PVRC Newsletter
November

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 – Mike N4GU

Contest [*noun* **kon**-test; *verb* k*uh*n-**test**]
noun

1. a race, conflict, or other competition between rivals, as for a prize.
2. struggle for victory or superiority.

verb (used with object)

3. to struggle or fight for, as in battle.

(dictionary.com)

We use contest as both a noun and a verb. By definition, contest implies a competition. But the question is, "against what or whom?". That is a question with multiple answers. At its root, we compete against ourselves. We try to beat (or at least equal) last year's score in a particular contest. We might also compete against a friend or peer station. This is (hopefully) a friendly rivalry where you use the competition to motivate you to do more. That usually means more BIC time (Butt In Chair). But it could be motivation to switch from search and pounce to running during the contest. Think about what motivates you. What gets your competitive juices flowing and makes you try a little harder or longer. Our radio hobby should primarily be about fun. But competition can be fun as well.

In a recent QST I saw that the ARRL is transitioning to online voting for Division Director elections. It will take about two years for them to transition through a hybrid approach with electronic voting as an option. I am happy to say that this year is the third year for PVRC to use all electronic voting for club officers and trustees. We made the switch when COVID shut down our in-person meetings. Previously, whoever showed up to a November or December meeting could cast a ballot, but if you missed those meetings, well, you didn't get to vote. By moving to an online electronic election platform, we allow more members to be able to vote, even if they rarely make it an in-person meeting. If they are contributing to the club's efforts, they should be allowed to have a say in the leadership of the club.

The ARRL Board of Directors meets twice a year, in January and July. At these meetings various committees present reports on their activities. For most of us, the important ones are the Contest Advisory Committee (CAC) Report and the DX Advisory Committee (DXAC) Report. These can be found on the ARRL website. While many of the reports can be rather

dry, these two usually have some nuggets of information that can affect us in our avocation of contesting. It is here where you can get a preview of changes coming to ARRL contests (and what's not changing). The Contest Advisory Committee has been working their way through a backlog of items and doing a good job of clearing the backlog.

As an example of the items on their agenda, there is a proposal for limited antennas that is being discussed. Unfortunately, there are no details on the proposal, but one would assume it would entail a new category or overlay. It is worth taking a few minutes after the January and July BOD meeting to search out and read these reports. If you have questions or comments on the committee's activities, they should be directed to your divisional CAC representative. The Atlantic division representative is K3WW. The Roanoke division representative is K4ZA. I saved the best news for last. **The NAQPs are coming back**! Ever since the old NAQP Club Competition ended in 2021, the officers and other members have been working trying to resurrect a new version of the club competition. One of our goals was to open up the competition to more clubs than just the original three.

We are announcing a new NAQP club competition, the NAQP Online Scoreboard Club Challenge (NOSCC). The only requirement for this competition is to have your score posted on the Contest Online Scoreboard (https://contestonlinescore.com/) either during or at the end of the contest(s). All clubs will be eligible with club scores being the total of member scores posted on the online scoreboard. PVRC will be administering the club challenge, taking the total club scores from all six yearly events to declare a winning club, who will be given a plaque to commemorate their success. Details will be available elsewhere in the newsletter. We will also be posting some tutorials on using the online scoreboard as well. The folks behind the Contest Online Scoreboard are very happy to support this new competition and I hope you, our members, will be happy to participate.

With a club competition for the NAQP contests, they will now be eligible to be re-introduced back into the 5M and Olympics award programs. Beginning January 2023, the six NAQP events will added back. The only stipulation is that to get 5M points and Olympic credit, you must get your score listed on the Contest Online Scoreboard.

73, Mike N4GU

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Newsletter Editor: John K3TN jpescatore@aol.com

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PVRC on Facebook: https://www.facebook.com/groups/PotomacValleyRadioClub/

Announcing the NOSCC: NAQP Online Scoreboard Club Challenge

The Potomac Valley Radio Club welcomes all contest clubs to compete in the NAQP Online Scoreboard Club Challenge (NOSCC) starting in January 2023. This event encourages not just rivalry between clubs, but also challenges individual club members to increase their BIC (Butt-In-Chair) time as they observe their score in real-time on the online scoreboard relative to their neighbors.

How do you contribute your NAQP scores to your club? You must report your score in real-time to the Contest Online Scoreboard. Sign up for the Contest Online Scoreboard by creating a scoreboard profile and following the instructions for your logger here. Make sure your logger is configured with your full club name (for example, in N1MM+, under Config->Change Your Station Data in the "Club" field).

While each NAQP is going on, compare your score on the Contest Online Scoreboard's "Club" tabulation to those with similar stations in your club and competing clubs. Every time you feel a need to get up, look at how close the guy is right behind you and know that he and others will probably pass you up while you're taking a break.

How are club results computed? The day after each NAQP, the NOSCC coordinator (PVRC for the first year) will check club score totals by viewing the "Club" tab for the recently completed contest. Single-Op, Single-Op Assisted, and M/2 scores all count towards each club's total for the contest which are recorded in a spreadsheet and tracked here.

Total Contest Online Scoreboard points for each club will be summed for all six calendar-year NAQP events: January CW and SSB, February RTTY, July RTTY, and August CW and SSB. In late August, the final NOSCC club totals will be announced by the NOSCC Coordinator.
A plaque will be awarded to the winning club.

The Koss SB45: An Alternative to the Yamaha CM500 – Tom K3AJ

The Yamaha CM500 has been a go-to low-cost option for a decent radio headset. Alas, it seems to be heading toward unavailability. Amazon no longer lists a price, but they refer you to a third-party seller that still has them for a highly inflated price of $109.95 (they used to sell for about $50). The Yamaha website just says the CM500 is "sold out."

NR4M apparently made this discovery and came up with what appears to be an excellent alternative - the Koss SB45. He bought a few extras to raffle off at the PigFest and I was lucky enough to score one of these. I thought I would post some information and pictures.

Here are my impressions:

- The ear pads are essentially identical to those of the CM500. Unfortunately, that doesn't bode well as earpad durability is a weakness of the CM500.
- The headband appears to be sturdier, and they adjust and fit very well. Overall, I would say the comfort is a bit nicer than the CM500.
- The cable comes off the left earphone on the SB45, which I like better than the "Y" style cable on the CM500 - another plus for the SB45.
- These are less expensive than the CM500. Amazon has them for $30.73

In on-the-air testing the audio quality is the same as the CM500.

A few pictures attached. One of them shows the SB45 and the CM500 side by side so you can see the difference in the headband.

The Koss SB45

A view of the ear pads

Yamaha CM500 on the left and Koss SB45 on the right

PVRC Outreach at CARAfest – Ted WA3AER

On Sunday, 2 October 2022 at the invitation of CARA (Columbia Amateur Radio Association) PVRC set up an information table at CARAfest. CARAfest is CARA's annual Hamfest held at the Howard County Fairgrounds. This Hamfest is one of the premier events in Maryland. When the weather is good, CARAfest attendance is upwards of 300. Unfortunately, this year Hurricane Ian was passing by, leaving the fairgrounds wet with rain, and attendance was lower.

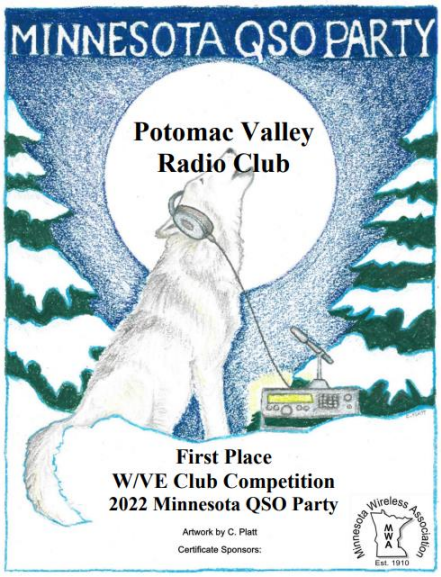
In spite of the weather, a number of people passed our table, and a number took our brochure and asked about the club. We baited the table with chocolates, of which some took advantage. And, seeing that there would be plenty of candy left over, our stash was shared with others who had set up tables in the hall.

Rol K3RA, and Ted WA3AER, manned the table.

Annapolis Chapter Meeting at the Broadneck Grill – Dan K2YWE

Left to right - Ross W2OK, Dave W3MAM, Bruce WK3A, Dan K2YWE, Ulis K3LU, Fred W3ICM, Fred K3ZO. There was a later Zoom meeting with others.

More PVRC Club Competition Wallpaper



PVRC continues to win club competitions. PVRC President Mike N4GU says "Your efforts keep PVRC's winning tradition going. Thank you and keep having fun!"

PVRCers Chowing Down at the Pigfest – Bud W3LL

Scatter Your Old QSTs Like Seeds – ARRL Club News Newsletter

This is a cool idea – when QST has coverage of "maker" stuff (like the October issue and 3D printing) I've been giving the issues to friends who have kids into the maker wave. John K3TN

From ARRL Club News:

There's no need to keep all of your print editions of *QST* now that you can access them online. So, keep some of them in your car, and when you visit the doctor, barber shop, auto repair place, etc., leave them with all of the other magazines provided at each business for others to browse them while they wait. You should probably use a marker to cross out the name and address, as you would not want to advertise that the addressee has valuable electronics gear at that residence. Better yet, get some Avery® labels to cover up that information. I suggest printing your club's information on the label, such as: "Compliments of the Podunk Valley Amateur Radio Society (www.podunkars.org). We meet every third Tuesday at 7:30 PM at the Podunk Rescue Squad Headquarters Building, 101 Main St. Visitors are always welcome!" - *Raymond "Woody" Woodward, K3VSA (AD, RK), an ARRL-trained Public Information Officer*

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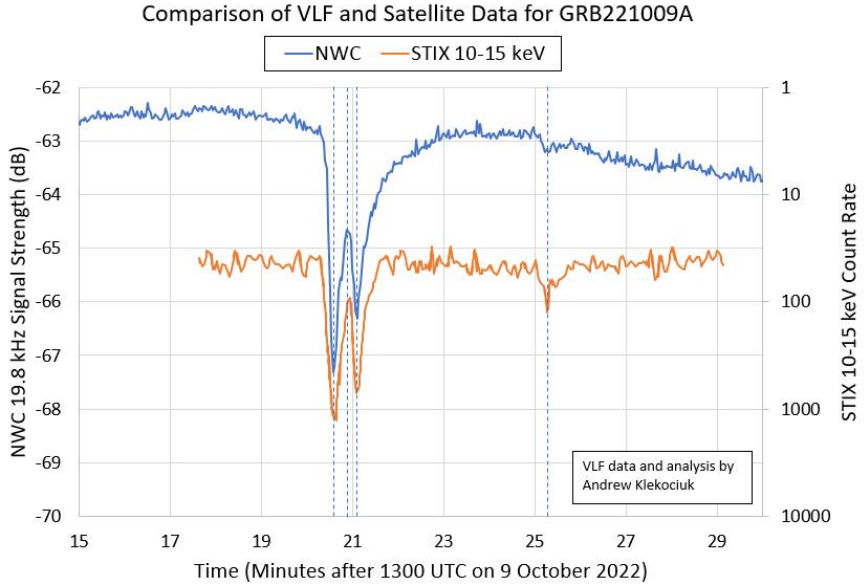
Gamma Ray Burst from Black Hole Made Currents Flow in the Earth

From Spaceweather.com:

Astronomers have never seen anything quite like it. On Oct. 9, 2022, Earth-orbiting satellites detected the strongest gamma-ray burst (GRB) in modern history: GRB221009A. How strong was it? It caused electrical currents to flow through the surface of our planet. Dr. Andrew Klekociuk in Tasmania recorded the effect using an Earth Probe Antenna:

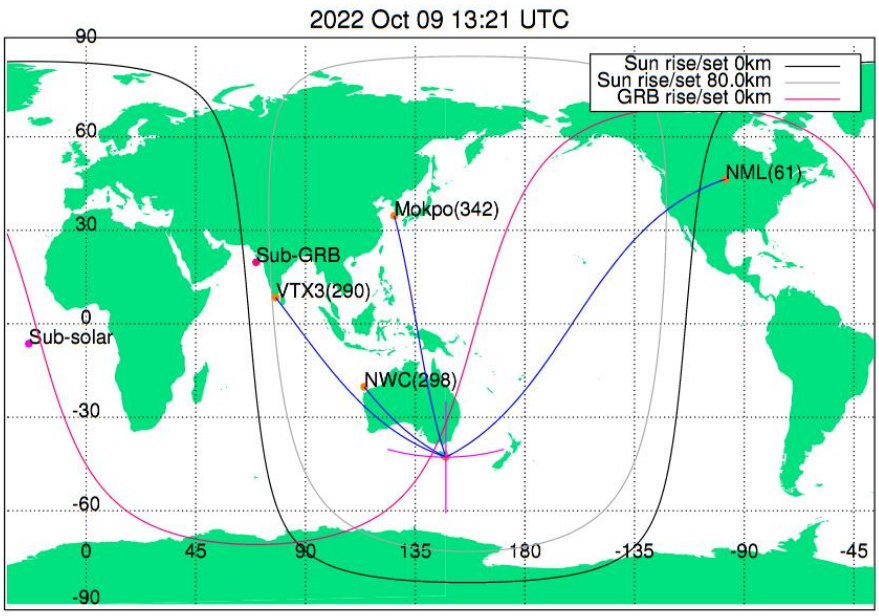


Note: Data from STIX have been flipped (increasing counts go down) to ease comparison of the two waveforms. NWC is a VLF transmitter in Australia.

The blue curve is a signal from Klekociuk's antenna, which was sensing VLF (very low frequency) currents in the soil at the time of the blast. The orange curve shows the gamma-ray burst recorded by the high-energy STIX telescope on Europe's Solar Orbiter spacecraft, one of many spacecraft that detected the event. The waveforms are a nearly perfect match. "I am a climate scientist at the Australian Antarctic Division–that's my day job," says Klekociuk. "VLF is my hobby. I started doing VLF radio measurements in the 1970's when I was in high school. This is the first time I have detected a gamma-ray burst."

Klekociuk's unusual "ham rig" uses Earth itself as a giant antenna. In his back garden there are two metal spikes stuck into the ground 75 meters apart. They are connected to a radio receiver via insulated buried wires. In recent years amateur radio operators have been experimenting with this weird kind of antenna to detect VLF radio signals circling our planet in the Earth-ionosphere waveguide. Earth's crust forms one of the waveguide's walls, allowing Earth Probe antennas to detect distant transmitters.

"During the gamma-ray burst I detected flickering from multiple stations," says Klekociuk, who made this map showing transmission paths illuminated by the GRB:

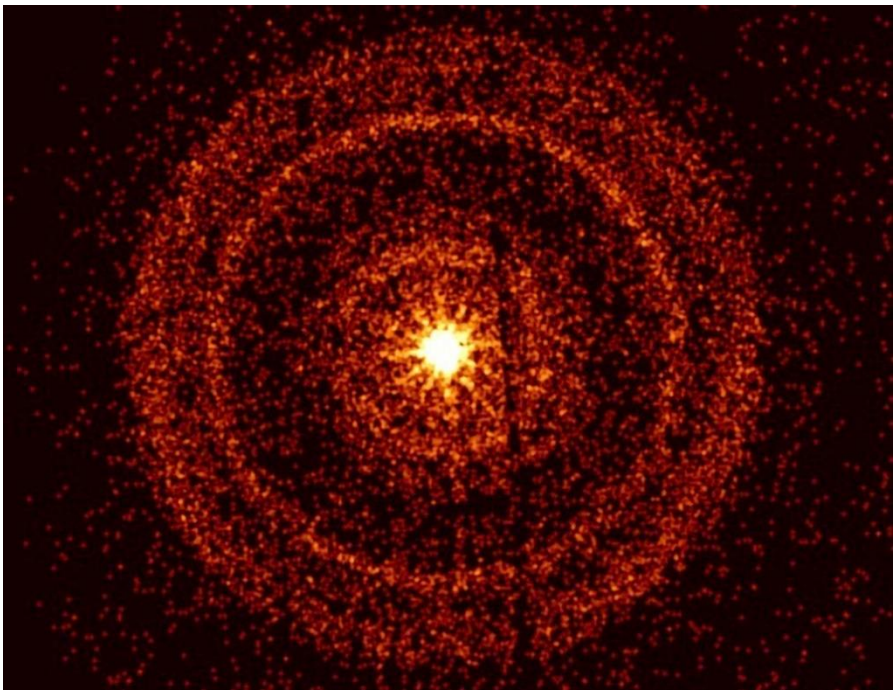


NWC, VTX3, Mokpo and NML are VLF transmitters Klekociuk monitors using his Earth Probe Antenna. GRB effects were observed for all except NML, which was outside the radiation footprint.

Researchers have known since 1983 that gamma-ray bursts can ionize Earth's atmosphere and, thus, disturb the great waveguide. This appears to be the first time anyone has recorded the effect using an Earth Probe Antenna.

The outburst on Oct. 9th shocked astronomers. Consider this tweet from Phil Evans of the University of Leicester in the immediate aftermath of the burst: "It's bright. Really bright. Like, stupidly really bright." Evans works with data from NASA's Swift gamma-ray observatory, and the overflowing signal had apparently broken some of his plotting software.

Researchers have since pinpointed the burst. It came from a dusty galaxy 2.4 billion light years away, almost certainly triggered by a supernova explosion giving birth to a black hole. This is actually the closest GRB ever recorded, thus accounting for its extreme intensity.

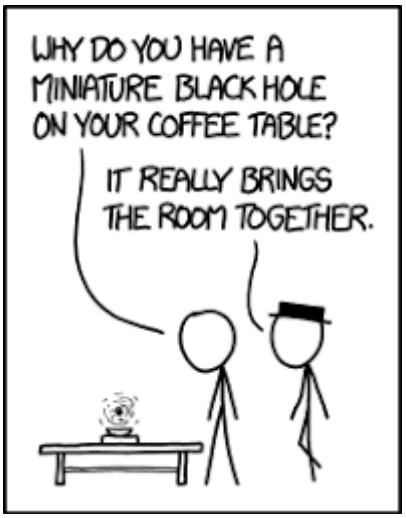


The afterglow of GRB 221009A about an hour after it was first detected. Credit: NASA/Swift.

"In our research group, we've been referring to this burst as the 'BOAT', or Brightest Of All Time, because when you look at the thousands of bursts gamma-ray telescopes have been detecting since the 1990s, this one stands apart," says Jillian Rastinejad, an astronomer at Northwestern University who has been monitoring the burst's afterglow using the Gemini South Telescope in Chile.

Meanwhile, other observers in the UK and Germany have also reported ionospheric disturbances resulting from the burst. They all used regular above-ground antennas.

2.4 billion light years away… Now that's DXing.



PVRC 160 Meter DXCC Standings – Frank W3LPL

Below are the 160M 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
W8LRL	344	N1LN	219	N4GG	145	K5RJ	114
W4ZV	338	W0VTT	218	W3IP	145	N3MN	114
W4DR	337	W4NL	214	N3KK	144	N4DJ	113
W3UR	321	W3YY	213	WA2BCK	143	K1KO	112
W3LPL	316	N4MM	212	W3BW	141	W3MR	112
K4CIA	306	K3WA	210	W4VIC	140	W3UL	112
K4ZW	302	W3GG	200	W2YE	138	KA4RRU	110
N2QT	287	K5RT	199	W4YV	138	NA1DX	110
W4PK	287	K3JT	193	N4PY	135	N3HBX	110
K3SX	285	N4DB	192	AA4NC	132	N3IQ	110
K4SO	280	K4FJ	192	K5VIP	130	K1BZ	109
KG4W	271	K1GG	187	N3KS	129	W3NRJ	108
K6ND	263	K2PLF	174	N3RR	129	W4ZYT	108
K5VRX	256	K3AJ	174	K3XA	128	W3KB	107
W3DF	254	W4FQT	172	W0YVA	127	K3WC	106
N3NT	253	N3OC	170	N3MK	126	N4NW	105
WB3AVN	245	N4XX	169	KM3V	123	W3TMZ	104
KG7H	242	K4XD	167	W2GG	121	W3XY	103
WX4G	242	K3KY	166	K2BA	120	W3EKT	102
K1HTV	238	N4QQ	163	W4PRO	120	W4JVN	102
W3KX	236	NR4M	158	W4HZ	119	KE4S	101
K3SWZ	235	N8II	153	AE3T	118	K3TZV	100
K4XL	232	W2RS	152	N3UA	118	KC4D	100
K1AR	228	N5JB	151	N3ND	117	KN4KL	100
K5EK	228	N3QE	150	W4NF	117	N3AF	100
W3LL	224	K4RG	147	N4TL	116		
AB3CV	221	N3RC	147	K0GD	115		
WS6X	221	K3TN	145	K3OSX	114		

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

November 2022	
+ ARRL Sweepstakes Contest, CW	2100Z, Nov 5 to 0300Z, Nov 7
+ WAE DX Contest, RTTY	0000Z, Nov 12 to 2359Z, Nov 13
+ OK/OM DX Contest, CW	1200Z, Nov 12 to 1200Z, Nov 13
+ ARRL Sweepstakes Contest, SSB	2100Z, Nov 19 to 0300Z, Nov 21
+ CQ Worldwide DX Contest, CW	0000Z, Nov 26 to 2400Z, Nov 27
+ Ham Spirit Contest, SSB	0600Z, Nov 26 to 0559Z, Nov 27

Editor's Last Word – John K3TN

Thanks to Tom K3AJ, Ted WA3AER, Dan K2YWE, Bud W3LL and Frank W3LPLfor contributions to this issue of the PVRC newsletter.

The quality and usefulness of the PVRC newsletter depends on contributions from members. If you have photos from club meetings, screen shots of new contest software, or brief 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:

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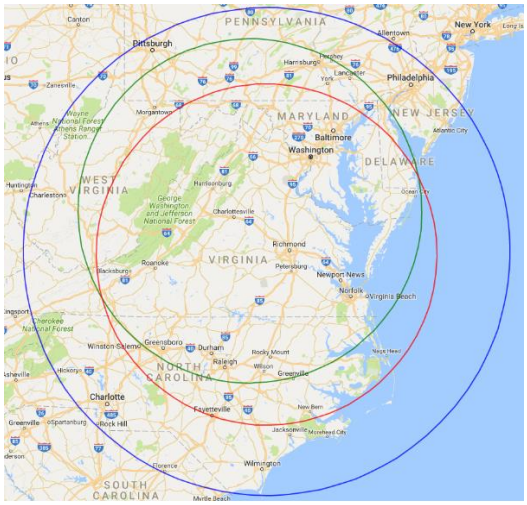
Donations to PVRC are not tax deductible

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.



Green: ARRL VHF Circle
175 mile radius
Around 38.075N,
78.171W

Red: ARRL HF Circle
175 mile radius
Around 37.43168N,
77.858482W

Blue: CQ HF Circle
250 mile radius
Around 37.43168N,
77.858482W

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Power and SWR Meter

New!

Now available from DX Engineering, Monitor Sensors' highly regarded Power and SWR Meter delivers accurate RF power readings from 10mW up to 2,000W and SWR measurements at power levels as low as 50mW. This compact and reliable Australian-made meter has a straightforward, easy-to-use design housed in a sturdy chassis that's a great choice for both high-powered stations or QRP operations. The meter works with CW, SSB, AM, FM, RTTY, and Digital modes. Features include 130 kHz to 30 MHz coverage; the ability to change LCD display backlighting color in relation to current SWR readings; and solid state opto-isolated contacts for high SWR alarm or amplifier keyer line interrupt. **Enter "Monitor Sensors" at DXEngineering.com.**

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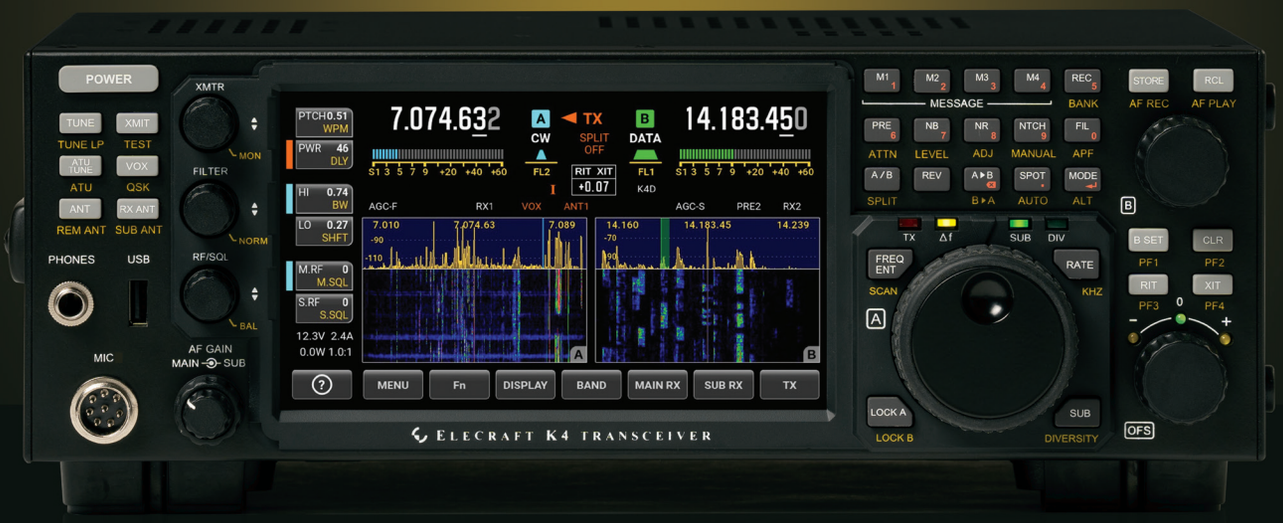

A direct-sampling SDR you'll love to use

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**

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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 ModeTransceiver*

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 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

FTM-300DR | *C4FM/FM 144/430MHz Dual Band*

• 50W Output Power • Real Dual Band Operation • Full Color TFT Display • Band Scope • Built-in Bluetooth • WiRES-X Portable Digital Node/Fixed Node with HRI-200

FT-2980R | *Heavy-Duty 80W 2M FM Transceiver*

• 80 watts of RF power • Large 6 digit backlit LCD display for excellent visibility • 200 memory channels for serious users

FTM-200DR | *C4FM/FM 144/430MHz Dual Band*

• 1200/9600bps APRS® Data Communications • 2" High-Res Full-Color TFT Display • High-Speed Band Scope • Advanced C4FM Digital Mode • Voice Recording Function for TX/RX

FTM-400XD | *2M/440 Mobile*

• Color display-green, blue, orange, purple, gray • GPS/APRS • Packet 1200/9600 bd ready • Spectrum scope • Bluetooth • MicroSD slot • 500 memory per band

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-E2O-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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