



PVRC Newsletter

September

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

Our hobby is very rewarding - frustrating at times, yes, but the glass is way more than half full. But without replenishing the participants (us) the hobby will literally die out. That has repercussions for the future breadth and depth of engineering and communication skills in the U.S. as well as the number of operators and equipment capable of emergency communications (hurricanes, etc.).

Partly with that in mind, I recently wrote a letter to the editors of QST for publication in the column "Correspondence" if they choose to do so. Here it is:

"Increasing ARRL Donations by Tapping the Competitiveness of Contesting Clubs"

It seems intuitive that the donations to, for example, the ARRL Education and Technology fund, would increase from members of radio contesting clubs if the status of each club's aggregate contributions were published periodically and made a deliberate part of an inter-club competition. The contribution status could be in terms of dollars or number of teacher's seats funded (in the case of the ARRL Teacher's Institute program funded by the Education and Technology fund, managed by Steve Goodgame, K5ATA).

The individual making the dollar donation would be credited officially and the donation amount would be added to that individual's lifetime giving history in the ARRL records (the "hard credit"). The individual donor would request that the dollar donation be applied to the record of a specific Contesting Club (Potomac Valley Radio Club for example) named by the donor. The specified contesting club gets the "soft credit" for the donation and the club aggregate results are published to establish the competition.

This concept need not stop at *contesting* clubs, but their members are motivated in large part by competition so it is an obvious place to begin with "low hanging fruit".

Note that the ARRL Teacher's Institute program (<http://www.arrl.org/teachers-institute-on-wireless-technology>) trains many classroom teachers each year in STEM topics including hands-on amateur radio technology using the Education and Technology fund. That program is a true "force multiplier" for amateur radio in that each trained teacher then influences the STEM education of many new students each year for many years of the teacher's career. *One teacher* influences possibly *hundreds* (perhaps thousands?) of students over the

teacher's career!

I encourage ARRL to implement this published "soft credit" for clubs soon. The clubs will take care of driving the competition aspect!

Doug Hart, AA3S; ARRL Life Member; President, Potomac Valley Radio Club
Columbia, Maryland “

Comments welcome!
73, Doug, AA3S

Club Competition Update -Doug AA3S

PVRC received plaques for our first-place U.S. Club finishes in the 2023 and the 2022 CQ WW WPX RTTY. Partly because PVRC does not have a “clubhouse” where all members can go to admire our club trophies and mostly to reward & incentivize members who do well contesting for PVRC’s benefit, the PVRC Officers decide which deserving PVRC member will receive a club plaque for their personal collection.

The 2023 plaque was given earlier this year to Ty K3MM who was the high scorer for PVRC for that contest, but for some reason the 2022 plaque that PVRC had received had not been given to any member as of August 2024.

Ty also was the high PVRC scorer in 2022, but since he had received the 2023 plaque, it was decided that the second highest PVRC scorer would get the 2022 plaque: Tim N3QE.

Congratulations Ty and Tim and thanks from all of the rest of us for being such a big part of the PVRC successes that we all get to enjoy! Maybe each of you can post a photo of you and your ‘new’ plaque on the Reflector?

State QSO Parties that award the **top Club outside of the sponsor’s state**:

There are three that I know of:

- **Tennessee**, 1700z Sunday, **September 1** until 0300z Monday, September 2, 2024, rules [here](#): (certificate, not a plaque)
- **Iowa**, Saturday, **September 21**, 2024 from 9AM - 9PM US **Central Time** (1400Z, September 21 - 0200Z, September 22) rules [here](#): (certificate, not a plaque)
- **Maine**, 1200 UTC Saturday, **September 28** to 1200 UTC Sunday, September 29, 2024, rules [here](#): (club scores computed and published, no award)

If you have scoring tips or knowledge of any other State QSO Party sponsors who compute and publish club scores, let us know!

Happy contesting!
73, Doug, AA3S

NR4M Galactic Pigfest 2024 – Steve NR4M

Announcing the NR4M Galactic Pig fest for 2024 will be held on 14 September this year, from noon till 'whenever'. As in past years, there will be a ton of food: Unlimited hamburgers, Brats, Kosher chicken breasts, pulled pork, dry rub ribs and cherry-chipotle glazed ribs. Drinks will include sodas, iced tea, water and beer. Let me know if anyone has any special dietary needs.

The cost is \$10, paid in advance. This allows me to better judge how much food is needed. Bring a side dish, or dessert to share with others. This is not mandatory, just a suggestion.

This year, same as last year, Chuck, K4QS, will be keeping track of who is coming. Please contact him directly at Chuck Stover <k4qs1@yahoo.com> or by phone @ 540-848-1452, or QRZ for mailing address. He can accept PayPal (to k4qs1@yahoo.com), check, or cash. If you use PayPal, please use 'friends and family', otherwise service fees really decimate the bottom line \$\$.

The event will be held, rain or shine, in the large air conditioned garage of NR4M located at 6480 Governor Almond Road, Locust Grove, VA 22508. This is about 30 minutes off of I-95 at the Fredericksburg exit. All family members are invited.

In past years, there was a raffle. **This year, there will be NO RAFFLE.** It consumed way too much time and got way too large. Time better spent chatting with the person sitting next to you.

Free Technician Online Licensing Class, September 5th – Rol K3RA

A free, weekly, live, Amateur Radio Technician Class Licensing course on Zoom will begin on Thursday, September 5th, and will run through Thursday, October 17 (7 sessions). The three-hour sessions will start at 6:30 PM Eastern Time. These are the classes that we have been holding for years sponsored by the National Electronics Museum. Please publicize this with anyone you know that you think would be interested. Those wishing to sign up should email me at roland.anders@comcast.net.

<u>PVRC Officers:</u>		<u>Trustees:</u>	
President:	AA3S Doug Hart	K3MM, N3OC, K2AV, N1RM, W3LPL, N3KN, W2RU, W3LL, N4RA	
Vice President:	K3WA Bill Axelrod		
Vice President:	K8LF Jerome Svinicki		
Secretary:	N3QE Tim Shoppa	<u>PVRC Charter Members (all SK):</u>	
Treasurer:	WA3AER Ted Bauer	W3GRF, W4AAV, W4KFC, N0FFZ, W4LUE, W7YS, VP2VI/W0DX, W3IKN, W4KFT, W4RQR, W4MKM, W4BFO, W4CC, W4IA	
<p>Newsletter Editor: John K3TN jpecatore@aol.com</p> <p>PVRC Website: http://www.pvrc.org</p> <p>PVRC Meeting Info: http://www.pvrc.org/chapters.htm</p> <p>PVRC on Facebook: https://www.facebook.com/groups/PotomacValleyRadioClub/</p>			

PVRC Olympic 2023/2024 Season Results and Statistics – Jerome K8LF

This is my second year for sending out the PVRC Olympic awards for PVRC. I wanted to provide the members with the results and do some comparison to last year. Many of you strive to obtain Olympic level status each year. It is great that PVRC can afford this program as a "No Dues" club. The cost of the awards is one of the largest yearly budget items. For contests to count toward award levels you need a minimum of 50 QSOs per 5 million program contest.

- **Bronze** is 10 or more credited 5M contests,
- **Silver** if you register 15 or greater 5M contests,
- **Gold** you have 20 or more verified 5M contests

I am encouraged by the number of members that achieved Olympic status this year that did not have Olympic status last year. Thirty-one members earned a medal this year that did not receive any medal last year. Surprisingly, 5 members at the Gold level received a medal this year and did not earn an award at all last year. One new Gold medal winner was new to PVRC in 2022. Over a third of awards went to members who did not earn an award last year. The Bronze level had the bulk of new award recipients at 25. One member received Silver this season who received no Olympic award last year.

Total numbers of awards at all levels increased from 78 last year to 96 this year. This is a very healthy increase between last season and this season. This year we have 47 Bronze, 24 Silver and 25 Gold. The biggest increase by percentage is Gold going from 15 last year to 25 this year.

Not all chapters are the same size and that would naturally skew results by chapter. However, I want to do some comparisons between chapters. Leading in Gold we have the Northwest Chapter with 5 Gold medals followed by Central Virginia and North Carolina chapters each having 4 Gold medals. 15 individual PVRC chapters have members receiving Olympic awards this year. Total medals awarded to each chapter are in the list below.

- 14 North Carolina and Northwest
- 10 Rappahannock Valley
- 9 MD Metro
- 8 Central Virginia
- 6 Annapolis and Laurel
- 5 Downtown DC Lunch Group, Colonial Capital and Purcellville Blue Ridge Lunch Group
- 4 Southwest Virginia
- 3 VA Metro and No Chapter
- 2 Tidewater
- 1 Eastern Shore and OvertheHill Lunch Bunch

In closing again this year please send in a photo of you and your 2024 Olympic

medal to the newsletter or have your chapter chair sent in a group chapter photo to the newsletter. I hope to receive the medals in late September and have them going out soon after. Please check the roster to confirm your address and Congratulations!

Call Name	Metal
AA3S Doug Hart	Gold
AC5XK Don Perese	Gold
AC8Y Mike KOWALSKY	Bronze
AJ3M Masahiro Miura	Bronze
KoOO Patrick Benson	Bronze
KoZR Jeffrey Crawford	Bronze
K1BZ David Larrabee	Bronze
K2EJ Steven Fook	Bronze
K2WK Walter Kornienko	Bronze
K2YWE Dan Zeitlin	Silver
K3AJ Thomas Valenti	Gold
K3KU Art Boyars	Bronze
K3MM Ty Stewart	Gold
K3TC Tom Calomiris	Bronze
K3TN John Pescatore	Silver
K3WA William Axelrod	Gold
K3YDX Hank Hanburger	Silver
K4FTO Art Hackett	Gold
K4GM George Marzloff	Bronze
K4MI William Hrachovina	Gold
K4QPL Jim Jordan	Bronze
K4XL Ken Grimm	Gold
K5VG John Thomason	Bronze
K5VIP Barry Priddy	Gold
K7SV Lar Schimelpfenig	Bronze
K8LF Jerome Svinicki	Gold
KA4RRU Mike Trowbridge	Gold
KB3VQC Zory Glaser	Silver
KB3Z Mark Griffin	Gold
KB4CG Jack Jeffrey	Bronze
KG3V Tom Zeltwanger	Bronze
KK4R Rob Neece	Silver
NoYY Rick Heinrich	Bronze
N1EK Ed Kerns	Gold
N1LN Bruce Meier	Bronze
N1RM Rick Miller	Silver
N1WR Wayne Rogers	Silver
N2FT Steve Johnson	Bronze
N2QT Mark Sihlanick	Bronze
N2YO Chip Sufitchi	Bronze
N3AM John Silva	Gold
N3CKI David Sippel	Gold
N3CW Steve Johnson	Bronze
N3DPB Susan Hoffmaster	Silver
N3DUE Alan Juers	Bronze
N3JT Jim Talens	Bronze
N3KN Kay Craigie	Silver

N3MN JOHN A MANN, SR	Bronze
N3QE Timothy Shoppa	Gold
N3UM Ben Hutchinson	Silver
N4CF Mike Dodd	Bronze
N4CW Bert Michaud	Silver
N4DJ Don Johnson Jr	Bronze
N4GU Mike Barts	Bronze
N4IW David Simms	Gold
N4MM John Kanode	Silver
N4NTO Tripp Owens	Silver
N4RA Dick Allardyce	Bronze
N4RV Jack Reichert Jr	Bronze
N4TL Tom Lewis	Gold
N4YDU Nate Moreschi	Bronze
N4ZR Peter Smith	Bronze
N6DW Dana Phillips	Silver
N8II Jeff Hartley	Bronze
NC3Y THOMAS C CLANCY	Gold
NC4SW Steve Worth	Bronze
ND3D Robert Venanzi	Silver
NN3RP Rafael Pena	Silver
NN3W Richard Didonna	Bronze
NN4RB Rick Brown	Gold
NR4M Steve Bookout	Bronze
NR4O Eric Wagner	Bronze
NS3T Jamie Dupree	Silver
NX3Z James Eastham	Bronze
W1IE Gerald Knowlton	Gold
W2CDO Peter Alterman	Bronze
W3IP Michael Cresap	Bronze
W3KN Andy Roberts	Bronze
W3LL Bud Governale	Gold
W3MAM Dave Sweeney	Bronze
W3OU Steve Bonk	Silver
W3TAS Thomas Savage	Silver
W3UL Bill Rogers	Gold
W4BBT Don Gladwell	Bronze
W4NF Jack O'mara	Silver
W4RN Mike Lonneke	Silver
W4TG Frank Stein	Bronze
W4VIC Vic Culver	Gold
W4WWQ Peter Lascell	Silver
W4YE Buddy Smith Jr.	Bronze
WA3AER Ted Bauer	Silver
WA3EKL Alan Hoffmaster	Silver
WA3FAE Forrest Hudspeth	Bronze
WA4JUK Joseph Cagnina	Bronze
WT3K Daryl Olson	Gold
WX3B James Nitzberg	Bronze

From the Wayback Machine – Art K3KU

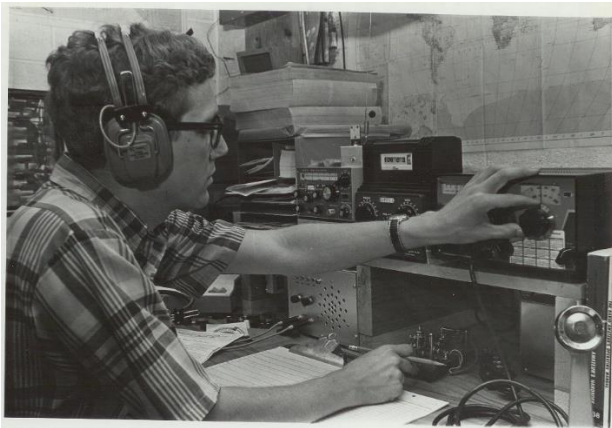
The attached pic is K3OAE in the July 1967 CD Party. The little box on top of the Davco DR-30 is a one transistor xtal oscillator with a "rock" for the MDD Net QRG. Net Control would push the little button and QNZ before calling up the Net Note the other xtals on the desk below my left elbow and the stack of telephone books for QSP.

The "bug" had been converted to a single-lever paddle, used in 1969 with my second-generation homebrew keyer, hidden by my left arm (below the DR30).

That rig QSYed to Wisconsin for grad school, where I operated (when not at W9YT) from a garden apartment with some stealth antennas from Sept. 1969 to Jan. 1971. See the pdf of the K3OAE/9 log page for SS CW 1969 -- so many familiar calls. How many PVRC do you recognize?

Now look at the January 2024 pic of K3KU. The shelf and the Numechron GMT clock are the same ones as in the 1967 pic. (The Numechron is just for nostalgia.) The Millen Transmatch Junior is still on hand, most recently used in [SS CW 2022](#)

The 1969 homebrew keyer was replaced in the early 1970s by the K3OAE "Super Keyer Model One" at the left side of the TS-590SG) with which I hope to work you Saturday night in NAQP CW.



A Man, His Broken Rotator and Some Wood – Dave NW3L

So it began: during the ARRL June VHF Contest my rotator stopped rotating. I finished the contest by going out to the AB-577, releasing the brake, manually turning the tower using the AB-577 Spanner Wrench, repeat as needed.

The next several days were spent developing a strategy to diagnose the problem and make the appropriate repairs. Of course, my first phone calls were to Tom K3AJ and Dan K2YWE. Both Tom and Dan walked me through the steps to test the controller and the cable, which included helping me learn how to use the multi-tester (sigh).

The controller appeared to be outputting the correct voltage in each rotational direction. The cable appeared to be ok after performing some resistance tests. I had actually hoped that one of these components would be the defective culprit, just so it would not be necessary to lower the tower. No such luck.

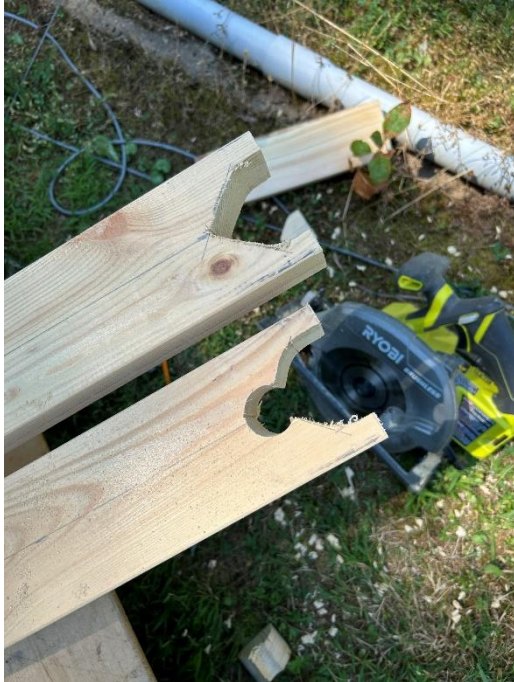
Tom K3AJ loaned me a rotator motor so I could perform a conclusive bench test on my cable and controller. This test did indeed confirm that the NW3L rotator motor was bad. With that conclusive information, it was time to go shopping. I got on the phone with Tom at the Delaware HRO store. They did not have my rotator in stock, but their Woodbridge store did. I handed over my credit card information and the order was confirmed. This was Thursday, 27 June at 11:10 am eastern time. Twenty-three hours later, the new Yaesu rotator motor was delivered to my QTH.

With the needed parts in hand, the next decision was when to do the replacement work and how to get help. I really did not want to burden Tom K3AJ, who I have leaned on so much that he now needs a lift in one shoe. Nor did I want to ask anyone else, including my son, to fight the Bay Bridge traffic on a summer weekend.

So, I began problem-solving, which has been my major career role for many years. How can I replace the rotator, by myself? I have plenty of tools, plenty of can-do attitude and plenty of.....wood!

A rough design began taking shape in my head: A large wood stand/cradle, which could hold the beam in the air, while I lowered the rotator away from it. I began cutting and dragging wood into the driveway.





Having prefabricated the sides of my cradle, I carried them out to the AB-577. I roughly positioned them so that the vertical 2x4's would be directly below the beam. I added cross members to allow it to be freestanding. The length of the cross members was specific, so that the vertical 2x4's would contact the beam at the desired locations.

Next, I leveled the four corners using scrap wood under the feet and added diagonal bracing. With the general concept now built and in position, I final screwed all components together and stopped for lunch.

Lunch was had in the air-conditioned shack. I took this time to perform a bench test of the new rotator. Worked as it should.

With the launcher elevator still holding the beam above my wood stand, I released the brake and lowered the beam into the wood cradle, just to the point of contact. With the brake re-engaged, I began removing the bolts that hold the rotator motor in place. The method of using the wood stand allowed me to be only concerned with removing the motor itself, not the upper or lower mast clamps.



With the defective rotator ready to be pulled out, I suddenly discovered a major flaw in my "one-man-plan". While the beam could be supported by the 2x4's, there was nothing to stop the beam from sloping down towards the ground, according to which side of the beam was heavier with elements. Fortunately, the C3SS is quite light and the tendency to slope was gentle. For this reason, I lowered the AB-577 elevator only about 1/2", which gave me enough room to slide out the defective rotator motor and slide in the new one.





As you can see in the photo, I had to keep a “steadying” hand on the beam. Once the new rotator motor was slid in, it was close enough to the beam to stop any serious sloping. Replacing the eight bolts was straightforward, although I did need to bump the rotator with the controller a few times to get the upper holes to line up with the mast clamp.

The wood stand was constructed, positioned and the rotator motor replaced in a total of 4 hours. I am relieved that nothing went wrong and that the NW3L station is back in business. I do not recommend that anyone else do it this way. I have been a do-it-yourselfer my entire life and have a high level of comfort with working on ladders, using a variety of power tools and experimenting. With that said, this was not particularly difficult. I had the wood in my woodworking shop. The cost of all the wood used in this project was less than \$50.

So, now what do I do with a wood cradle, custom-made to fit around the AB-577 carriage and to support the beam? I have no clue.

W4YY Field Day – Mike W3IP

K2GO/HP1XT on the key.
Ops also included KØZR
K8SYH N1RM N2FT N4PD
W3IP.

Conditions were not great -
we ended up with 1723 Qs
(all CW), down 10 or 15
percent from previous years
with the same setup.



PVRC 6 Meter DXCC Standings and DX Marathon Update– Frank W3LPL

Below are the 6M DXCC totals for PVRC members, transcribed from the ARRL [DXCC data](#) as of the 20th of each month or so. Thanks to Frank for the data each month to make this a regular feature. Please report any omissions or errors to [Frank](#).

CALL	DXCC	CALL	DXCC	CALL	DXCC	CALL	DXCC
K1HTV	175	N2QT	140	W3DF	117	K3KO	108
W4DR	173	K3SX	140	K3WC	117	N3OC	107
W3BTX	172	WX4G	140	N4JQQ	116	W2YE	106
N4BAA	168	K5EK	137	ZP6CW	116	N4VA	106
AE3T	167	K2PLF	133	N3NT	115	K1GG	105
W3LPL	165	KG7H	133	W0VTT	114	K6ND	104
W3UR	165	K4SN	131	N3MK	113	N3DB	103
N4MM	152	N4TL	124	N4DB	112	W3OR	103
K4SO	150	N4PY	123	W3EKT	111	K3ZO	103
AB3CV	149	NW5E	123	K5ESW	111	W4VIC	103
W3KX	146	W3XY	122	K1GG	110	W4FQT	102
W3LL	146	K5VIP	121	K3AJ	110	W3XO	100
K4CIA	145	AK3E	120	KM3T	110	W4TJ	100
W3IP	141	K3XA	119	W4PK	109		

PVRC is competing in the DX Marathon. Please contribute your normal and contest QSOs to our effort - see dxmarathon.com

K5EK	296	K3TN	236	KB3Z	207	N4CF	156
W3LPL	285	K3WA	236	WD4ETU	204	N6DW	153
K3MM	278	W3ZQI	234	N4ZR	194	NW3L	145
K1HTV	276	KE4S	232	N3RTW	188	K2EJ	141
N2QT	276	W4VIC	232	N3QE	184	W3IDT	133
KM3V	266	N1EK	225	N5HC	176	WC4J	95
K1HTV	259	K3AJ	216	KK4ODQ	162		
K3STX	256	N3AM	216	N4IW	159		
W3LL	242	N1RM	214	N3ZQI	156		

Membership News – Tim N3QE

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](#)

September 2024

+ All Asian DX Contest, Phone	0000Z, Sep 7 to 2400Z, Sep 8
+ CWOps CW Open	2000Z-2359Z, Sep 7
+ North American Sprint, CW	0000Z-0400Z, Sep 8
+ WAE DX Contest, SSB	0000Z, Sep 14 to 2359Z, Sep 15
+ ARRL September VHF Contest	1800Z, Sep 14 to 0300Z, Sep 16
+ North American Sprint, RTTY	0000Z-0400Z, Sep 15
+ CQ Worldwide DX Contest, RTTY	0000Z, Sep 28 to 2400Z, Sep 29

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

Editor’s Last Word – John K3TN

Thanks to NR4M, K3RA, K8LF, W3LPL, K3KU, NW3L and W3IP for contributions to this issue of the PVRC newsletter.

Back in 1969 when I was 12 years old, two momentous things happened:

- I completed my first bicycling century (100 miles) ride and multiday bicycling when two friends and I biked east from Freeport NY to Montauk Point and back.
- I got my novice ticket as WN2ADH.

Fifty five years later ham radio and bicycling are still my favorite hobbies and during the Ohio QSO Party weekend I got to combine them by driving out to OH and operating mobile as K3TN/8 on Saturday and then bicycling with fellow OHQP mobile ops Jim K8MR and Barney K3LA after a big breakfast/gabfest that included Jim AD4EB and Tom KV8Q who also opped mobile in OHQP.



Barney K3LA, Jim K8MR and John K3TN at the Morse Road stop on the Alum Creek Trail in Columbus OH

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 [pescatore at aol dot com](mailto:pescatore@aol.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.

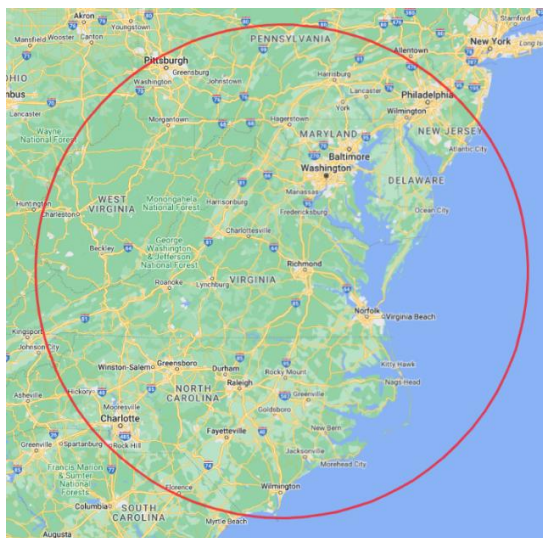
Direct donations to PVRC via Credit Card or PayPal may be made by clicking this "Donate" button and clicking the next Donate button that appears on your screen:



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!



Your source for DX News!

Get a free two week trial of The Daily DX and The Weekly DX by sending a request to bernie@dailydx.com.

The Daily DX
3025 Hobbs Road
Glenwood, Maryland 21738
Phone: 410-489-6518



PVRC QSL Cards
by
LZ1JZ QSL Print



GREEN HERON ENGINEERING LLC

(585) 217-9093
www.greenheronengineering.com

RT-21 DIGITAL ROTATOR CONTROLLERS
Unmatched Performance for any Rotator

RT-21



RT-21D



RT-21 AZ/EL



Rotator Packages



FREE Shipping for PVRC Members
At Checkout Enter Coupon Code "PVRC"

Heavy Duty Custom Mast Clamps
-for G-2800 and Orion



Wi-Fi Option
-control your rotator from any web browser device

GH EVERYWARE WIRELESS CONTROLS

- Internet access for switches and rotators
- Eliminate cables and tethered control boxes
- Create customized on-screen controls
- Great circle maps

GH Everywhere Base and Remote

- USB and wireless relay controls
- Utilizes your existing antenna switches



Select-8 Wireless Remote Coax Switch

- Built-in GHE Wireless
- Powered through the coax
- Tower leg Mount
- Amphenol RF connectors








DX Engineering Makes Contest Season Fun!

We make it easy to get what you need for higher scores: DX Engineering's NCC-2 Receive Antenna Phasing System and other receiving devices, HamPlus Antenna Switches, RigSelect's Pro Transceiver Switch and SO2R Controller, VA6AM and 403A band pass filters, rigs like the Icom IC-7610, and more.

Contact us for the best products, fastest shipping, and most responsive service from experienced operators—a winning combination every time!

Make the Change to a More Satisfying Ham Radio Purchasing Experience

- Easy ordering by phone or web
- Products from over 170 leading manufacturers
- Friendly customer service from hams with a combined 1,000+ years in amateur radio
- Fastest shipping in the industry
- Responsive and ongoing technical support
- Not 100% happy? We make it right!



Order by Phone

800-777-0703 Country Code: +1
9 am to midnight ET, Monday-Friday
9 am to 5 pm ET, Weekends



Order Online

www.DXEngineering.com
Most orders over \$99 ship free
Request a Free Catalog



Tech Support

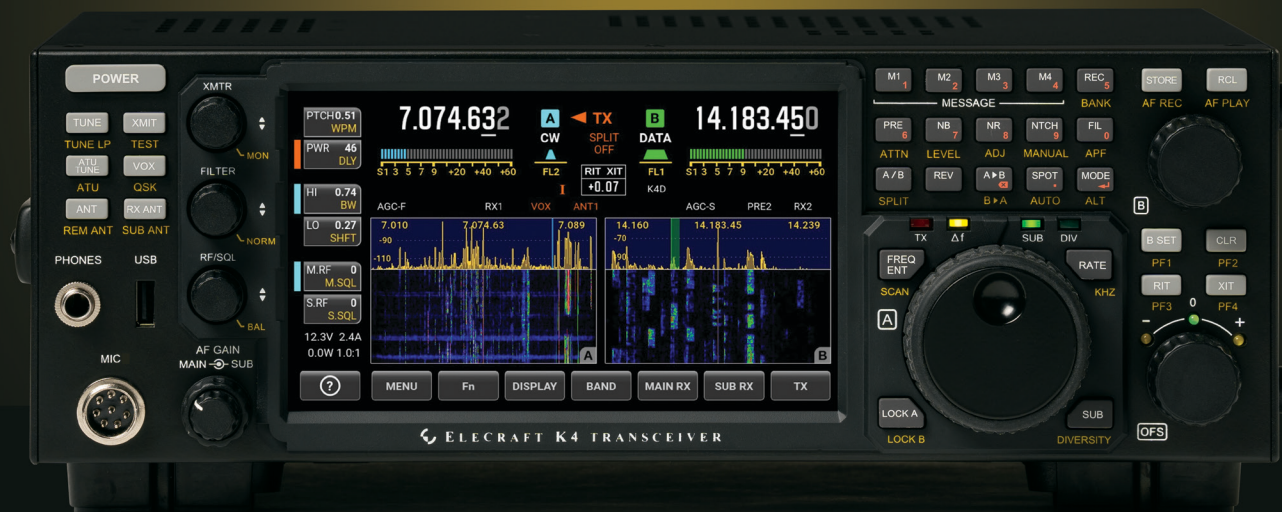
330-572-3200
DXEngineering@DXEngineering.com
9 am to 7 pm ET, Monday-Friday
9 am to 5 pm ET, Saturday



OnAllBands.com is dedicated to educating and informing the Amateur Radio community.

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

The performance of their products is only eclipsed by their service and support. Truly amazing! Joe - W1GO



For complete features and specifications visit elecraft.com • 831-763-4211

OUR NAME SAYS IT ALL



12 STORES NATIONWIDE | SUPERIOR SALES & SERVICE | ONLINE SUPERSTORE

WE ARE HAM RADIO

**HAM
RADIO
OUTLET®**
WORLDWIDE DISTRIBUTION

ANAHEIM, CA: **800-854-6046** | ATLANTA, GA: **800-444-7927** | DENVER, CO: **800-444-9476**
MILWAUKEE, WI: **800-558-0411** | NEW CASTLE, DE: **800-644-4476** | PHOENIX, AZ: **800-559-7388**
PLANO, TX: **877-455-8750** | PORTLAND, OR: **800-765-4267** | SACRAMENTO, CA: **877-892-1745**
SALEM, NH: **800-444-0047** | WINTER SPRINGS, FL: **800-327-1917** | WOODBRIDGE, VA: **800-444-4799**

HAMRADIO.COM