The defaults are wisely chosen, so I will continue to use most of then until I become more familiar with the radio.

Just about everything you need to access during the heat of battle is available using front panel controls, so you don't have to go into the menus to adjust critical operational parameters that you may want to adjust during a QSO or between exchanges.

With the audio enhancement feature enabled (pseudo-stereo), you can hear a signal come in from one side and go out the other as you tune across the band. You can set one receiver for each speaker, with wide filtering and low volume for listening to the pileup and narrow filtering and higher volume for listening to the DX (you don't want to miss your call when he comes back to you!).

Filter adjustments give you instant visual and aural feedback in real time, making it easy to recognize exactly what's happening and assist you to find the optimal settings and adjust on the fly as conditions change. Turning the filter width knob automatically engages the next higher or lower roofing filter width, and because filtering is through DSP, you can adjust the actual filter width seamlessly from 2.8 MHz to 5 Hz, though you won't hear much signal a the extreme low end of the bandpass.

Receiver sensitivity is the hallmark of the K3, and no receiver has surpassed it to date. Interestingly, the 20 KHz dynamic blocking range was better than the test instruments available at ARRL, and the 2 KHz figures were among the best ever measured. Operating primarily on 160 meters hasn't given me much of a chance to really appreciate the receiver because band noise has been the limiting factor for most of my operating so far.

Phone

I don't do much phone operation, but I found the monitor function very useful in adjusting the mic gain and compression level. CW operators are used to hearing their sidetone during transmissions, but it was quite another thing to hear what my voice sounded like while talking into the microphone. It was a bit disconcerting the first few times I keyed the mic during a QSO, however I quickly learned to set the monitor level low enough to monitor

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my transmission without being distracting. I use a Heil ProSet which includes a boom mic with the HC-5 element connected to the rear phone and mic inputs for most DX'ing. I use a Heil Mic with switchable HC-4 or HC-5 elements connected to the rear mic/phone inputs for other phone operation, especially when I'm monitoring using the external speakers. The menu allows selection of either the front or rear microphone, according to my operating preference.

The K3 equalizer offers the opportunity to customize audio, though I have not experimented with this feature enough to comment on their usefulness. The AFX function provides pseudo-stereo audio effects when using only the main receiver. When both receivers are selected, you have the main receiver audio in one ear and the sub-receiver audio in the other ear. This feature is helpful when chasing DX in split pile-ups, since you can use a narrow filter setting on the DX and a wide filter setting on the pile-up. Spotting the station being worked becomes child's play, compared to switching back and forth between VFO A and VFO B when you're limited to a single receiver.

CW

CW operation is a joy with the K3. The configuration menu allows you to reverse the tip and ring connections so you don't have to rewire your paddle if you switch from right to left hand. Speed and sidetone level and pitch are easily adjustable from the front panel, and the CW tuning indicator and spot feature are especially convenient, though I usually tune by ear. CW transmissions are totally devoid of the key clicks for which some recent Yaesu rigs are infamous.

The preamp is rated at approximately 10 dB gain, and I found it necessary to use either my external preamp with 17 dB gain, or both the internal and external preamps for extremely weak signals. The problem with using multiple preamps is that the second preamp amplifies the noise from the first preamp, thereby degrading the S/N ratio. The trick is to use just the right amount of preamplification to be able to copy the desired signal. Sometimes that's 10 dB, sometimes 17 dB, and occasionally 27 dB, but only on a very quiet band. Another trick I discovered was to use the attenuator to reduce band noise, thereby enabling me to hear weak DX. It may sound counterintuitive to attenuate a signal you're trying to hear, while using a preamplifier on the receive antenna at the same time, but it really helps kill the noise on 160 meters. I've just started to discover the capabilities of this radio for pulling out weak signal DX.

RTTY

Digital modes are very easy to set up, and several options are available with the K3. You can use AFSK by connecting an external decoder like the Hal DXP38 to the Line In, Line Out, and PTT ports, with the appropriate menu settings to enable these connections. At first, I had difficulty getting sufficient AF input from the DXP38 to drive the K3 to full output power, but after setting an internal jumper to increase the DXP38 output, I was able to drive the K3 to full output of 100 watts. FSK operation is possible using the K3's ACC port, however AFSK connections are easier to set up, and I chose that option.

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PSK31

For PSK31, I use the RigBlaster Plus as an interface so that I can connect the front panel mic jack to control Mic and PTT. This arrangement allows me to connect my Heil H-10 to the RigBlaster for use on phone.

Firmware Upgrades

Firmware updates are released at an alarming frequency (alarming for those of us who subscribe to the dictum that if it ain't broke, don't fix it!). I ordered the serial/USB cable to support firmware upgrades, but I've only used the cable to backup my K3 configuration parameters.

Elecraft has made some desirable improvements in the firmware since I got my radio, but I'm waiting until they stabilize before jumping on the bandwagon. Eventually, firmware will enable cross-band operation, and at that point, I'll upgrade.

Price

An entry level K3/100 is available as a kit for $1,849.95, but a fully configured K3 costs about $3,000 plus filters. You determine the entry level, and you can always upgrade your K3 at any time. Filters cost $100 for the five pole models and $126 for the 8 pole models. Both the main receiver and sub-receiver have five filter slots each, but you don't have to fill every slot. An entry level K3 is very reasonably priced, and a fully loaded K3 is still less than 40% of the cost of the top of the line rice boxes.

Service

I've had two episodes of customer support/service. Both were completely satisfactory. Elecraft really wants you to be happy with your K3.

Bottom Line

The K3 is a wonderfully complex and complete radio, and there is a learning curve to negotiate, especially if you want to use it to its full potential. Once mastered the radio is a joy to use. The controls are very easy to navigate, and the display is very informative and easy to read, even off axis. The menus provide an overwhelming number of user adjustable settings so you can customize your K3 to your heart's desire.

The K3 is light, weighing only 9.5 pounds with the sub-receiver installed. While the rear feet have rubber pads, the front bail feet are plastic, and this makes the radio slide around if you are heavy handed when pushing or pushing and holding the buttons. The radio is stable when the bail is down because there is a rubber ring around the bail. I got used to using a light touch on the buttons, so the light weight is not a problem for me.

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The radio does not have the 'look' or 'feel' of a top of the line rice box. After all, it's marketed primarily as a kit, but under the covers, it's every bit the equal or superior of the $12,000 radios at a fraction of the cost.

Elecraft has been diligent in making incremental improvements to the firmware, and the K3 just keeps getting better. Some features are not yet implemented, such as cross band transmit and receive; however these features are promised.

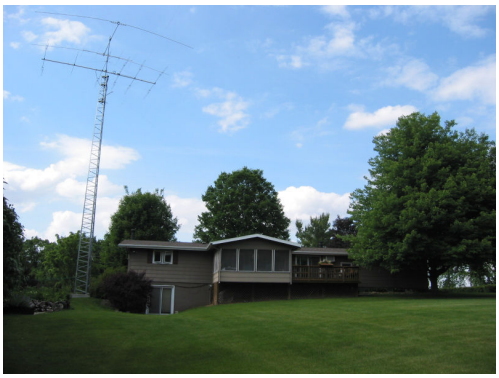
I have used my K3 almost exclusively on 80 and 160 meters, and it's gotten a workout as I've experimented to find the optimal settings hearing through the noise on those challenging bands. I convinced I've made a few QSOs on 160 meters that I couldn't have made using my FT-100. I'm really looking forward to the next sunspot cycle so I can try this radio out on 6 meters. If it's as good on the high bands as it is on the low bands, I've definitely got a keeper.

The K3 has the best receiver available at this time at a less than competitive price. The manuals are downloadable as PDF files from the Elecraft web site, so you can study the radio's specifications and features at your leisure. After reading the very complementary published reviews and studying the specifications, you can't help but want a K3 in your shack. If you're serious about low band DX'ing, it's the only radio to have.

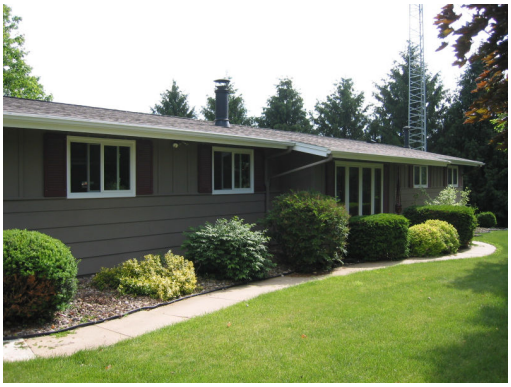
Hilltop Ham QTH Available June 2010

Submitted by Tom Vinson NYØV – In about a year from now my XYL, Karen, and I will be packing up and moving to SE Minnesota. (eh?) Sometime next winter/spring we will be placing our current home on the market IF that is I don't find a ham that wants a hill-top QTH ready to go with a 64' tower and antennas. It would be a shame to let the QTH go to a non-ham as these hilltop QTH's are few and far between in Linn County.

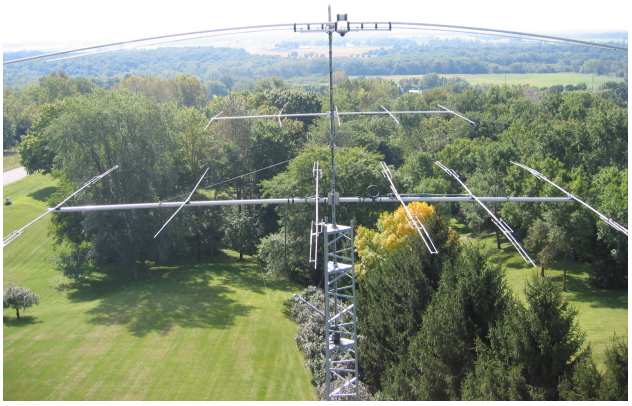
The house is a 3BR (nonconforming 4th in the finished basement), 2.5 bath, ranch style with walk-out basement, screened-in porch & deck, fireplace up, wood burning stove down, and an attached two stall garage. For the XYL it has a newer country kitchen with hardwood floors. It's on ~1.3 acres on top of a 110' hill with mature trees. For the OM it has a 64' freestanding Trylon tower, 6 el. KT34XA, 2 el. S402 40m beam & 5 el. 6m beam.



Back of home at NY0V, 10211 Hall Rd



Front of home



If you are ready for a move to a quiet (traffic *and* RF wise) country location (4mi NW of Peck's Nursery) around June 2010 and think this might be right for you, please contact me and we can work it out. Tnx, Tom/ NYØV

An "antenna's eye" view to the south horizon at 75'

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See you Friday July 24th at 7:30 p.m.
at Kirkwood Community College, Room 219C.
Pizza afterward!

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EIDXA 1975-2010 ▪ 35TH Anniversary

2009 EIDXA Meeting Schedule

Look for this information on the club web-page ***www.eidxa.org***. Meeting information on the web site is up to date to ensure everyone has timely access to the information between newsletters.

Next Meeting

Friday, July 24th at Kirkwood Community College, Room 219C, beginning at 7:30 p.m. The program will feature a video.

An EIDXA member has one of these hanging in his shack. Do you know who it is? Hint: He recently spent some time in the sunny Caribbean!