



PVRC Newsletter

June

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

PVRC Parties occurring recently or soon:

- **Xenia Hamvention** attended by our PVRC Vice President, Rick N0YY, and more than 40 PVRCers! Rick held an ad hoc PVRC meeting at which (among other items) new members were voted in. Also, a get-together was held with a pizza party provided by PVRC.

- **Our annual On-Air PVRC Reunion** (a QSO Party) begins May 31 for 3 hours and continues June 1st and 2nd for 3 hours on each of those days. See the details in the announcement & link (<https://pvrc.org/reunion/>) on our website (first Post at the top of the website). New this year are Zoom meetings for PVRC in the one hour *before* the 3-hour on-air period and the one hour *after* each on-air period. It was decided to use Zoom since requiring participants to use SSTV seemed like a stretch! The Zoom links that you need (a different link for each of the six Zooms) will be put on our Reflector by the time you read this Letter.

Last year we had 96 participants over 3 days (51 unique call signs)! Join this PVRC Party!

- **Annual Open House at W3LPL** for NCDXA & PVRC members and their guests, see the announcement elsewhere in this Newsletter. You can expect all the usual fun of getting together as in previous years including the official PVRC meeting (for about 15 minutes) to present special awards to members and vote in new PVRC members. Also expect a short Field Day 'meeting' which is a good segue into the next PVRC Party topic...

- **Field Day by PVRC (W3AO)**, see the announcement from the long-time organizer, Rol Anders K3RA, elsewhere in this Newsletter. This W3AO/PVRC group effort has won every Field Day category entered in every year since 1999!!! You can watch a professional documentary presentation of the 2004 W3AO/PVRC group effort (category 50A !!) [here](#) (the real 2004 info begins at 4:00 into the video).

I was there and some of you were, too! Can you find yourself or your friends in that video?

- **PVRC Parties in future months** are listed on our website, see <https://www.pvrc.org/events-hamfests/> Detailed announcements for these events appear first on our Reflector well before the event. BTW, our website list of events has many non-PVRC items that may be of interest to you! Check it out!

Perhaps the most important 'PVRC Parties' are the various PVRC Chapter meetings held many times every month. Some Chapter meetings include Zoom participation so that you don't have to drive. Many members attend these Zoom meetings from the comfort

of their homes that are VERY far away from the actual physical meeting location. See the meeting schedule on our website at <https://www.pvrc.org/trashed-2/>

If you attend any of these PVRC gatherings, take photos of people and things you see at them and consider submitting them to your PVRC Newsletter for July (to John K3TN jpescatore@aol.com) along with a few words about what you liked most about the event(s) and submit that to the PVRC Newsletter, too!

Participate! It's fun!

73, Doug AA3S, PVRC President

Club Competition News **5M Program Contests**

Only two 5M contests remain in our 2024-2025 season! These are:

ARRL Digital	ARRL/CQ 250-Mile Circle	1800 UTC 2025-06-07	2025-06-08
ARRL June VHF	ARRL/CQ 250-Mile Circle	1800 UTC 2025-06-14	2025-06-16

When the **ARRL Digital** contest first became a 5M Program contest in 2023 we won, and again last year, too. In general, with all our 5M Program club competition contests, the competition has become VERY tough for us in the past few years as other clubs are taking note of how PVRC is winning more than half of all the major club competitions each year (2023, 2024 and exactly half in 2022), so even more effort from the PVRC Posse may be needed from now on in all contest events!

As for the final 5M contest this season, unfortunately for us, Mt. Airy is the dominant club in the **ARRL June VHF** and PVRC has never won as far as I know (from at least 2019). *Maybe some of our members are VHF/UHF specialists and can offer some competitive ideas.* Still fun to try and to participate!

PVRC Officers:

President:	AA3S	Doug Hart
Vice President:	N0YY	Rick Heinrich
Vice President:	K8LF	Jerome Svinicki
Secretary:	K3WA	Bill Axelrod
Treasurer:	WA3AER	Ted Bauer

Trustees:

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PVRC Charter Members (all SK):

W3GRF, W4AAV, W4KFC, N0FFZ, W4LUE, W7YS, VP2VI/W0DX, W3IKN, W4KFT, W4RQR, W4MKM, W4BFO, W4CC, W4IA

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40th Annual W3LPL Open House/BBQ Saturday June 21 – Frank W3LPL

The Annual W3LPL Open House will take place on Saturday June 21st at noon, rain or shine. NCDXA and PVRC members and their guests are welcome.

IMPORTANT: Please note that this is NOT Father's Day weekend.

Please email me at donovanf@erols.com if you plan to attend. In your email, please indicate if you plan to purchase food from CJ's BBQ who will be on site from noon to 2 p.m.

Dayton 2025 PVRC Group Photo – Tom K3AJ and Rick NoYY

PVRC was well represented at this year's Dayton Hamvention. As we have done for the past several years, a coordinated group photo in the Grandstand is taken for posterity. This is a great opportunity for a face-to-face greeting of members that are part of the geographic diversity of our club.

Tom and I started "annoying" everyone with reminders of the Group Photo over the last couple of months including the May Newsletter. It paid off! This year saw an impressive turnout of 40 PVRC members captured in the photos.



From the Hamvention Digital Dinner via Dave NW3L:

Mike N4GU - Tim N3QE - Eric NR4O - Bud W3LL

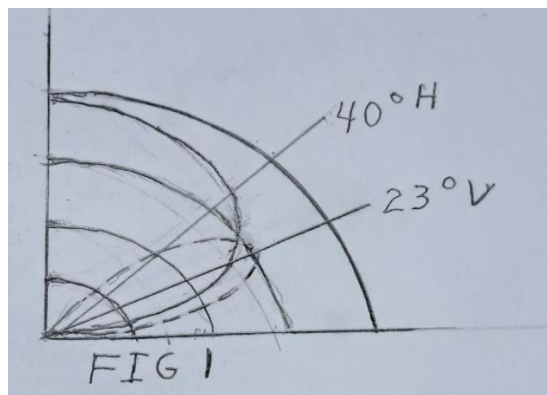


Alternate 40M Antenna for Field Day – Alan WA3EKL

If you normally put up a 40 meter dipole between two support points 45 to 50 feet high and 50 to 60 feet apart then you have the capability of erecting a better receiving and transmitting antenna for field day use on 40 meters. I am speaking of the inverted, one wavelength, point down Delta loop. AKA equilateral triangle pointed down and fed at the bottom point. Just a little background.

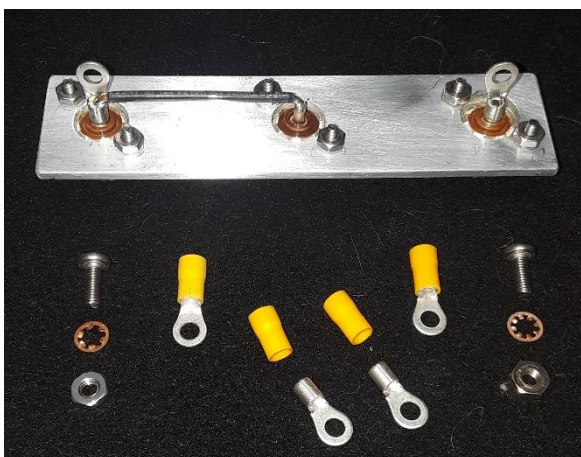
For at least 50 years I have operated Battery QRP Field Day in parks and fields. On 40 meters I have tried Dipoles, Inverted Vees, and Slopers. Around 1990 I started using the inverted Triangle. The first three antennas were at heights from 40 to 90 feet. All worked reasonably well. On at least four field days I had up either a dipole or inverted vee at 45 to 60 feet and an inverted triangle whose top horizontal wire was about at 50 feet. I was able to do a direct A to B compassion between the loop and the other antenna all during field day. The loop beat out the other antennas 95% of the time. After four years of the same results I only put up the loop for 40 meters.

At my present QTH I had a drooping dipole hanging off my smaller tower at 50-foot center and the ends at about 40 feet in the trees. It worked well for US contacts, not so good for DX. I used the 2-element beam at 93 feet for DX. Then I moved the center of the dipole up the tower to 70 feet and raised the ends to 55 feet. The DX was a little better, but US stations contacts reduced considerably. Later BGE cut down one of the trees holding one end of my dipole. Then I put up an inverted triangle (Delta Loop) in two other trees. After my first contest season with this antenna I said why did I not do this long ago. My ability to contact US stations went up dramatically and DX station contacts were now being contacted regularly. My present 40 loop is pointed North – South, broadside East West. We generally run Europe with the beam. If a South or Central American station shows up we simply switch to the loop and work it then switch back to the beam for Europe. On numerous occasions all of us have forgotten to switch back to the beam and continue to run Europe on the loop!



Here is why. See Fig 1. The point down triangle loop, fed at the bottom produces two equal angles of radiation. It produces a broad horizontally polarized lobe at about 50 degrees, great for continental US and a vertically polarized lobe at about 23 degrees, great for DX, AK and HI or West coast depending on the propagation. My 2 element 40 meter beam at 93 feet also produces a horizontally polarized lobe at 23 degrees. Now you know why the loop works so well into SA.

This loop wants to be close to ground. The bottom point only needs to be between 7 to 9 feet off the ground; no higher. The pattern I described only happens when the feed point impedance is between 180 and 200 ohms. That only happens when the triangle is close to ground. I have modeled it and proved it in practice. Higher up produces an entirely different pattern and does not work nearly as well. This antenna is close to omni directional. Note a 180 to 200 ohm feed point is very easily matched to a 4 to 1 balun which can be easily purchased or made out of $\frac{1}{2}$ wavelength of RG213 or RG58. If you make the coax matching transformer do not use any type of foam lead. You are never assured what the velocity factor is with foam. Use the older style polypropylene coax which has a .66 VF. For 40 meters you need a piece of coax $\frac{1}{2}$ wavelength per the VF. So $492 \times .66 / 7.150 \text{ MHz} = 45' 5''$ plus about 2 inches for installing the PL259 coax ends for a total of 45' 7" of RG213 or RG58 if 150 watts or less.



Pix 1

How to make the simple coax balun: Mount three SO239 connectors on a 6-inch piece of aluminum strip. See Pix 1 There is a short wire going from the center conductor of the center SO239 to one of the center pins of one of the end SO239 connectors. The coax goes between the outer SO239's and the antenna feed point is the center SO239. The outer SO239 pin's outer diameter is the perfect size to slip over a #10 lug; the type that has a hole in it. Pull off the yellow insulation, slide the lug down on the pin and solder the lug to the pin. Now you have a place in each SO239 end connector to attach a bolt, lock washer and nut. The ends of the loop go to these bolts and nuts making a triangle.

The triangle hears better than a dipole or an inverted Vee. There are many theories as to why. If you use small insulators for the two top ends, then the formula for the triangle's total length is $1005 / \text{freq in MHz} = \text{Length in feet}$. This is usually for #12 insulated wire. I could never determine a hearing difference between insulated and non-insulated wire except rain and snow static was louder on non-insulated wire! $1005 / 7.150 = 140' 7''$. Now $140' 7'' / 3 = 46' 10 \frac{1}{14}''$ on all sides. If you can't get the bottom point 7 feet off the ground because you don't have quite enough height pull out the top insulators a little so the triangle becomes isosceles. (top side is longer than the other two sides) This will not change the pattern; just reduce the SWR bandwidth slightly.



Pix 2

I always solder a short piece of wire across the two wires coming out of the insulator, so the wire does not slip through the insulator after I have determined its final position. See pix 2

That means the overall length perimeter will be shorter because the signal is traveling across the short and not around the insulator which will raise the resonant frequency of the loop a bit. Therefore, you may need to make the wire a little longer when using the 1005 formula. This has a predominant effect if you use the common large black insulators that are found in the Farm supply stores. I always use these insulators, and they are about 4 inches long. If you use them and put the short across these insulators, then use the following formula to calculate the resonant length. $1030 / \text{freq in MHz} = \text{length in feet for \#12 insulated wire}$. $1030 / 7.150 = 144 \text{ feet}$. Then $144 / 3 = 48 \text{ feet side length}$ but you are shorting out at least 16 inches of wire! Pix 3 shows the complete balun with feedline which is a multiple of $\frac{1}{2}$ wavelength also.

Pix 3



If you try this antenna once and propagation is the same as it was before I'll bet you won't go back to the dipole again!

73, Alan WA3EKL (Look for us as K3PAX on field Day)

“Tina” Talks to the North Carolina Chapter – Hank K3YDX



Quite a large turnout in person and via zoom for the N3QE “Tina” presentation.

From L-R:
Guy K2AV, Mike N4GU, Bert N4CW, Steve K4QL, Jim K4QPL, partially hidden Don W4BBT and Tom N4TL. Not shown due to late arrival: Eric NR4O and Steve NC4SW.

Zoomers: Mark KB3Z, Tim N3QE, Henry K4TMC, Bill K2NTO, and Mark KD4D

European Tour Ham Radio Visits – John N3AM

I took a guided tour of some European countries in early April, and since Iceland Air allows several-day stopovers in Iceland enroute to Europe, I decided to add 3 days in the Reykjavik area. On my final afternoon in Iceland, Oskar, TF3DC, picked me up at my hotel and gave me a tour of the area, including an excellent panoramic view of Reykjavik from the top of the Perlan Museum. Last, but not least, we paid a visit to the Icelandic Radio Amateurs club station, TF3IRA. Since I had a very early morning departure to Copenhagen the following day, operating time was limited, but conditions were favorable to the US, and I managed a 20m QSO with N3JT, among others.



I added two extra days in Copenhagen prior to the start of the guided tour and arranged to meet up with Paul, Oz4UN during my final “free day.” Paul picked me up at my hotel and we drove up the scenic Zealand coast with a quick stop at the home of Karen Blixen, author of “Out of Africa” and “Babette’s Feast.” We toured the Louisiana Art Museum and the Kronborg Castle, a UNESCO World Heritage site with a clear view of Helsingborg, Sweden across the channel. Last, but not least, we stopped at Paul’s QTH in Fredensborg, just down the street from the residence of Queen

Margrethe II, who abdicated in January 2024. We admired Paul’s nearly invisible and very effective 80m delta loop and a dipole in the trees before firing up his K3 radio for a few European Q’s. Paul’s wife, Connie, made us some scrumptious dessert and coffee. Sadly, time was running short, and we had to leave all too early to get me back to my hotel for the meet and greet session with our tour manager.

I want to thank Oskar, Paul and Connie for their hospitality that made my European tour all the more special. I will have fond memories of my visit for years to come and look forward to on-air chats in the near future with Oskar and Paul.

W3AO PVRC Entry: 2025 ARRL Field Day June 27-29 – Rol K3RA

This year, for the 28th consecutive time, PVRC will be entering ARRL Field Day with the call W3AO. The team has set records in 24 class A categories ranging from 7A to 51A. During the two COVID years, the team entered and won the club competition. This year we'll be entering as 10A (ten transmitters, club in the field category) and will set up at the in the field behind Glenwood Middle School, 2690 MD-97, Glenwood, MD 21738.

Setup will begin on Friday morning at 9AM, and Field Day operation runs from 2 pm on Saturday to 2 pm Sunday. Please consider coming out to help with setup on Friday , help with takedown on Sunday, operate during the event, or just to watch. Bring friends and family. We are especially looking for "Get On The Air" (GOTA) station operators. GOTA is designed to give generally inactive hams, new licensees, and even unlicensed folks a chance to make contacts under the guidance of an experience tester. GOTA is a great opportunity to introduce folks to contesting and to help ops who haven't been active in contesting recently to get back in the game

Anyone interested in participating with the team should email Rol Anders, K3RA, roland.anders@comcast.net.



Here is a summary of the W3AO team past performance:

YEAR	QSO's	Score	Class	Place overall
1998	6,697	19,366	4A	2
1999	9,163	26,224	7A**	1
2000	9,908	31,534 *	30A**	1
2001	10,143	31,760 *	26A**	1
2002	10,158	33,442 *	38A**	1
2003	7,754	27,834	51A**	1
2004	9,304	32,372	50A**	1
2005	8,553	27,534	21A**	1
2006	9,504	31,144	22A**	1
2007	8,648	27,150	19A**	1
2008	10,709	33,664 *	23A**	1
2009	9,693	30,888	20A**	1
2010	10,585	33,452	24A**	1
2011	12,158 ***	38,764 *	25A**	1
2012	11,116	35,984	27A**	1
2013	10,275	33,724	29A**	1
2014	11,233	36,730	28A**	1
2015	9,700	31,452	18A**	1
2016	8,910	30,084	17A**	1
2017	12,434 ***	39,430 *	16A**	1
2018	10,990	33,942	15A**	1
2019	10,041	32,356	14A**	1
2020 ©	26 entries	73,149	Club Agg.	1
2021 ©	37 entries	115,649	Club Agg.	1
2022	9,721	32,514	11A**	1
2023	9,832	35,633	12A**	1
2024	10,350	36,542	13A**	1

* New All-time Scoring Record

** Current Class Record

*** All Time QSO Record (+ 95 GOTA Q's >500)

© Covid year, group aggregate



PVRC DXCC Challenge Standings – Frank W3LPL

Below are the DXCC Challenge 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
W4DR	3204	N4QQ	2565	AA4NC	2061	N3AO	1527
W3UR	3191	K3JT	2560	K3STX	2044	WB2ZAB	1522
W3LPL	3176	W3BW	2554	N3ND	2026	W8AKS	1519
K4CIA	3144	WA2BCK	2548	W3FOX	2022	K4HQB	1518
N2QT	3117	W4VIC	2541	K1RH	2000	KU1T	1501
N4BAA	3068	N3RC	2504	K5RJ	1961	N3AIU	1487
W4PK	3038	W2GG	2501	N3KS	1906	WA3EKL	1465
K4SO	3017	N4GG	2426	N3OC	1888	K4NTO	1432
W3DF	3007	KM3V	2418	W2CDO	1880	N3HBX	1428
N3NT	3001	K0GD	2337	W3US	1875	N8II	1390
K1HTV	2988	W2YE	2334	K4EU	1871	KG4USN	1388
N4MM	2988	K3TN	2330	N4GU	1865	NR4M	1382
W3LL	2979	W3IP	2328	K3AJ	1818	N5HC	1379
WX4G	2973	K1ZZI	2314	W3KB	1815	W4PRO	1377
K5EK	2964	W3YY	2297	W3DM	1791	W9GE	1364
W0VTT	2955	K4WNW	2278	N3MK	1775	AK3E	1348
W3KX	2955	N4JQQ	2270	K4QE	1758	W3NRJ	1325
K1AR	2922	KA4RRU	2256	KE4S	1758	N1SZ	1317
AB3CV	2922	W3MR	2243	N4XYZ	1720	K4ZA	1313
KG7H	2896	NW4V	2219	ND3F	1718	K5VG	1268
K3WC	2889	K4FJ	2214	W4GP	1710	N6DW	1204
N4DB	2863	W0YVA	2211	W3UL	1704	N3RR	1199
KG4W	2854	K1EFI	2206	KF7NN	1698	W4NF	1190
K3WA	2841	W3XY	2205	W4JVN	1683	N1RM	1136
K5RT	2762	N4ZH	2188	NE3H	1668	KK4ODQ	1099
K1GG	2738	K2BA	2153	K3WI	1652	K3IXD	1090
K3RA	2708	N3QE	2147	N4ZR	1652	NE3K	1073
WB3AVN	2698	K3SX	2139	WB4DNL	1620	W3ZQI	1066
N3MN	2657	W3TN	2132	AA4FU	1608	N3COB	1049
N4TL	2638	K3PU	2107	K3KY	1606	W4ZV	1048
W4FQT	2622	KN4KL	2079	W3OU	1597	K4ZW	1044
K5VIP	2611	N3KN	2078	KE3X	1588	K4VX	1021
W3OA	2604	W3GG	2071	NA1DX	1579		
N3KK	2575	N4NW	2068	N1EK	1542		

Membership News – Bill K3WA

PVRC had several new members elected – please welcome:

- In the Northwest Chapter, Jason Moreland, W3AWG in Lilly, PA and Dan McClure, AC3JR in Bellwood, PA.
- In the Virginia Metro Chapter, Victor Kernus, W2GSP Fairfax Station, VA and Bryce Polkinghorn KM6VRX Great Falls, VA

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](#)

June 2025

+ PVRC Reunion	1700Z-2000Z, Jun 1
+ PVRC Reunion	2300Z, Jun 2 to 0200Z, Jun 3
+ ARRL Inter. Digital Contest	1800Z, Jun 7 to 2400Z, Jun 8
+ ARRL June VHF Contest	1800Z, Jun 14 to 0259Z, Jun 16
+ All Asian DX Contest, CW	0000Z, Jun 21 to 2400Z, Jun 22
+ ARRL Field Day	1800Z, Jun 28 to 2100Z, Jun 29

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

Editor's Last Word – John K3TN

Thanks to Frank W3LPL, Tom K3AJ, Rick N0YY, Dave NW3L, Alan WA3EKL, Hank K3YDX, Rol K3RA and John N3AM for contributions to this issue of the PVRC newsletter.

I did some bicycling with WA3UOO from Dayton to Xenia on Friday am at Hamvention but we screwed up on timing so missed the group photo session. The weather gods really cooperated this year, saving the deluge for Saturday PM. Tim N3QE did a great talk on “Tina” at the Contesting forum. I really enjoyed the KL9A/N9RV CW SS comparison and how it demonstrated how slow things really are on Sunday. The real-time scoring talk by VA2WA and K9CT raised a lot of questions but pointed out possible ways of attracting new ops to contesting.

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 write-ups 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.

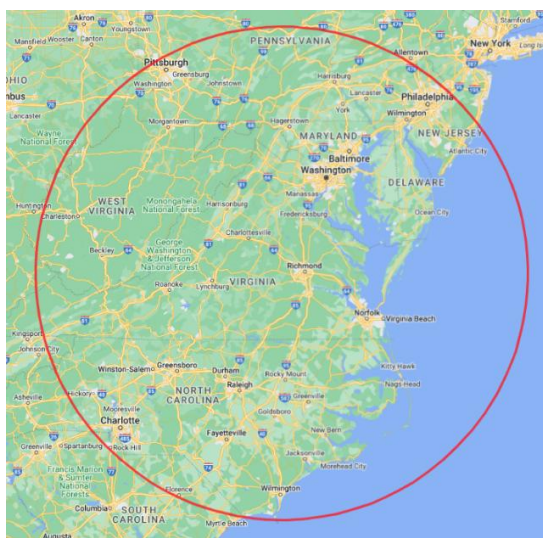
Direct donations to PVRC via Credit Card or PayPal may be made by clicking this "Donate" button and clicking the next Donate button that appears on your screen:



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

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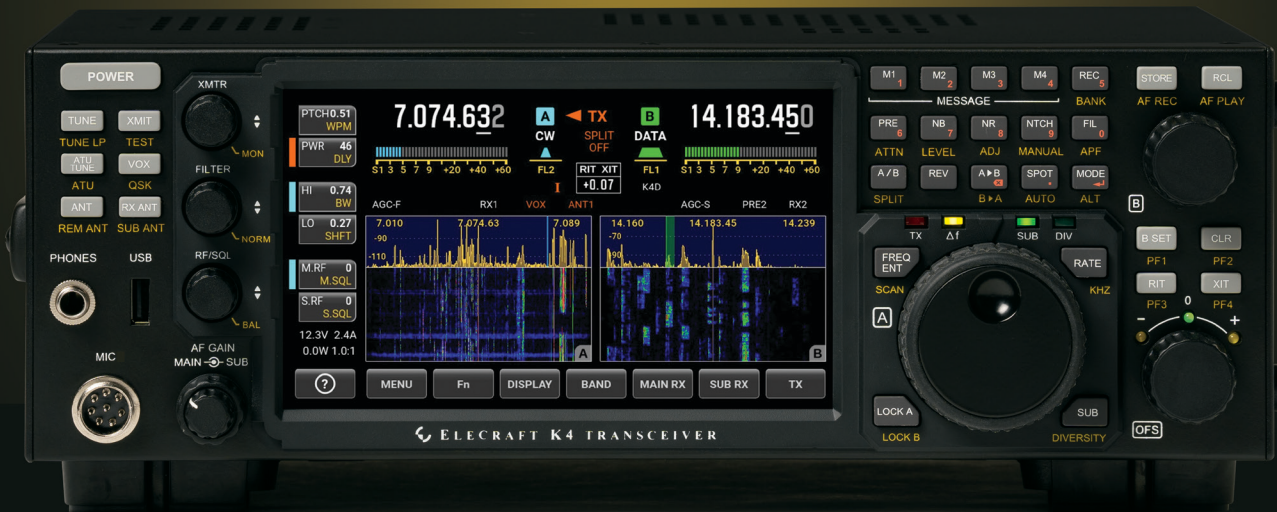
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Our new K4 transceiver harnesses advanced signal processing while retaining the best aspects of the K3S and P3. It features a 7" touch display, plus a rich set of dedicated controls. Per-VFO transmit metering makes split mode foolproof. Band-stacking 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

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IC-9700 | All Mode Tri-Band Transceiver

• VHF/UHF/1.2GHz • Direct Sampling Now Enters the VHF/UHF Arena • 4.3" Touch Screen Color TFT LCD • Real-Time, High-Speed Spectrum Scope & Waterfall Display • Smooth Satellite Operation



IC-PW2 | HF-50 MHz 1kW Linear Amplifier

• 1kW Output Full Duty Single Operator Two Radios (SO2R) • Built-in Automatic Antenna Tuner • Detachable Controller with Touch Screen Display • 2x6 Automatic Antenna Selector - 2 Radio Inputs & 6 Antenna Connections



IC-V3500 | 144MHz FM Mobile

• 65W of Power for Long Range Communications • 4.5 Watts Loud & Clear Audio • Modern White Display & Simple Operation • Weather Channel Receive & Alert Function



IC-7760 | HF150MHz All Mode Transceiver

• New Design-Remote Control Head & Separate RF Deck • Dual Independent Receivers, Spectrum Scope & Waterfall • 200 Watts Output 100% Duty Cycle • Flexible Remote Operation Capabilities



IC-705 | HF/50/144/430 MHz All Mode Transceiver

• RF Direct Sampling • Real-Time Spectrum Scope and Waterfall Display • Large Color Touch Screen • Supports QRP/QRPp • Bluetooth® and Wireless LAN Built-in



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



IC-7300 | HF/50MHz Transceiver

• RF Direct Sampling System • New "IP+" Function • Class Leading RMDR and Phase Noise Characteristics • 15 Discrete Band-Pass Filters • Built-In Automatic Antenna Tuner



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

IC-V86 | VHF 7W HT

• 7W Output Power Plus New Antenna Provides 1.5 Times More Coverage • More Audio, 1500 mW Audio Output • IP54 & MIL-STD 810G-Rugged Design Against Dust & Water • 19 Hours of Long Lasting Battery Life • 200 Memory Channels, 1 Call Channel & 6 Scan Edges



IC-7610 | HF/50 MHz All Mode Transceiver

• Large 7-inch color display with high resolution real-time spectrum scope and waterfall • Independent direct sampling receivers capable of receiving two bands/two modes simultaneously



IC-2730A | VHF/UHF Dual Band Transceiver

• 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

• Analog FM/D-Star DV Mode • SD Card Slot for Voice & Data Storage • 50W Output on VHF/UHF Bands • Integrated GPS Receiver • AM Airband Dualwatch

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

• Bluetooth® Communication • Simultaneous Reception in V/V, U/U, V/U and DV/DV • Enriched D-STAR® Features Including the Terminal Mode/Access Point Mode • UHF (225~374.995MHz) Air Band Reception



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FTDX101MP | 200W HF/50MHz Transceiver

- Hybrid SDR Configuration • Unparalleled 70 dB Max. Attenuation VC-Tune • New Generation Scope Display 3DSS • ABI (Active Band Indicator) & MPVD (Multi-Purpose VFO Outer Dial) • PC Remote Control Software to Expand the Operating Range • Includes External Power With Matching Front Speaker



FTDX10 | HF/50MHz 100 W SDR Transceiver

- Narrow Band and Direct Sampling SDR • Down Conversion, 9MHz IF Roofing Filters Produce Excellent Shape Factor • 5" Full-Color Touch Panel w/3D Spectrum Stream • High Speed Auto Antenna Tuner • Microphone Amplifier w/3-Stage Parametric Equalizer • Remote Operation w/optional LAN Unit (SCU-LAN10)



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



FT-710 Field version also available!

FT-710 Aess | HF/50MHz 100W SDR Transceiver

- Unmatched SDR Receiving Performance • Band Pass Filters Dedicated for the Amateur Bands • High Res 4.3-inch TFT Color Touch Display • AESS: Acoustic Enhanced Speaker System with SP-40 For High-Fidelity Audio • Built-in High Speed Auto Antenna Tuner



FT-891 | HF+50 MHz All Mode Mobile Transceiver

Stable 100 Watt Output • 32-Bit IF DSP • Large Dot Matrix LCD Display with Quick Spectrum Scope • USB Port Allows Connection to a PC with a Single Cable • CAT Control, PTT/RTTY Control



FT-3185RASP | Heavy-Duty 85W 2M FM Transceiver

- Massive Heatsink Ensures Reliable 85W RF Power • Super-DX Function Increases Receiver Sensitivity & Weak Signal Reception • 221 Memory Channels • Large 6-Character Alpha-Numeric Display



FTM-150RASP | 2M/430MHz FM True Dual Band Xcvr

- Dual Receivers Allowing (V+V, U+U, V+U, U+V) Operation • 55W VHF & 50W UHF • Heavy Duty Heat Sink w/Funnel Air Convection Conductor • Front & Main Body Speaker for 6W High Quality Audio



FTM-500DR | C4FM/FM 144/430MHz Dual Band Xcvr

- Front Firing Acoustically Enhanced Speaker System • True Dual Band Operation, C4FM/C4FM Digital D-D Dual Receive • 2.4" High-Resolution Full-Color Touch Panel Display • Built-in High Precision GPS Receiver • Wireless Operation Capability with Optional Bluetooth® Headset

FT-70DR C4FM/FM 144/430MHz Xcvr

- System Fusion Compatible • Large Front Speaker delivers 700 mW of Loud Audio Output • Automatic Mode Select detects C4FM or Fm Analog and Switches Accordingly • Huge 1,105 Channel Memory Capacity • External DC Jack for DC Supply and Battery Charging



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



FTM-6000R | 50W VHF/UHF Mobile Transceiver

- All New User Operating Interface-E20-III (Easy to Operate-III) • Robust Speaker Delivers 3W of Clear, Crisp Receive Audio • Detachable Front Panel Can Be Mounted in Multiple Positions • Supports Optional Bluetooth® Wireless Operation Using the SSM-BT10 or a Commercially Available Bluetooth® Headset

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