



PVRC Newsletter

May

Newsletter Editor: John K3TN jpescatore@aol.com

Website: <http://www.pvrc.org>

Meeting Info: <http://www.pvrc.org/chapters.htm>

Facebook: <https://www.facebook.com/groups/PotomacValleyRadioClub/>

President's Letter – Doug AA3S

The ARRL has added another unique option for charitable donations (by credit card) that is directly associated with Potomac Valley Radio Club. Some background:

You may remember that last year I posted to our Reflector and wrote in our Newsletter regarding the extraordinary benefits of the ARRL Teachers Institute program which uses ARRL instructors to teach wireless technology, hands-on techniques and Amateur Radio knowledge to everyday teachers who volunteer to attend the multi-day courses. There is a large potential 'force multiplier' effect of the teachers who complete the multi-day ARRL program and return to their everyday classrooms to influence many students throughout the teacher's career: **One ARRL-trained teacher may have 25 students each semester for 2 semesters each year for 20 years of the teacher's career = 1000 students influenced!**

Also, at my invitation, Steve Goodgame (*ARRL Education and Learning Manager*) spoke via Zoom to PVRC members at our Galactic Lunch event in February 2024 about the Teachers Institute programs and their impressive accomplishments.

Earlier this year I corresponded with Kevin Beal, ARRL Director of Development, asking if ARRL could put a new PVRC donation choice on their webpages similar to the existing choice to contribute to the PVRC Scholarship Fund. The online donation choice makes it very easy to donate *using a credit card*. Other donation methods have always existed and remain options now, including the highly advantageous Qualified Charitable Distribution made from a retirement account (if you qualify and donate by check) which can save the donor real money in avoided federal tax (see for example the IRS information [here](#) (*Note that **American Radio Relay League, Inc.** is an IRS-designated 501(c)(3) organization holding federal tax identification # 06-6000004. Contributions to ARRL funds are tax deductible to the extent allowed by law.* See also <https://www.arrl.org/donate-to-arrl>))

What Happened: In April, Kevin Beal, ARRL Director of Development, informed me that my requested choice for the Teachers Institute donation had been added to the ARRL website! There is no obligation on the part of PVRC to contribute anything to the Teachers Institute, but it is hoped that many members will see the benefits of doing so. See the link here

<https://home.arrl.org/action/Donate/Donate-Now/CashProductId/2030542406> Instructions for this credit card donation process (extremely simple) and the mail-a-check option are on our website here <https://new.pvrc.org/file/donations-explained/>

Here is a must-see interview of an enthusiastic teacher who went through the ARRL instruction and praises his learning experience and describes some results he has achieved with the kids that he has subsequently taught, including that **over the course of one year, one teacher (him) in the one school on Staten Island, has resulted in over 100 new licensed Amateur Radio operators.** if he can sustain that rate, he'll cause *2000 newly licensed hams* over a 20-year career. In the three years ending about October last year, there have been more than 170 teachers through the Teachers Institute training.

Scholarships and the Teachers Institute program have some similar goals and approach them in different ways; both have their place in a donor's 'tool kit'. I hope that you are able to and will support the ARRL Teachers Institute as a donation option for your hard earned money.

Also...the **Dayton Hamvention** is this month. Monitor our Reflector for PVRC members attending and look for the PVRC banner at the event. If you attend, take photos of people and things you see at the Hamvention and consider submitting them to your PVRC Newsletter for June (to John K3TN jpescatore@aol.com) along with a few words about what you liked most about the Hamvention and submit that to the PVRC Newsletter, too! I've put "my money where my mouth is" on this one!

Club Competition News **5M Contests**

Only one 5M contest in May: **CQ WPX CW**: begins 8pm Eastern Friday May 23, 2025, Ends: 2359 UTC Sunday. See <https://www.cgwpw.com/index.htm>
This CW event is combined with the SSB event that occurred in March to determine the overall winner. *PVRC won in 2023 for the first time in many years!* And we were #2 in the world! But in 2024 YCCC took back first place. We know first place is achievable, so plan now!

Follow our Reflector postings for any contest tips that may apply to this contest.
For our 2024 effort, **PVRC recently received the CQ World Wide WPX RTTY Contest plaque for U.S.A. Winner!** Several individual PVRC members were plaque winners as well: K3MM for Single Op All Band High Power U.S.A. winner
ND3D at K3AJ (WT3K, NW3L, K3WA, ND3D) Multi/Single High-Power U.S.A. winner
KA4RRU (KA4RRU, K3UI, W4GO, WC4J, KK4KM, KQ4GEX) for Low Power Multi (New U.S.A. Record!)

Also **contributing a huge number of points to our PVRC win was the team at WA3EKL** (K0OO, KB3VQC, KC3VBH, N3DPB, WA3EKL) and I presented the PVRC Club Plaque for this contest to Alan WA3EKL on behalf of his team and for display in his shack for all his team members to appreciate on the many occasions when his shack is used for contesting (see photo below).

Alan WA3EKL (right) receiving the Club Competition plaque for U.S.A. Winner in the 2024 **CQ World Wide WPX RTTY Contest** from PVRC President Doug AA3S (photo taken by Rob KB3PSD)



State QSO Parties with Club Competitions

Only one State QSO Party with a Club Competition in May that I know of: the New England QSO Party which includes SIX New England states in one contest to increase the participation and fun! First full weekend in May: May 3-4, 2025 in two sessions: 9 hours beginning Saturday, a break and then 11 hours on Sunday. This is a particularly fun state QSO party with all those states and counties at one time.

Contest Period: 2000Z Saturday until 0500Z Sunday (4pm EDT Saturday until 1am EDT Sunday) and 1300Z Sunday until 2400Z Sunday (9am EDT Sunday until 8pm EDT Sunday).

The Top Club (outside of New England) plaque is provided by the Florida Contest Group. PVRC won in 2022. In 2023 & 2024 PVRC was #2 even though we submitted more logs than the winning club which (which was also the plaque sponsor, the Florida Contest Group). *It's time to get the PVRC Posse out in full force again.*

Read all the rules (<https://neqp.org/rules/>), but here are some highlights:

Self-spotting is permitted in all categories.

Work New England stations once **per band/mode**.

Look for mobile stations that change counties, they are considered to be **new stations**, and can be worked for both multiplier and QSO Point credit.

QSO Points: Count one point per phone QSO, two points per CW/digital QSO.

Multiplier: Stations outside of New England use counties (click to see the list) as multipliers for a total of 68 (CT/9 MA/14 ME/16 NH/10 RI/5 VT/14. Note that CT switched from counties to Regional Councils of Government (2024).

Be sure to specify Potomac Valley Radio Club as your club in your log submission, the sponsor's log submission process may have a pull-down menu for that. See NEQP.org

Hear you in the contests! - 73, Doug Hart AA3S

Dayton/Xenia PVRC Photo Op – Rick N0YY

Going to Dayton? Join us for the PVRC Group Photo!

Friday, May 16 at Noon in the Grandstand

See old friends - Make new friends!

PVRCer Pix

From the Central VA chapter meeting 3/26:

L-R Bruce W6SFG, Don K6ZO preparing and handing out Malawi QSLs and John N3MN.

Dave N4DB has only a back of the head shot...

Via Mark. N2QT



From the Raleigh NC RARSfest:

Bill K3WA, Mike N4GU and Wayne KU4V manning the PVRC Radiosport Contesting booth

Station Building – Designed or a Work in Progress – Rick NØYY

I always read, with interest, the descriptions and thought processes of members of our community as they relocate to a new home or maybe just a new room. Some involve new towers and antennas, some not. Others are just refreshing their stations. Some act with urgency, some are more laid-back in their approach. Many reach out for suggestions from others who have just completed similar projects. I'm drawn into all of them.

Some background may help. My career spanned 41 years in communications engineering. In 1977 I designed antenna couplers for Rockwell Collins in Cedar Rapids. Those antenna couplers were part of a channelized product line that also included the KWM-380. I became part of the transition team from S-line to the KWM-380 production. My mentors were laser focused on "...what are you trying to accomplish" or "...what are the requirements" both working in concert to ensure the product met the desired goal.

I was focused on circuit design and learning the impact of things like "mean time between failure" or MTBF. A key part of that was always seeking minimum parts count designs because the more parts used, the greater the chance for something to fail. As part of that work, I was introduced to circuit modeling. No desktop tools back then - we punched cards to feed into the IBM 360 that ran SPICE to validate our designs.

I left Collins and went to Harris RF Communications in Rochester, NY for a few years. There I had a broader set of responsibilities. I was a design lead for a new computer-controlled radio, responsible for the hardware-based transmit path. I participated in peer reviews of other components of the "system". After the core design was done, the lead engineer took me aside and asked why I was so interested in the "system-of-systems approach, "...didn't I have enough to do in my own circuit design task?" My response was based on observations and the frustration of changing my design over and over after one of the peer reviews. I basically said that if all the boxes didn't work together how would we ever know if we met the overall requirements.

That got me a new job as an end-to-end system engineer. Interestingly the program was the US Air Force Pacer Bounce program - the program to replace the aging KWM-2 radios for field deployment by mobile command posts in Air Force deployments. There is a theme forming here...

For reference I was licensed in October 1967 and spent my first few months experimenting and learning new things. In the summer of 1968, I participated in Field Day and spent my time helping the 40M CW team. I had a blast. Then in November I was part of a three-operator team of novices that entered Sweepstakes that made a whopping 43 contacts. I was smitten by HF and the thrill of contesting. But it also set the stage for my career.

I spent a few years with Aeronautical Radio or ARINC in Annapolis being a communications systems engineer and then a program manager. Now I was working on digital communications and SATCOM – but the issues were the same. "How were the airlines going to use the equipment to their advantage? What were they trying to accomplish? Why? How could we extract requirements from observing their operations?" I spent time in their Emergency Operations Centers to learn how they dealt with operational issues. What I learned was that the "requirement" had nothing to do with radios but with finding a way to be more precise with their dispatch and arrival schedules. To be more focused, the key how to

save money when pilot pay transitioned from ground operations into flight operations! It was getting the information exchanged in the timeliest way possible.

But no single airline could enjoy the benefit of improved operational efficiency if the other airlines were not speaking the same language. So, while I was managing these communications programs, I was asked to start developing standards so that all airlines and airframe producers could participate in a globally harmonized system.

I returned to Rockwell Collins in 1994 to finish out my career. But my life would be guided by those standards development issues. What were the real requirements? What was being developed by the technical community and how could that help improve operations. How were proprietary solutions skewing an integrated system?

As part of the leadership team in Commercial Systems of Rockwell Collins I was given internal tasks as well. One of those tasks was to better understand the increasing amount of time off for fatigue and stress from repetitive tasks. This wound up being my exposure to ergonomics in the office and production environments. I worked with a team of physical therapists to find ways to better manage the stresses of the job.

One of the assignments was to visit several dispatch facilities for first responders and even back to the airlines! How were their workstations laid out? What was their seating and what was their work zone? How was it impacting their need to take breaks during the day?

So why am I giving you my life history? Well as my career “aged” I found that I was being given different opportunities. In 2005 I operated from PJ2T for the first time. It was a high-performance operation built on folding tables and 5 miles of RG-213 connecting the four stations. (Well, you could put a 5th station on the kitchen table...) I was asked to join the PJ2T organization in 2010 after a successful ARRL DX CW effort. In 2012 I became President of the Caribbean Contesting Consortium. For those seven years I worked very closely with Geoff, W0CG/PJ2DX and served as Contest Director for many of the major contests.



I did the same thing I had done my entire career. In 2014 we started a discussion of how to modernize the station. Folding tables were wobbly, antenna switching was manual and

required sequencing rotary switches to move antennas from position to position. I took on the tasks of looking at the operating positions and an upgrade to the antenna switching system. But no tree was harmed until we collected a full set of requirements, reviewed the goals of PJ2T, and put the project forward to the membership to have a peer review, of sorts, before work began.

But it was not just about desks and chairs, we spent a significant amount of time on the technical part of the job.

- Interstation interference
- Cable routing and isolation
- Common mode choke design
- Grounding/bonding
- Labeling requirements for the antenna switching
- Optimizing hot swap of failed equipment
- LED lighting of the operator positions
- Clutter management
- Operator shift change optimization

All of this considered that typically 25% - 50% of the operators for any particular contest were non-members and might likely be their first visit to PJ2T. It had to be easy, accessible, and clear to operate!

Everything was built in Iowa and shipped to Curacao. While wood was being cut, Geoff disassembled the existing station and put new tile flooring down as part of the property maintenance. The station had been designed to be modular to support shipping and it took two days to assemble. Once the furniture side was assembled, we installed the antenna switch panel. Then the hard part of cable routing with attention to physical separate between RF, control, networking, and power – a lesson learned from the incremental build that had survived for many years and contests! Pictures of the station transition and photos of the station in use with the new operating positions are on the PJ2T website.

All of this experience was valuable as I moved from Iowa to SW Virginia in late 2017 with the final move in date of May 2018. And hopefully by the time this appears in print, the antennas will be up and operational!

I've documented the work done in two presentations that are available on the new PVRC website under Reference tab and residing under Presentations. They are titled *Station Ergonomics – What? Why? How?* And *Principles of Station Design – The NØYY Experience*

They are meant to be informative and thought provoking – not a cookbook. And yes, some of my biases come through like, “Thou shalt not stack equipment” or “Hide everything you don't need to touch”.

I welcome comments, criticisms, and the ability to share the dialog.

Can PVRC Win 2025 DX Marathon Club Championship? – Frank W3LPL

74 PVRC members came together to submit the winning score in the 2024 CQ DX Marathon Medium Club category and the largest overall club score. PVRC members produced a score of 40,277 points to win the medium club category, edging out YB-land DXing Passion's 249 members who produced 39,173 points to win the large club (75 logs or more) category.



How did PVRC do that? We submitted nearly 40 entries in the DX Marathon Challenge Class, a category similar to the ARRL DXCC Challenge award except both entities and CQ zones count on each of eight bands (80 through 10 meters but not 60 meters). K3MM submitted 2000 points, the largest PVRC score, the largest U.S. score and the third largest worldwide score. Congratulations Ty for another big contribution to PVRC's success.

Club competition [rules](#) have changed for the ongoing 2025 DX Marathon. Challenge scores no longer count towards club scores; instead, PVRC members participating in the 2025 DX Marathon Challenge must also submit a score in the Unlimited Class only for the purpose of contributing to PVRC's club competition score.

How can PVRC win again in 2025? Very simple, we're now competing in the new North American large club category. If we simply submit 75 logs or more, we will win!

How do members contribute to PVRC's likely 2025 win? Members simply participate in contests as they always do during 2025. In December each participating member will also submit one or more of their logs to the DX Marathon Challenge. Each member can submit as many or as few contest logs as they wish,

How can you maximize your contribution to PVRC's 2025 DX Marathon score? It's simple. Between contests work DXpeditions and other stations in DXCC entities and CQ zones you have not yet worked in 2025 or are not likely to work. Each entity and zone counts only once, not once per band. A very good score for most PVRC members will be 200 points or more, a few members may achieve 300 points, but any score -- no matter how small -- will contribute significantly towards PVRC achieving our needed 75 or more log submissions.

More details on how to submit your logs will follow later this year. In the meantime, just participate in contests as you always do!

PVRC 2024 DX Marathon Scores

AA3S	173	KG4USN	648	NN4RB	227
AG3I	686	KK4ODQ	161	NR4M	686
EA5DFV	198	KM3V	1460	NW3L	167
K0GD	806	N1EK	1393	W2GG	255
K0ZR	208	N1RM	892	W3DF	255
K1BZ	262	N1WR	192	W3FOX	1552
K1HTV	1308	N2FT	125	W3ICM	1608
K2EJ	486	N2QT	302	W3KN	1025
K2GO	583	N2YO	967	W3LL	1121
K2YWE	908	N3AM	998	W3LPL	1839
K3AJ	239	N3MN	253	W3MR	33
K3MM	2000	N3RC	272	W3OU	55
K3RA	312	N3RTW	722	W3ZQI	957
K3STX	286	N4CF	156	W4JVN	247
K3SV	691	N4DB	228	W4NF	167
K3TN	1129	N4IW	174	W4RM	325
K3WA	252	N4OC	335	W4VIC	1062
K4FTO	157	N4QWF	236	W5MPB	143
K4SO	259	N4RA	158	WA3AER	193
K4XL	860	N4YDU	240	WC4J	175
K5EK	304	N5HC	63	WD4ETU	227
K6ND	305	N6DW	658	WK3A	725
KA4RRU	171	NA3M	1463	WT3K	755
KE4S	823	NC4S	348	WX3B	191
KG3V	379	NN3W	822		

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 Vice President: N0YY Rick Heinrich
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W3IKN, W4KFT, W4RQR, W4MKM, W4BFO, W4CC, W4IA

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EFHW Antenna: Limited but Effective for Contesting – Ed N1EK

Many of us have living situations where antennas must be limited, yet we want to effectively participate in contests. These situations include small lots, HOA visual restrictions, spousal aesthetics, limited resources, and personal ability limitations. The challenge is to have a simple antenna that can be put up for effective and enjoyable contesting.

At N1EK, a large number of limited antennas have been put up, tested, and taken down. The best performer here is the 130-foot wire fed at the end with coax via a 49:1 unun transformer raised as high off the ground as possible. Several PVRC members with whom I have discussed this antenna don't have personal experience with it, so this discussion is intended to share information, as is traditional among PVRC members.

This antenna type is typically called "EFHW", for end fed half wave, being one half wavelength long on 80 M and multiple halfwaves on 40, 20, 15 and 10m. The impedance at the end feed point is about 2450 ohms, hence the 49:1 unun transformer. Spoiler alert: it also works well on 30, 17, and 12 m.

This antenna meets the specifications:

- Strong performance on HF 80-10m bands from a single antenna
- Low SWR on all bands 80-10 M
- Minimum number of pieces
- Moderately easy to put up in a configuration that fits the space available
- Up to legal power level
- Minimal visual impact
- Years of reliable service
- Can show good performance to desired compass directions

This antenna has been used successfully for three years at N1EK. Here, the backyard conditions are two 60-foot tall oak trees that are about 70 feet apart and are aligned in the direction of 100 degrees. Despite having a multi-acre lot, I have the antenna limitations of: a) HOA and spousal visual acceptability, and b) the location of septic drain fields are in the optimum location for a tower. Over the years a number of antenna designs have been put up and tested in this environment compared to co-existing "control" antennas, including: 135 ft. doublet fed with ladder line and a 4:1 balun near the shack, dipoles fed with coax, vertical and horizontal loops fed with coax and balun or ladder line, 135 ft. OCF Carolina Windom with 22 ft. vertical radiator fed with coax, and a vertical 30 ft. fed with a remote tuner. Typically, the performance of all these antenna designs, in terms of signal strength, approaches roughly the same level, which I think of as a "single element antenna maximum", in these conditions.

At N1EK the EFHW antenna is fed by 30 ft. of RG-213 to a 49:1 unun transformer at 20 ft. above the ground, then the wire (Stealth 13: #13 with poly jacket) slopes up to about 50 feet height over about 50 feet and then snakes horizontally through the trees for about 80 feet. There is a "compensation coil" (six turns on a 1 ½" coil) about 6 feet from the unun, which lowers the SWR on the upper frequency bands. The wire is attached to Dacron rope (3/16") with wire ties every 2-3 feet to reduce strain on the wire and abrasion from tree limbs. The unun is not grounded directly, but the 30 foot coax

feedline is grounded at the ground level lightning arrestor before entering the shack. A feedline choke prior to the rig attenuates common mode noise.

Direct comparison of this antenna to other limited antennas has resulted in the following results according to the above specifications:

- Strong performance on 80-10 m HF bands: signal strength typically the same or better than other evaluated antennas
- Low SWR on all bands 80-10 m: 80m (1.0:1), 40m (1.0:1), 30m (1.9:1), 20m (1.7:1), 17m (1.7:1), 15m (1.1:1), 12m (1.1:1), 10m (1.5:1)
- Minimum pieces: one unun box and one wire
- Moderately easy to put up in a configuration that fits the space available: adaptable with two attachment points
- Up to full power: works full power when using a properly constructed unun transformer (as with any balun or unun)
- Minimal visual impact: only a single wire is visible to onlookers
- Years of reliable service: reproducible SWR regardless of the weather, good signal performance, physical reliability
- Can show good performance to desired compass directions: good signal strength to Europe (in the ENE direction)

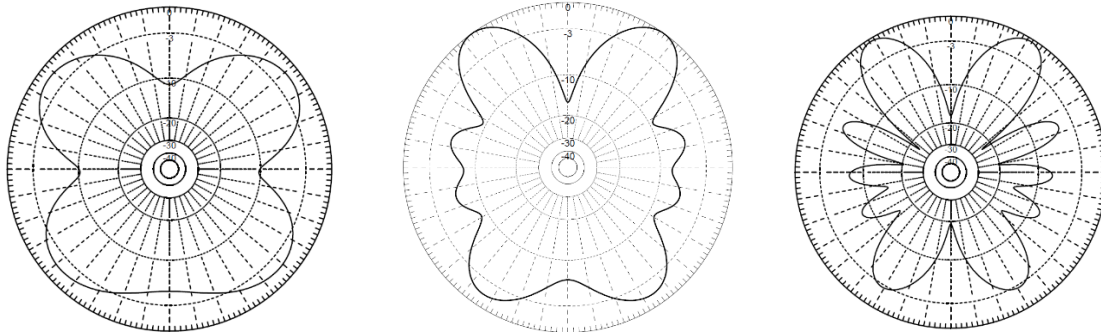
This antenna has one wire and two points of support at 50 ft. It performs better than any other wire or vertical antenna tried at N1EK. On 20-10 m it appears to have the best signal to Europe of the tested antennas. It is critical to use a high quality 49:1 unun transformer from a proven vendor. I use the MEF-330-2K-Plus unun transformer from MyAntennas.com. It is rated at full legal amateur power "ICAS" on SSB and CW and 500 watts "ICAS" on full duty cycle modes. I have not observed stress on the unun with prolonged high-power operation. MyAntennas also has a 49:1 unun product that is rated up to 3 KW (1 KW on FT8). Full duty cycle modes, such as FT8, are more stressful to baluns and ununs (and transmitter finals) than SSB and CW and should be reliably operated below ¼ to 1/3 of the maximum PEP rating of a unit.) For those who like to build their own, there are plans on the internet and videos on YouTube, especially by Steve Ellington, N4LQ, and a Facebook page led by N4LQ.

This antenna can be installed in various configurations with good results, which include: horizontal wire from an elevated feed to the end, inverted L with feed at ground level, inverted V with feed at ground or elevated, and Sloper from ground level feed to one high attachment point. (The height should be maximized, as much as practical.) The EFHW can be fed with a short run of coax near the house, for convenience, with the wire run outward for only a single wire visual impact. This approach is amenable to HOA-restricted installations. The transformer can be attached to the leg of a tower or supporting pole, at an elevated position, and the wire run outward.

I have used it in the inverted L configuration, fed at ground level with one rope supporting the L-bend point and one rope supporting the far end. There is minimal observed reduction of signal strength as an inverted L. One interesting aspect of this configuration is that the 130-foot inverted L wire can be easily detached at the transformer and quickly converted to a 160 m inverted L (with ground radials). I know hams that run EFHWs from the side of the house and through trees with only a single wire visually exposed in an HOA setting. There is no ladder line, coax, or balun dangling down from the antenna for visual impact. For a shorter wire run, a 49:1 transformer can

be used with a 65-foot wire on 40, 20, 15, and 10m with low SWR, where it is multiples of a half wavelength.

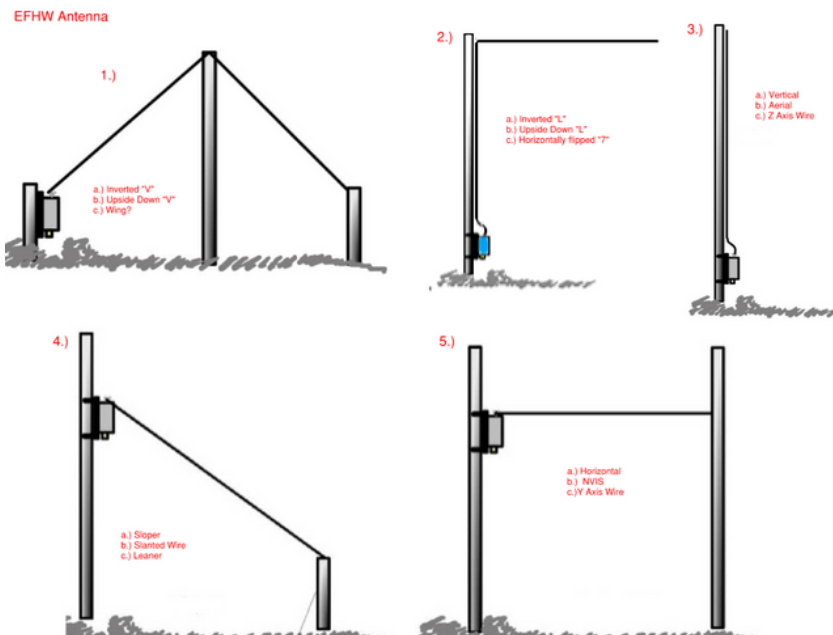
In general, the antenna pattern can be practically considered omnidirectional. On the upper bands there are lobes that are in the direction of about 30-35 degrees off the direction of the wire from feed to endpoint, which would give such an antenna pointing at 100 degrees some strength into Europe and Brazil, while being useful to North America and the Pacific from the backside.



Azimuthal patterns of the 130 ft. EFHW. Left: 40M at 20 degrees elevation angle. Middle: 20M at 15 degrees elevation angle. Right: 10 M at 8 degrees elevation angle.

The EFHW has proven to be a reliable performer for contesting (1200 Qs in ARRL DX SSB) and chasing DX (1400 in DX Marathon Challenge), especially when antenna options are limited.

If you have any questions, comments or experiences with this antenna, please contact me N1EK@ARRL.NET



Membership News – Bill K3WA

Chapter leaders please remember to complete the [Meeting Attendance Report](#).
Members can check and update their roster details via the [Roster Lookup](#).

Upcoming Contests – from [WA7BNM](#)

May 2025

+ 7th Call Area QSO Party	1300Z, May 3 to 0700Z, May 4
+ His Maj. King of Spain Contest, CW	1200Z, May 17 to 1200Z, May 18
+ CQ WW WPX Contest, CW	0000Z, May 24 to 2359Z, May 25
+ PVRC Reunion	2000Z-2300Z, May 30

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RED – scores count towards PVRC 5M Awards or Challenge Program

Editor's Last Word – John K3TN

Thanks to N0YY, N1EK and W3LPL for contributions to this issue of the PVRC newsletter.

This is the last newsletter before the Dayton (well, Xenia) Hamvention. Note Rick N0YY's reminder about the PVRC group photo **Friday, May 16 at Noon in the Grandstand**

This year I went to the Visalia DX conference, for the first time in over 30 years. It will be in Visalia again next year but may look to Northern CA for 2027 to try to grow back attendance. The contest forum (moderated by N6TV) sparked a lot of debate about real time contest scoring via the online contest scoreboards. There has been recent experimentation in adding real-time log cross-checking to those sites. To opt into the testing, in the N1MM Logger+ software, go to Config > Configure ports, modes... > Score Reporting and check the box next to "Include Real Time QSO Data for Real Time Scoring." This option is described in the N1MM help pages as "this will send QSO data to the real-time scoring website (experimental: performs log cross-checking in real time)."

The quality and usefulness of the PVRC newsletter depends on contributions from members. If you have photos from club meetings, screenshots of new contest software, or writeups on station improvements or contest war stories, send them in any format to jpescatore at aol dot com.

From the PVRC Treasurer – Ted WA3AER

PVRC has chosen not to implement an annual dues requirement. We depend on the generosity of all our club members to finance our annual budget. In addition, active PVRC members are expected to participate and submit logs for at least two PVRC Club Competition contests per year.

When contemplating your donation to PVRC, each member should consider the benefit you are receiving from PVRC and its many opportunities for your personal growth in our wonderful hobby, then donate accordingly.

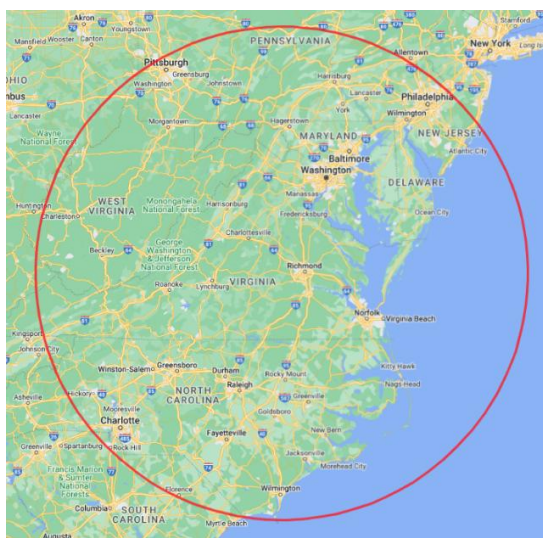
Direct donations to PVRC via Credit Card or PayPal may be made by clicking this "Donate" button and clicking the next Donate button that appears on your screen:



Donations to PVRC are not tax deductible

Eyeball QSO Directions

The latest info on local club meetings and get togethers will always be sent out on the [PVRC reflector](#) and posted on the PVRC [web site](#).



Now a Word From Our Sponsors

PVRC doesn't ask for dues, but the Club does have expenses. You can also support the Club by buying from the firms listed who advertise in the newsletter!



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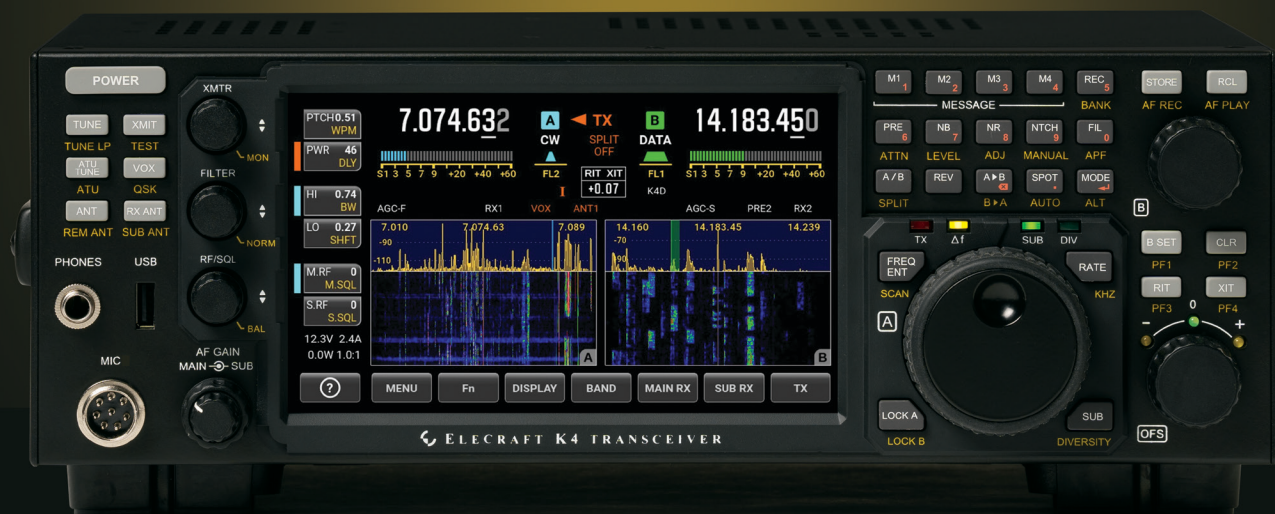
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ELECRAFT K4

High-Performance Direct-Sampling SDR



A direct-sampling SDR you'll love to use

Our new K4 transceiver harnesses advanced signal processing while retaining the best aspects of the K3S and P3. It features a 7" touch display, plus a rich set of dedicated controls. Per-VFO transmit metering makes split mode foolproof. Band-stacking registers and per-receiver settings are versatile and intuitive. Control usage information is just one tap away thanks to a built-in help system.

Modular, hybrid architecture adapts to your needs

The basic K4 covers 160-6 m, with dual receive on the same or different bands. The K4D adds diversity receive, with a full set of band-pass filters for the second receiver. (Thanks to direct RF sampling, there's no need for crystal filters in either the K4 or K4D.) The K4HD adds a dual superhet module for extreme-signal environments. Any K4 model can be upgraded to the next level, and future enhancements—such as a planned internal VHF/UHF module—can be added as needed.

Single or dual panadapter, plus a high-resolution tuning aid

The main panadapter can be set up as single or dual. Separate from the main panadapter is our per-receiver *mini-pan* tuning aid, with a resampled bandwidth as narrow as ± 1 kHz. You can turn it on by tapping either receiver's S-meter or by tapping on a signal of interest, then easily auto-spot or fine tune to the signal.

Comprehensive I/O, plus full remote control

The K4's rear panel includes all the analog and digital I/O you'll ever need. All K-line accessories are supported, including amps, ATUs, and our K-Pod controller. The USB display output supports its own user-specified format. Via Ethernet, the K4 can be 100% remote controlled from a PC, notebook, tablet, or even another K4, with panadapter data included in all remote displays. Work the world from anywhere—in style!

K4 KEY FEATURES

Optimized for ease of use

Modular, upgradeable design

7" color screen with touch and mouse control

ATU with 10:1+ range, 3 antenna jacks

Up to 5 receive antenna sources

Full remote control via Ethernet



The K4 interfaces seamlessly with the KPA500 and KPA1500 amplifiers

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FTDX10 | HF/50MHz 100 W SDR Transceiver

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FT-991A | HF/VHF/UHF All Mode Transceiver

Real-time Spectrum Scope with Automatic Scope Control • Multi-color waterfall display • State of the art 32-bit Digital Signal Processing System • 3kHz Roofing Filter for enhanced performance • 3.5 Inch Full Color TFT USB Capable • Internal Automatic Antenna Tuner • High Accuracy TCXO



FTDX101D | HF + 6M Transceiver

- Narrow Band SDR & Direct Sampling SDR • Crystal Roofing Filters Phenomenal Multi-Signal Receiving Characteristics • Unparalleled - 70dB Maximum Attenuation VC-Tune • 15 Separate (HAM 10 + GEN 5) Powerful Band Pass Filters • New Generation Scope Displays 3-Dimensional Spectrum Stream



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FT-5DR C4FM/FM 144/430 MHz Dual Band



- High-Res Full-Color Touch Screen TFT LCD Display • Easy Hands-Free Operation w/Built-In Bluetooth® Unit • Built-In High Precision GPS Antenna • 1200/9600bps APRS Data Communications • Supports Simultaneous C4FM Digital • Micro SD Card Slot

FT-65R | 144/430 MHz Transceiver

Compact Commercial Grade Rugged Design • Large Front Speaker Delivers 1W of Powerful Clear Audio • 5 Watts of Reliable RF Power Within a compact Body • 3.5-Hour Rapid Charger Included • Large White LED Flashlight, Alarm and Quick Home Channel Access



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ID-50A | VHF/UHF D-STAR Portable

- High Visible LCD with Backlight Function • Find Nearby Repeaters with the Built-In GPS • Easy D-STAR Settings for Beginners • Voice Recorder Function • Share Pictures in DV Mode



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IC-7100 | All Mode Transceiver

- HF/50/144/430/440 MHz Multi-band, Multi-mode, IF DSP • D-STAR DV Mode (Digital Voice + Data) • Intuitive Touch Screen Interface • Built-in RTTY Functions

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- VHF/VHF, UHF/UHF simultaneous receive • 50 watts of output on VHF and UHF • Optional VS-3 Bluetooth® headset • Easy-to-See large white backlight LCD • Controller attachment to the main Unit



IC-T10 | Rugged 144/430 MHz Dual Band

- Disaster Ready - Excellent Fit for Your Emergency Bag • Loud Audio - New Speaker Design • Long Battery Life - Up to 11 Hours • FM Broadcast & Weather Channels



IC-R8600 | Wideband SDR Receiver

- 10 kHz to 3 GHz Super Wideband Coverage • Real-time Spectrum Scope w/Waterfall Function • Remote Control Function through IP Network or USB Cable • Decodes Digital Incl P25, NXDN™, D-STAR • SD Card Slot for Receiver Recorder



ID-5100 AD VHF/UHF Dual Band Digital Transceiver

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ID-52A | VHF/UHF D-STAR Portable

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