PVRC Newsletter
January 2022

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Website: http://www.pvrc.org
Meeting Info: http://www.pvrc.org/chapters.htm
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President's Letter – Mike N4GU

Happy New Year 2022! This year marks a milestone for PVRC. It was in September 1947 that the Potomac Valley Radio Club (originally the Aurora Hills Amateur Radio Club) was organized and elected its first slate of officers at the home of W4KFT. Now 75 years later we are celebrating the diamond anniversary of PVRC. The club has grown significantly in size and geographic coverage over the last 75 years. But we still uphold the values of our founders.

If you look at the top of the newsletter page, the website and on our social media outlets, you will see a modified version of the PVRC logo with a 75th anniversary banner. We will be using this logo throughout 2022 as part of our 75th anniversary celebration. It was designed by Gordon Garrett K1GG, and we thank him for his work. We plan to announce a couple of other events also related to the 75th anniversary.

You may notice there's a new guy writing the president's letter this month. The yearly officer and trustee elections has introduced some new faces. Results are in a separate article, but most significantly, Dan K2YWE/K3AU has retired as a PVRC officer. Dan has served in one officer capacity or another since 2017, most recently as president. I want to thank Dan for his service and leadership to the club. He's not going too far, as he still serves as the Annapolis chapter chair and he will still be advising the officers as needed.

The North American QSO Parties (NAQP) are a popular series of contests that we included in the 5M Program based on the existence of the NAQP Club Challenge between PVRC, NCCC, and SMC. In a separate article K2YWE reports that the NAQP Cub Challenge is being discontinued (for now). We will be working with the other clubs to devise a new Club Challenge format that hopefully may include some additional clubs. In the meantime, we are working to create an NAQP award program for 2022 within PVRC. We will have full details published before the first NAQP event (CW, January 15) this year. Watch the website and the reflector for the details.

Once again due to COVID, the Richmond Frostfest is canceled. It has been the site of the Galactic Luncheon before COVID. Like last year, we are planning on having an online to replace the Galactic Luncheon i.e., the Galactic Event II on the same date and time. Details will be released shortly. In the meantime, we have lots of on-air activities to keep us busy in January. **GO PVRC!**

PVRC Election Results

Voting for PVRC officers and trustees ended December 15. The new officers for 2022 are:

President - Mike Barts, N4GU
Vice-President – Doug Hart, AA3S
Vice-President – Bill Axelrod, K3WA
Secretary – Tim Shoppa, N3QE
Treasurer – Ted Bauer, WA3AER

They will serve one-year terms beginning January 1, 2022

Trustees elected are:

MD/DC/DE – Tyler Steward, K3MM
VA/WV – Dick Allardyce, N4RA
At-Large – Bud Hippisley, W2RU

They will serve three-year terms beginning January 1, 2022

PVRC Officers:

President:	N4GU	Mike Barts
Vice President:	K3WA	Bill Axelrod
Vice President:	AA3S	Doug Hart
Secretary:	N3QE	Tim Shoppa
Treasurer:	WA3AER	Ted Bauer

Trustees:

K3MM, N3OC, K2AV, K7SV, W3LPL, N3KN, W2RU, W3LL, N4RA

PVRC Charter Members (all SK):

W3GRF, W4AAV, W4KFC, N0FFZ, W4LUE, W7YS, VP2VI/W0DX, W3IKN, W4KFT

Newsletter Editor: John K3TN jpescatore@aol.com

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Moving Up the "N1MM Maturity Model"

I've worked in computers, networks, software and what we now call cybersecurity since I got out of college in 1978. Even back then it was apparent that the most complex part of systems development had become software and the biggest reason projects failed was the software development process failed That resulted in the Department of Defense in 1986 sponsoring the Software Engineering Institute at Carnegie Melon University to develop a Software Capability Maturity Model with defined levels starting at "Chaotic " (later changed to the more politically correct "Initial") and going through "Defined" and reaching the highest level of "Optimizing."

I've applied that model for various other disciplines many times over the years. Here we will use it for describing various levels of contest use of the popular N1MM Logger+ software, using three levels:

1. **Initial** (changed from the politically incorrect "Slightly Above QLF"
2. **Competitive**
3. **Optimizing**

There are plenty of resources to get to the Initial level, here are a few good ones:

- N4ZR N1MM Quick Start Guide -a bit dated (shows Logger not Logger+), but very readable
- N1MM Getting Started – voluminous, but the definitive guide
- N1MM Logger Plus Forum
- N1MM Logger+ RTTY Quickstart Guide – you guessed it, setting up N1MM for RTTY

Once you are at the Initial level, you'll be able to start up contest logs, log contacts and submit contest logs. If you are entering the assisted category, you have figured out the Telnet window works and how to click on spots on the bandmap. But there are many features and functions of N1MM's software that you can take advantage of to go further and maximize your points per BIC time spent.

This first of several articles will focus on getting to the Competitive level – we'll have future articles on Single Op 2 VFO and post contest/log management. This series includes contributions by Pete N4ZR, Bill W3UL, Jim WX3B, and John K4HQK.

Getting to the Competitive Level

First, a few hints on optimizing your function keys since you will spend a lot of time with them in any contest. The starting point is when you first open a new N1MM contest log. If you click on the Associated Files tab, you will see default .mc files (how N1MM stores Fkey definitions) and have a chance to select other files by clicking on "Change." N1MM will usually suggest the latest version of an Fkey file for that contest, or you can stick with the default and edit it by right clicking on the Entry Screen. Review any .mc file you use to remove any extraneous info you don't want in there, like "de …" or extra TUs and the like

.

There are a lot of other keyboard shortcut commands besides F1-F12 – look here for a good list.

***From Bill W3UL**: The Apostrophe (') sends F3 + {LOG} but my F3 also has {MYCALL} and {CLEARRIT} after each QSO. When I'm running and hear lots of callers I often eliminate sending {MYCALL} to let the next caller have a chance sooner. This speeds things up and seems common as long as one ID's every 2nd or 3rd QSO. To do this I have set the Running F-Key: F11 TU Log, TU {LOG} {CLEARRIT}*

An elegant way to accomplish what Bill did is to use the VARYMSG macro, full info here. For example, putting {VARYMSG1 &TU *&TU * {MYCALL}&3&} in your F3 message will only send your call after TU every third time – meeting the accepted norm in contesting, or you can change 3 to 2 and do it every other QSO.

Enter Sends Message (ESM)

The next leap in productivity comes from mastering the Enter Sends Message (ESM) mode that N1MM and most other modern contest logging programs support.

Essentially, in ESM mode the software keeps track of where in the Run or S&P QSO sequence you are and hitting Enter will **always** send the right response – no other keys needed. If you haven't tried this yet, it is a game changer. If you are basically using N1MM the same way as you used CT, you are going to hate it at first. But once you learn how to use it, you will never go back.

First, read up on ESM here. Then hit CTRL-M and play around making imaginary Qs running and S&Ping. Then try it in a few contests Once you have gotten the hang of it, you may want to turn on "The Big Gun" switch. If on, when you are S&Ping ESM will send your call and move the cursor to the exchange entry field - assuming you got through the first call. If you don't feel like a big gun, turning this off will leave the cursor in the callsign entry field and you keep hitting enter until you get through. Once you do, hit the spacebar to put the cursor in the exchange entry field. You turn this on/off in the Configurer's Function Key tab or via CTRL-M.

So, now you are rocking and rolling – running by hitting F1 or hitting Enter. You are S&Ping by tuning that VFO knob, finding new ones, entering their calls and hitting Enter. Life is good if you are in the non-assisted category, and if you go assisted you are now clicking on spots on the bandmap and then hitting Enter. But you can turbo charge your use of spots and dramatically increase your S&P rates.

For assisted ops, taking advantage of cluster spots can require a lot of mouse clicking. Some ops feel that less use of the mouse will increase their rate by keeping their hands on the keyboard and near that Enter key. Instead of clicking on the bandmap, they prefer to use the keyboard shortcuts:

- **Ctrl+Down Arrow** – Get next spot higher in frequency.
- **Ctrl+Up Arrow** – Get next spot lower in frequency.
- **Ctrl+Alt+Down Arrow** – Get next spot higher in frequency that is a multiplier.
- **Ctrl+Alt+Up Arrow** – Get next spot lower in frequency that is a multiplier.

Other ops prefer to use the mouse with one hand and keep their non-mouse hand hovering over the keyboard.

September 2020 NCJ published a K3TN article called “Super S&P” with lots of detail – if you don’t have the physical copy, go to any digital issue of NCJ and use the Search Archive function. Here’s additional hints from the list of PVRC contributors.

Take advantage of the programmable buttons and text messages at the top of the Bandmap window and other ways to customize this window – info here.

Use the Available Mult/Q window. Info here. Set it up to sort by time of spot, so the “freshest” spots will be at the top. (Note: K3AJ points out that if you use Steppir Antennas, this might not work for you since making big jumps from Q to Q may have you transmitting before the Steppir elements can tune. You might have to sort by frequency to avoid that) Use ALT A to pluck the spot at the top of window, work ‘em and repeat.

***From Pete N4ZR**: I find that it's easily possible to achieve "last 10" rates of over 200 in this way, and routinely have S&P hours over 120. When clicking on the top spot, I quite often catch the guy sending the last letter or two of his call. I know two things - if he's sending his call, and it matches even the last character of the latest spot, it's worth dumping in a call, because there's no other reason he's be signing his call except ending a QSO and soliciting other callers.*

Contest specific hint: In contests like RAC or other country specific contest, you can sort the Available Mult/Q window by call and quickly work all those 10 and 20 pointers.

Use your Panadapter or Spectrum Display

Some ops are fans of using a panadapter or spectrum display for finding a run frequency or finding CQers, especially in RTTY contests. N1MM does support a Spectrum Display window, full info here, and you can integrate a waterfall/spectrum display with the bandmap and do very cool things.

***Pete N4ZR says:** The waterfall is great for finding Run frequencies, particularly when combined with the Call-Frame (above the Entry Window's Callsign textbox). Quite often, I'll see a spotted station's callsign in the Call Frame, while the parallel-line "cursor" in the Spectrum Display shows that my signal should be between stations. Generally, I tweak a little to see if I'm right on the edge of the 300-Hz spread that N1MM normally uses to define a spot's frequency, but it's not atypical to find that he's off one side or the other of my 500 Hz passband and not a problem in getting a run going. I don't click on spots in either the Spectrum Display or the Bandmap, because I consider the time of arrival of the spot to be the most decisive variable for keeping a high QSO rate. In fact, I rarely display the Bandmap.*

Rick N1RM has a hint for using an external SDR or panadapter display even if you haven’t done the integration with N1MM yet: *I use CTL DOWNARROW to jump to the next spot while watching the spectrum. That helps me find some signal that for some reason had not been sucked up into the skimmer vacuum cleaner. An alternative approach which is a little slower is to tune across the band for spectrum energy and glance at the bandmap to see what’s there.*

Start Yanking

N1MM's Check window is a pretty amazing tool, especially when running. It essentially searches the SuperCheck Partial database for the closest matches to whatever you have entered into the callsign field in the Entry window.

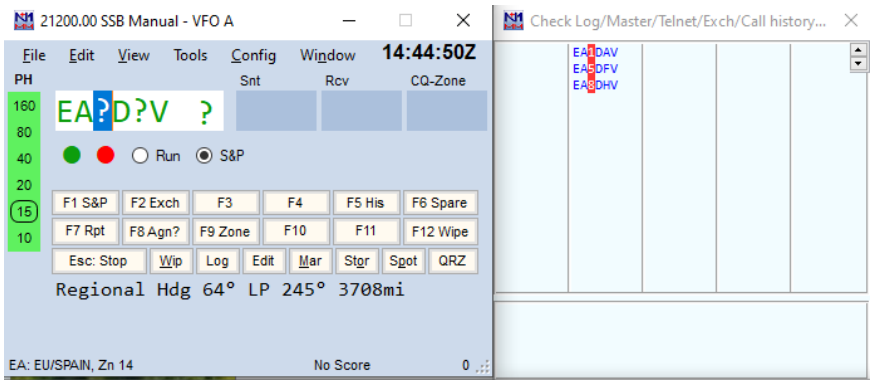
From Jim WX3B: One of my favorite N1MM+ features is the Yank (ALT+Y) feature, which can save you typing time when you are in need of completing or correcting a call sign that happens to exist in the MASTER.DTA database as shown in the Check Log window.

The scenario for using this feature is as follows: You are running a big pileup (or not) and you copy EA?D?V and enter it into the call sign window, and of course, you realize it must be Jose, EA5DFV.

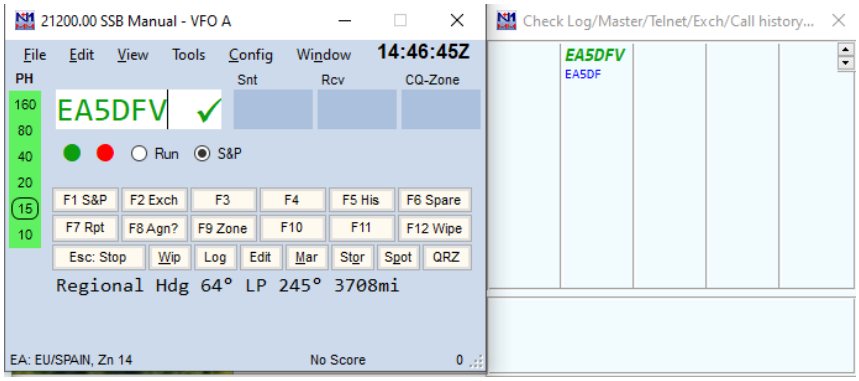
Rather than make the correction the **hard** way, you simply type ALT+Y, and keep pressing that key combination until the log entry window has the correct call sign in it.

Here is a graphical look at how this feature works on N1MM+

1. Operator enters the partial call sign – and the Check Log window shows (3) possibilities



2. Operator immediately realizes it's EA5DVF and types ALT+Y twice quickly, "yanking" EA5DFV right into the call sign entry window.

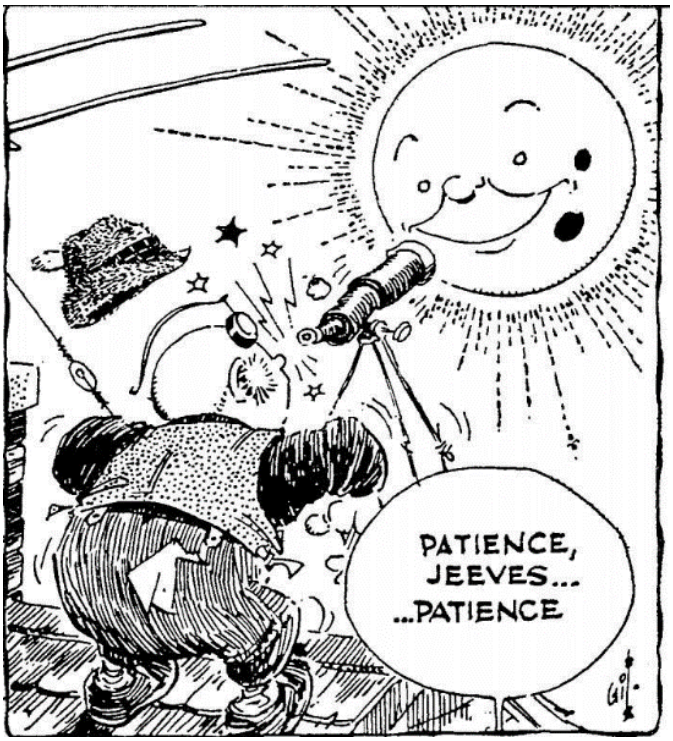


Of course, the more information you provide with the partially or incorrectly copied call sign the better the fewer "Yanks" you have to do, and the better this feature works.

The Other Side of the Multiplier Pileup – TK0C

Nice video of the TK0C Multi-Multi effort in CQ WW CW here.

Sunspots – Alan N3ALN via Facebook



The NAQP Challenge Cup: History and Future – Dan K2YWE

As you may know, the NAQP Challenge (NAQPC) has been an annual competition between three of the USA's premier contest clubs - NCCC, SMC, and PVRC. All logs received by NCJ for individual club members for any or all of the six NAQP 'legs' are included in the scoring for their club. Both high participation and high personal scores are rewarded in the team totals, which means that both big guns and little pistols contribute meaningfully to the success of the Club Score. The factors which weighed most heavily have changed over the nine years of the cup's existence. PVRC has won five of the nine cups, including the last three years, aided by a combination of individual efforts, total logs submitted and band conditions favoring the East coast. Having won the 2021 NAQPC, the Cup is currently in the possession of PVRC.

Challenge Cup Winner history:

- 2013 Northern California Contest Club
- 2014 Potomac Valley Radio Club
- 2015 Society of Midwest Contesters
- 2016 Potomac Valley Radio Club
- 2017 Society of Midwest Contesters
- 2018 Society of Midwest Contesters
- 2019 Potomac Valley Radio Club
- 2020 Potomac Valley Radio Club
- 2021 Potomac Valley Radio Club

In October of this year Tim Gennett K9WX, the administrator, arbitrator, scorer, and webmaster for the NAQPC over the past six years, announced that he was hanging up his spurs. It is a well-deserved retirement, and we are grateful to Tim for the hard work he put in for all of us that participated in the NAQPC. New administration was thus needed and PVRC quickly lined up a team to take over the work. However, further discussions by the clubs concluded the Challenge had met its initial goal of fostering increased NAQP participation and it was time to take a break. Consequently, the Challenge in current form has been suspended for the upcoming 2022 calendar year.

Nevertheless, as a high level NAQP participation in all modes has become a PVRC tradition, the PVRC officers believed some form of intra-club activity during the 2022 events would be helpful to maintain that high level of participation during the dormancy of the Challenge. Thus, the officers set about creating a meaningful and productive intra-club NAQP related activity. The details are being worked out now. Emphasis will likely be on helping participants develop contest strategies useful in NAQP, and provisions to level the playing field will be included. It should be fun. Stay tuned!

Thanks to the other officers and KE3X for their help in honing this piece.

CQ WW CW Score and Tactic Comparison: N1RM, W3IP, K3TN

This is based on an email discussion John K3TN, Mike W3IP and Rick N1RM had after CQ WW CW.

3830 Scores Comparison:

					Totals			160			80			40			20			15			10		
Call	Edition	Class	Power	Score	QSOs	Zones	Countries	Q	Z	Cnt	Q	Z	Cnt	Q	Z	Cnt	Q	Z	Cnt	Q	Z	Cnt	Q	Z	Cnt
N1RM	2021-Nov 27	SO(A)AB	HP	1,921,734	1512	99	344				149	13	53	530	224	93	530	29	100	273	26	85	27	7	13
W3IP	2021-Nov 27	SO(A)AB	HP	1,180,411	806	127	396	67	15	41	112	14	51	169	26	87	165	26	90	240	29	98	53	17	29
K3TN	2021-Nov 27	SO(A)AB	HP	1,048,762	895	102	316	25	7	12	100	16	44	200	22	73	300	26	87	250	23	85	20	8	15

Station info for reference:

- **N1RM:** K4D/A2000A to DB18e at 70’ for 40-10; KPA500/KAT500 to OCF dipole for 80
- **W3IP**: K3/KPA1500 160 inverted L (75 ft) over FCP, 80/40 m inverted vees (70 ft), 20/15/10 m trapped dipole at 65 ft
- **K3TN:** K3S/KPA1500 to 135’ OCF dipole at 45’, 51’ wire T for 160

Edited slightly for clarity and to make us look smarter:

John K3TN - Rick had the most Qs, Mike had the most mults, I was just there...
Rick had a slight lead in points per Q at 2.87 to my 2.81 and Mike's 2.80. I have a bad habit of working every VE I hear because they are loud, but they are only 2/3 as pointful.

Across our totals, one mult was worth about 2.3 QSOs. So, Mike's 80 mult lead over Rick only made up for 184 of Rick's 706 QSO lead. My 89 QSO lead wasn't even close to enough to beat Mike's 95 lead in mults. By the way, I would have been 2 mults closer if Mike hadn't shunned working me on 10M to give me US country and Zone 5 mults....

Band-wise, Rick won 80/40/20, Mike won 160/10, I was just there.

The only thing I won was in time efficiency, points/minute:

K3TN - 1233.84
N1RM - 1191.4
W3IP - 761.56

In years where 10M isn't runnable to EU, it can be an enormous time sink unless you are really loud to the south. Same with 160, so if I don't hear EU on those bands I usually make a quick mult scan and then QSY. Mike, I bet you used up a lot of time having that lead on 160 and 10!

Since I know I'm not going to come close to full time operation in any 48 hour test, I focus on increasing that points/minute number. I've noticed VE3UTT in the 3830 scores seems to be my competitor in that - this year he beat me from W1AJT (not a big station) with 1315 points per minute. I beat him in Qs, but he out multed me. I was pretty proud of not falling in love with any mults in big pileups this year (except for a loud XE double mult) but looks like I left too many mults on the board to beat Mike or VE3UTT.

The final contest is the accuracy number when we can see the busted/NIL numbers or the final line scores. Fun with math!

Rick N1RM -I was pretty ruthless about abandoning pileups on mults. What made it easier to do that was the high percentage of lids among the callers that really slowed things down by hardly ever listening. It seemed to be worse this year. I think my decisions to move on were as often motivated by disgust as strategy.

During a run on 20M I saw "N1OM" get spotted on my frequency and braced for the dupes. Fortunately, there weren't too many, but I started adding my call after every TU instead of every 3rd or 4th. We'll see how many busts that errant spot produces. The skimmers need to get much smarter. I think they are a net benefit, but they do often do harm. I mean, how hard is it to write some software that can understand that having 6 calls running the same frequency that only differ by a few extra or missing dits or dahs does probably not reflect reality? It seems that they could tighten their decision criteria when those patterns appear.

I had a blast. Now I need a 160 antenna! I have most of the parts, but won't get it done before this weekend, alas. I think once I do that and also get a "real" 80M antenna, my country counts should improve. This contest had two firsts for me: first > 1500 Qs, and first time doing a "1-weekend DXCC". In fact, I had 92 on 20M alone.

Mike W3IP - John, you are correct - being on either 10 or 160 in this contest was an inefficient use of time - especially without a panadapter! Grabbing mults required hanging around for those slow QSB peaks that you can't really time out. My 10-meter antenna is a fixed dipole favoring NE-SW, so the SA stations were never loud here.

I spent extra time in pileups hoping to work some ATNOs and new band-countries. After a lot of calls over 15 minutes, I was finally able to work EY8MM on 40 meters for an ATNO - and was really happy to see he promptly uploaded to LOTW as soon as the contest was over. The only pileup I ran away from was V73NS on 15 meters - that was too much to even contemplate! The VU stations and most of the BY stations were out of range for me, lots were spotted, but really needed a beam to boost the S/N to a workable level.

I also spent time tuning around almost dead bands (20 meters in the evenings, 40 meters in the afternoon) and was able to easily work some multipliers that had huge pileups during prime time. I could hear the Europeans on 160 in the afternoons, but there was no way to break through their prime-time evening domestic QRM - they were unworkable until after sunset.

Looking at your table John, I see I should have spent more time on 80 and a lot more time on 20 meters.

My goals were to do better than last year (done +98K points) and DXCC on a single band (almost - 98 on 15 meters).

Antenna wise, a rotatable tribander, plus 80- and 40-meter dipoles (instead of inverted vees) would probably pay big dividends.

Question - did you limit your packet cluster to local, US, or worldwide spots? I did all US/VE, may have been too much...

K3TN - On CW contests, if you are going assisted, I don't think the panadapter adds much - the RBN spotting means rarely having to spin the knob on uncrowded bands.

On crowded bands I'll still do some knob spinning - you can often find weaker mults buried between loud CQers and it takes a longer time for the skimmers to find them. I worked the 3B8 and 9X that way on 40 and 20. A lot of the unassisted knob spinners don't stop at the weak ones, even though very often the DX station is low power but has good ears - it is amazing how thin the contest pileups for weak mults can be in the midst of contest mayhem.

DXing definitely changes the equation! I'll spend time on an ATNO, though I'll often just store it in VFO B and check in with the sub-RX to see if pileup has changed - especially on Sweepstakes pileups.

Cluster - I limit my cluster feed to MD/PA/WV/VA/DE skimmers - that gets me more than enough spot flow and cuts down the unworkables. There are still often early opening spots from some skimmers that are unworkable for me.

In the morning, before 20 opens, I'll usually bounce between 160/80/40 using the Avail Mult/Q window. With my station, I'm not going to open 20 (or any band) but when I start to see some of the SNRs in the window reach double digit dBs I know I can probably S&P across 20 and work loud ones (usually some form of spotlight propagation, like mostly working Italians or Norwegians) for good rate for a while, then go back across 160/80/40 a few more times and then it is time to focus on 20.

Then I start watching to see if spots are kicking up on 15 - this is where limiting spots helps. Lots of W1 skimmers will light up with EU spots long before I can hear them. I'm kinda tempted to rent one of those Maine stations just to experience that early opening! In the ancient (pre-skimmers) days I found that if the signals on 20 start having a lot of echo, 30-60 minutes later I can do 15 at rate, but looking the skimmer spots SNR numbers is more reliable.

Yeah, having at least a tribander would be killer but it is amazing what can do with wires and tactics. And just think: Rick has to worry about pointing antennas and caring about Long Path/Short Path/Skew Path - all we have to do is transmit!

N1RM - I found an interesting use case for the panadapter. I used CTL-downarrow to jump to the next spot while watching the spectrum. That helped me find some signal that for some reason had not been sucked up into the skimmer vacuum cleaner.

An alternative approach which is a little slower is to tune across the band for spectrum energy and glance at the bandmap to see what’s there.

One of my items to work on is hooking up my RSP-2 to the radio and importing the spectrum into N1MM so I can get the spots overlay. That will make most of this much easier. The K4 will probably have that ability built in some day, but that day is probably a long way off.

K3TN - A friend loaned me an RSP and I did the integration. It looked cool but I didn't find it very useful. The simplicity of ALT-A ordered by time is hard to beat for me - keeping hands on keyboard, eyes on call entry.

Did find that I could **not** do that the few times I remotely opped K3AJ station - Steppir beams don't tune fast enough! So, he has to order the Avail Mult/Q window by frequency to keep from tripping his amp on hi SWR. Never thought about that issue with Steppirs.

N1RM - The only problem with that is that you are totally at the mercy of the spotting source. Skimmers are lousy because they inject too many bad calls. Humans are lousy because they don't inject enough calls. In my casual "spin and grin" operations in the old days at my town house, I was amazed at how many stations I found with the panadapter that were not spotted.

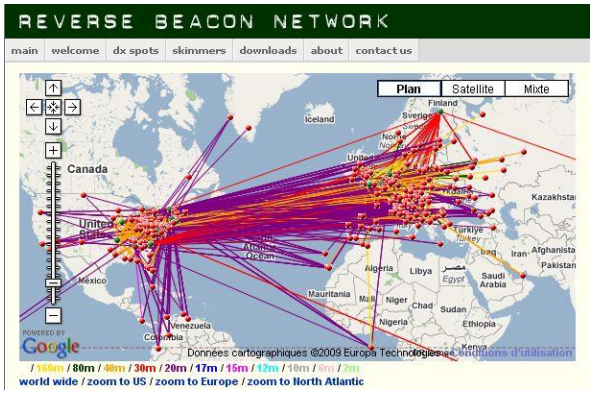
With assisted CW contests, I've found my most often used keyboard shortcut is ALT-D. I think that one of my many deficiencies is lack of expertise at managing spotting. I finally got a decent CW filter command that was working well with W3LPL-SKM, and then it crashed. I switched to VE7CC and sent the same command, and of course it didn't work because different software was in use.

K3TN - Using W9PA as a cluster, I definitely did **not** see high levels of busted calls.
My go-to filter is SET DX FILTER NOT SKIMBUSTED AND SPOTTERSTATE=[MD,PA,VA,WV] since W9PA is v6. I use his cluster 99% of the time, VE7CC if PA goes down.

The CT1BOH quality tags work really well for me. There isn't that high a % of human spots but I'm pretty sure there are at least an equal, if not higher, quantity of busted spots coming from humans than skimmers in the DX contests.

Knob spinning: as I mentioned, I definitely find weak stations between loud stations often before they are spotted, but I don't think the percentage is very high. If there are between 300 stations calling CQ between 14.000 and 14.150, I bet that at any given time the RBN has spotted over 90% of them, probably over 95%. I can pretty much guarantee that at almost any given 10 minute slot, I will maintain a higher S&P rate with ALT-A than with knob spinning or panadapter clicking. Especially any time later in the contest when dupes become an issue.

(Note: Rick had no joy with W9PA's cluster, at first. But then we found he was accessing on port 23, vs. 7373 – changing that solved the problem. But Rick's point is well taken – between different types of cluster software, different versions and use of different ports it takes a good deal of effort to get it all tuned just so.)



PVRC Awards – Dan K2YWE

Ike W3IKE receives the PVRC Presidential Leadership Award from Dan K2YWE

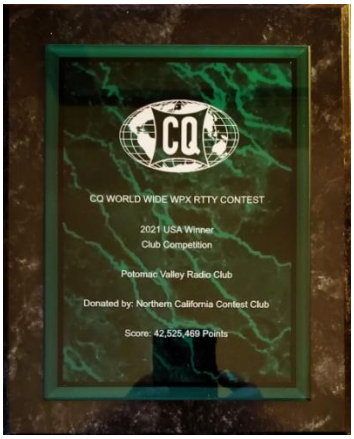
Mike W3IP receives the Top Gun trophy from Barry WR3Z

WX4G Awarded TNQP Plaque

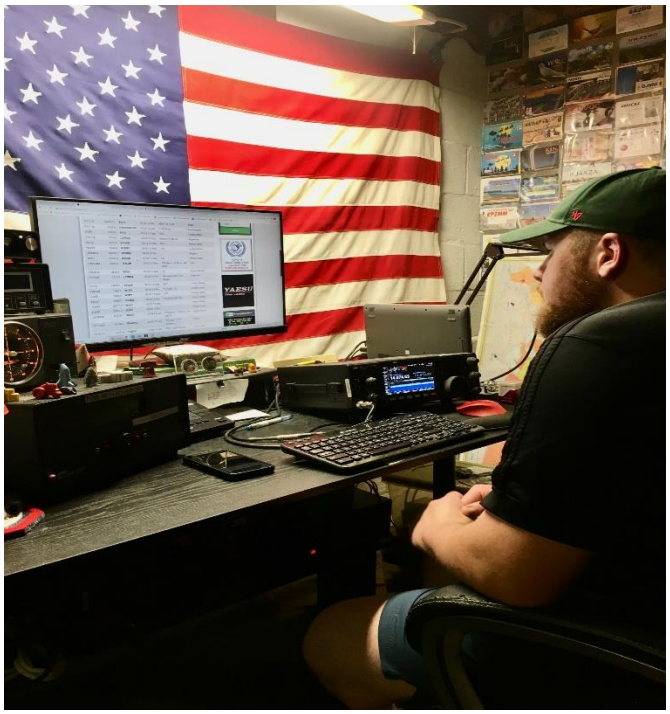
The 2021 Tennessee QSO Party club competition plaque won by PVRC has been awarded to WX4G for his outstanding contribution of 63,168 of PVRC's 179,664 winning points. Congratulations to all PVRC members who participated in the winning TNQP effort. Go PVRC!

N3QE Awarded WPX RTTY Plaque

The 2021 WPX RTTY Club Competition plaque won by PVRC has been awarded to N3QE for his top contribution of 3,699,124 points, with due recognition to AB3CV who was less than 4% behind Tim with 3,567,000 points. Thanks to everyone that made this PVRC win possible. Go PVRC!



Meet the PVRCer! – Nick KK4ODQ



Your Call: KK4ODQ
First Year Licensed: 2013
QTH and PVRC Chapter: Alexandria Virginia Metro chapter

Favorite Contest and Why: That is a tough one I really like the 160 SSB contest. I also like the CQ WPX SSB contest because everyone can work everyone. I also really like Sweepstakes and the Virginia QSO party. I also like the CQWW contest because it is a high activity contest.

Least Favorite Contest and Why: WW Digi is my least favorite contest. I like doing FT8 and FT4 but as a contest mode it does not hold my attention very well. I guess because of all the dupes and repeats plus FT8 can be kinda slow in a contest setting.

Favorite part of Ham Radio other than contesting: I really like to chase DX and work new band countries. I also like building and experimenting with antennas.

Favorite thing to do other than Ham Radio: Outside of the whole radio thing I like to cook and bake. I also like to work out. I also like to watch the Capitals and the Eagles play.

Anything else you'd like to say? Since I have joined PVRC in 2014 it has been a great experience. I have met some super great people and have made a lot of friends. This whole radio thing has been one of the best things I have ever done. Many thanks to Jim WX3B for giving me a chance at his station. Also, thanks to Frank W3LPL, Tom K3AJ, Dave W3MAM and many others along the way.

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	W0VTT	217	K3TN	145	N4DJ	113
W4ZV	338	AB3CV	214	N3KK	144	K1KO	112
W4DR	336	W4NL	214	N4GG	144	N4TL	112
W3UR	321	W3YY	213	W3IP	144	W3MR	111
W3LPL	316	N4MM	212	WA2BCK	143	W4NF	111
K4CIA	306	K3WA	209	W3BW	141	KA4RRU	110
K4ZW	302	W3GG	200	W2YE	138	N3HBX	110
W4PK	287	K5RT	197	W4VIC	138	NA1DX	110
K3SX	285	K3JT	193	W4YV	138	K1BZ	108
N2QT	283	K4FJ	192	N4PY	135	W4ZYT	108
K4SO	276	N4DB	192	AA4NC	132	W3KB	107
KG4W	269	K1GG	181	N3KS	129	K3WC	106
K5VRX	256	K2PLF	174	N3RR	129	W2GPS	106
W3DF	254	W4FQT	172	K5VIP	129	N4NW	105
N3NT	250	N4XX	169	K3XA	128	W3NRJ	105
WB3AVN	245	K4XD	167	W0YVA	127	W3FOX	104
KG7H	242	K3KY	166	KM3V	123	W3TMZ	104
WX4G	240	K3AJ	165	N3MK	123	W3EKT	102
K1HTV	238	N3OC	164	W2GG	121	W4JVN	102
K3SWZ	234	N4QQ	163	K2BA	120	KE4S	101
K4XL	232	NR4M	155	W4PRO	120	K3TZV	100
W3KX	227	N8II	153	W4HZ	119	KC4D	100
K5EK	226	W2RS	152	N3UA	118	KN4KL	100
WS6X	221	N3QE	150	N3ND	117	N3AF	100
K1AR	219	N5JB	149	K3OSX	114		
N1LN	219	K4RG	147	K5RJ	114		
W3LL	218	N3RC	146	N3MN	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

January 2022	
+ YB DX Contest	0000Z-2359Z, Jan 8
+ ARRL RTTY Roundup	1800Z, Jan 8 to 2400Z, Jan 9
+ North American QSO Party, CW	1800Z, Jan 15 to 0559Z, Jan 16
+ ARRL January VHF Contest	1900Z, Jan 15 to 0359Z, Jan 17
+ CQ 160-Meter Contest, CW	2200Z, Jan 28 to 2200Z, Jan 30
+ REF Contest, CW	0600Z, Jan 29 to 1800Z, Jan 30
+ UBA DX Contest, SSB	1300Z, Jan 29 to 1300Z, Jan 30

Editor's Last Word – John K3TN

Thanks to K2YWE, KK4ODQ, N1RM, N4ZR, W3IP, W3UL, and K4HQK for contributions to this issue of the PVRC newsletter.

While there is a lot of pandemic-related "déjà vu all over again" as we go from 2021 into 2022, a tantalizing leap in the solar indicators does show promise for the winter contest season. 10 meters has been having stubbornly short openings so far but maybe by the ARRL DX CW??

There is something magical in a DX contest when 10 and 15 are open to EU at the same time in the morning and Asia in the early evening. I remember years ago doing a ARRL DX CW Multi-2 with Wayne N2FB at his QTH with both of us hitting the K1EA CT keys as fast as we could to keep up with our EU pileups. More recently, a remote Multi-Multi effort at K4VV's excellent station had Mike W4RN and I doing the same thing with more modern software for the Asian opening in the ARRL DX CW in 2015.

This edition of the newsletter has lots of great hints and tips for maximizing your use of contesting software – if you have any we didn't mention, send them in for the next issue!

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.

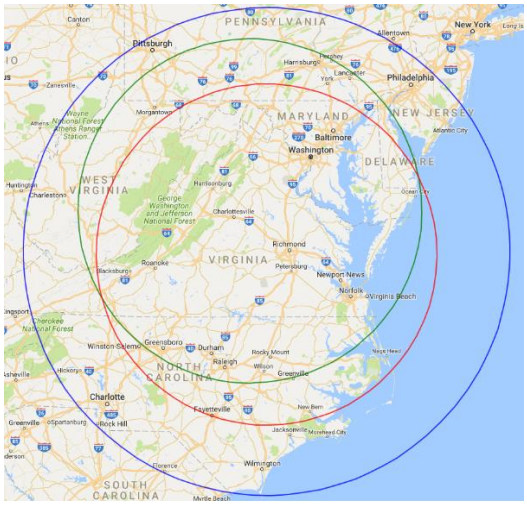
Direct donations to PVRC via Credit Card or PayPal may be made by clicking this "Donate" button and clicking the next Donate button that appears on your screen:

Donate

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

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!

Great New Gear for the New Year at DX Engineering!

YAESU

Yaesu FTM-6000R 50W 144/430MHz Dual Band FM Mobile Transceiver

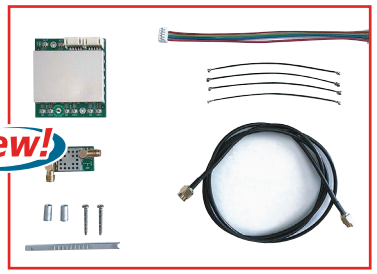
New!

This feature-rich and easy-to-operate rig delivers 50 watts of transmit performance, 3 watts of crisp and clear audio specifically tuned for radio communication, detachable monochrome display front panel that you can mount for maximum convenience, three user-intuitive operating modes, and the ability to activate favorite assigned functions with a single touch. Enjoy hands-free wireless operation with the optional Yaesu BU-4 Bluetooth® adapter plug-in module and SSM-BT10 Bluetooth headset.

Enter "FTM-6000R" at DXEngineering.com.

RADIOANALOG

innovations that excite radio enthusiasts



Panadapter IF Interface Module for Icom IC-9700 Transceiver

New!

On the heels of Radio Analog's PTRX-7300-V2 panadapter module for the IC-7300 comes its new model that lets you view the IC-9700's panadapter in an easier-to-see, larger-screen format when combined with your external SDR receiver. Designed for exceptional performance and hassle-free installation in minutes (with no modification needed at the rig's rear panel, no compromise in the radio's performance, and no soldering or special skills required), the PTRX-9700 can be installed using only a screwdriver and provided special tool.

Enter "PTRX-9700" at DXEngineering.com.

NanoVNA-F V2 Vector Network Analyzer

New!

Used for recording a variety of RF measurements from 50 kHz to 3 GHz (S parameters, VSWR, Smith chart, phase, group delay, and more), this handy and versatile device features a 4.3" IPS LCD display, 5000mAh large-capacity lithium battery, RG405 phase-stable cable, SMA port, standard USB port for easy charging, simple firmware upgrades, and frequency accuracy of <0.5ppm. It comes housed in a sturdy aluminum alloy case to ensure precise measurements by shielding electromagnetic interference.

Enter "NanoVNA" at DXEngineering.com.

YAESU

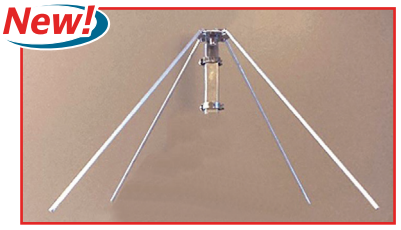
Yaesu FT5DR 2m/70cm C4FM/FM Digital Handheld Transceiver

New!

Kick off 2022 by adding this powerful new rig to your collection. Lightweight, compact and rugged, the FT5DR provides reliable 5 watts of RF power output, wide-range RX coverage, loud and clear analog FM and digital C4FM voice quality, two independent receivers that support true dual-band operation, high-resolution display, real-time monitoring with the Band Scope function, shock-resistant construction with an upgraded IPX7 waterproof rating, and loads more.

Enter "FT5DR" at DXEngineering.com.

COMPACtenna



CompacCounterpoise NMO Mount Base Station Ground Plane

New!

This kit turns your COMPACtenna antennas into sturdy and stealthy base stations. Add the provided radials to optimize signals and SWR for UHF/VHF operation, with a maximum power rating of 250 watts (up to 225 MHz) and 100 watts on higher frequencies. The kit comes with 3" diameter mounting plate with mast bracket, clamps, four 18" radials, and stainless steel hardware. It works with many monoband or multiband NMO-mount antennas, including COMPACtenna's 2M-440, 2M-220-440, SCAN-III, and the new LMR-I Land Mobile Radio Antenna designed for government and commercial applications.

Enter "CompacCounterpoise" at DXEngineering.com.

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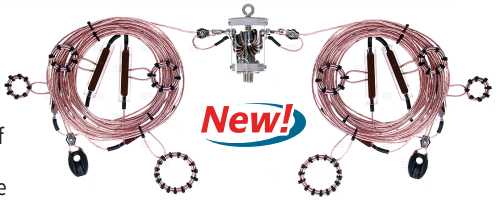
kelemen Antennas



New!

DX Engineering is excited to be the exclusive North American retailer of high-performance, finely constructed Kelemen wire antennas from WiMo. Choose from more than 50 models of high-efficiency, wide-bandwidth monoband or multiband dipoles and omni-directional antennas in a range of supported bands, lengths, and power ratings (200W to 2,000W). Antennas come assembled with balun.

Enter "Kelemen" at DXEngineering.com.

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OM Power Amplifiers, The New RF Power Benchmark!

OM Power

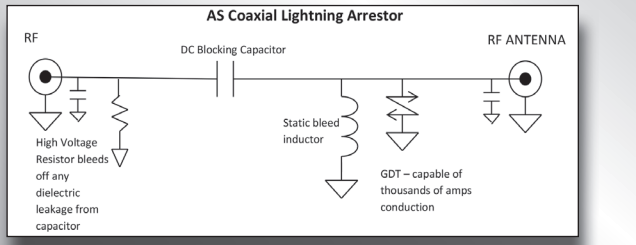
Array Solutions Lightning Arrestors

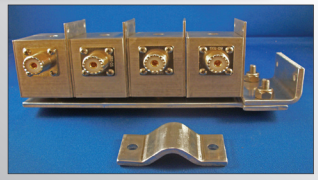
Coaxial , Ladder Line, Single wire, Control Line protection for Rotators, Switches, and Antenna Motors

AS-300 Series arrestors are known for their reliability and performance. They feature easy mounting to plates, ground rods with our stacking bracket and also a convenient screw lug. The stacking bracket can be used on plates as well to save precious room in arrestor enclosures.

- Available in SO-239, Type-N, and 7/16 DIN connectors
- DC blocked, DC pass is available as a custom option
- Unique static bleed system with a UL approved Gas Discharge Tube, also ITU K 12 tested. This system usually prevents the GDT from ever firing unless a direct hit is taken. Saves your radio from static build up on large antennas.
- Models available for 3 kW, 5 kW, 10 kW and higher, details on website. Lower power available.
- FM low power broadcast model AS-303D FM
- Model AS-309H high-power single wire or ladder line arrestor, also DC block with static bleed
- Control line Arrestors for 8, 12, and 16 wires – 65V sparkover.
- Models for HF, VHF to UHF – Extremely low loss and Low VSWR

AS-303U





Switches for Six Antennas

5kW - DC to 6m

RATPAK – 1x6

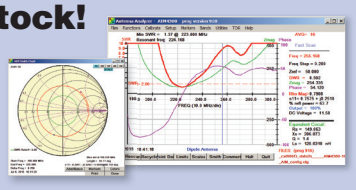
Choice of Multiple Controllers

SIXPAK – 2x6

VNAuhf Back in Stock!

Vector Network Analyzer

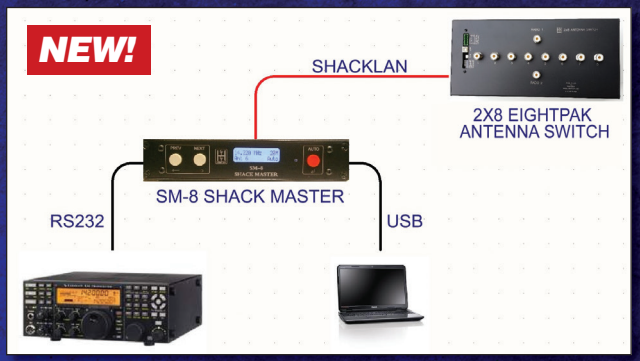
5 kHz -1.3 GHz **$1295**



Hamation Station Automation

Hamation remote and Local Station Control products allow you to automatically or manually select antennas, bandpass filters, and control accessories. Accessories can be StackMatches, Antenna phasing systems, SteppIR controller, turning radios on and off, etc. All of this can be done directly from the Ethernet as well!

Wiring are simple phone cables that daisy chain to all the devices. Wireless control is also available to your tower-located switches. Call us to learn how to set up simple or complex systems. Below is a simple basic system that can switch antennas as you change bands. We can interface to any radio CAT port, not just RS232.



A more complex system could be a SO2R contest station as shown.

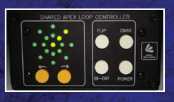
The Shared Apex Loop Array™!

Capture the whole band or the whole HF spectrum at once with the Shared Apex Loop Array 2nd Generation. Can be remote controlled over the internet or in your station. 8 directions of directivity.

The Shared Apex Loop Array™ is a revolutionary receiving antenna that will change the way that you listen to the radio! The patented design provides performance in a size and over a wide range of frequencies that will please both the rag-chewer and DXer alike.

Three models to choose from:

- AS-SAL-30 - optimized for VLF, BCB, 1.8-10 MHz
- AS-SAL-20 - optimized for BCB, and 1.8-30 MHz
- AS-SAL-12 - optimized for 3-30 MHz



StackMatch

The original, not the imitations. For phasing 2, 3, 4 and even 6 antennas. Also it can be used to combine vertical and horizontal polarized antennas to diminish fading.

PowerMaster II

RF Power and SWR meter. Couplers for 3 kW, 10 kW or higher available for HF/6 m. VHF and UHF couplers for 1.5 kW. You can connect up to 5 couplers to the display to monitor RF power on different TX lines.

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

Rugged Construction in an Ultra Compact Body • Stable 100 Watt Output with Efficient Dual Internal Fans • 32-Bit IF DSP Provides Effective and Optimized QRM Rejection • 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 Reliable Output Power • Real Dual Band Operation (V+V, U+U, V+U, U+V) • 2-inch High-Res 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*

• Massive heatsink guarantees 80 watts of solid RF power • Loud 3 watts of audio output for noisy environments • Large 6 digit backlit LCD display for excellent visibility • 200 memory channels for serious users

FT-818ND | *HF/6M/2M/440 All Mode Portable Xcvr*

• Ultra-Compact/Portable • Multi-Color Easy to See LCD • 208 Memory Channels/10 Memory Groups • Built-in Electronic Keyer • Internal Battery Operation Capability • Two Antenna Connectors • Built-in High Stability Oscillator ±0.5 ppm

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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- **RETAIL LOCATIONS – Store hours 10:00AM - 5:30PM - Closed Sunday**
- **PHONE – Toll-free phone hours 9:30AM - 5:30PM**
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- **ONLINE – WWW.HAMRADIO.COM**
- **MAIL – All store locations**

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* On most orders over $100 in the continential US. (Rural Locations excluded.) Contact HRO for promotion details. Toll-free including Hawaii, Alaska and Canada. All HRO 800-lines can assist you. If the first line you call is busy, you may call another. Prices, specifications and descriptions subject to change without notice.

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HRO Florida Now Open!

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-7851 | *HF/50MHz Transceiver*

• 1.2kHz "Optimum" roofing filter • New local oscillator design • Improved phase noise • Improved spectrum scope • Dual scope function • Enhanced mouse operation for spectrum scope

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-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-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

IC-718 | *HF Transceiver*

• 160-10M** • 100W • 12V operation • Simple to use • CW Keyer Built-in • One touch band switching • Direct frequency input • VOX Built-in • Band stacking register • IF shift • 101 memories

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

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-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

ID-5100A Deluxe

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-4100A | *VHF/UHF Dual Band Digital Xcvr*

• Compact, Detachable Controller for Flexible Installation • DV/FM Near Repeater Search Function • Apps for iOS™ and Android™ devices • Wireless Operation with VS-3 & UT-137 Bluetooth® Headset & Module • MicroSD Card Slot

IC-2300H | *VHF FM Transceiver*

• 65W RF Output Power • 4.5W Audio Output • MIL-STD 810 G Specifications • 207 alphanumeric Memory Channels • Built-in CTCSS/DTCS Encode/Decode • DMS

IC-V86 | *VHF 7W HT*

• 7W OutputPower 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-R30 | *Digital/Analog Wideband Xcvr*

• 100 kHz to 3.3 GHz Super Wideband Coverage • P25 (Phase 1), NXDNTM, dPMRTM, D-STAR Mode • 2.3" Large LCD Display & Intuitive User Interface • MicroSD Card Slot for Voice & Data Storage • USB Charging & PC Connection

NEW

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

5 Ways to Shop!

- **RETAIL LOCATIONS – Store hours 10:00AM - 5:30PM - Closed Sunday**
- **PHONE – Toll-free phone hours 9:30AM - 5:30PM**
- **ONLINE – WWW.HAMRADIO.COM**
- **FAX – All store locations**
- **MAIL – All store locations**

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