



PVRC Newsletter ***November 2016*** ***Sweepstakes!*** ***CQ WW CW!***

President's Letter – Bud W3LL

Another exciting month in the annals of PVRC has just gone by, led with the return of the NAQP Challenge Cup Trophy to PVRC!!! Congratulations to everyone!!! This could not be accomplished without the dedicated input from all of you, our members, and the cheerleading efforts of both Ken KE3X and Jim WX3B.

Please see elsewhere in this newsletter Secretary Tim's chart of PVRC's wins over the past nine years. Truly amazing feats of dedication to club contest wins by you our members and in keeping with our Mission Statement! Notice that PVRC won 10 club competitions in CY 2015. How extraordinary is that!!! Those 10 club competitions were: ARRL 160M, ARRL June VHF, ARRL RTTY Roundup, ARRL Sweepstakes, CQ 160M, CQ VHF, CQ WPX, CQ WPX RTTY, CQ WW RTTY, and Russian DX.

The new 20 For 20 award and the extension to the 5M awards both are having an impact on our quest to win club championship contests. Secretary Tim compiled the statistical proof:

Comparing 2015 to 2016 PVRC # of logs shown in 3830 since the start of the 5M year, we see turnout going up by anywhere from 4% to 146%. The boost is smaller where we had already been beating the bushes, and the boost is largest in VHF contests. I think "20 for 20" has a lot to do with it!

	2015	2016	% +
	----	----	-----
NAQP RTTY	35	40	+14%
CQWW VHF	11	32	+190%
NAQP CW	86	90	+4%
WAE CW	27	40	+48%
NAQP SSB	83	88	+6%
WAE SSB	13	32	+146%
ARRL Sept VHF	15	36	+140%
CQWW RTTY	38	50	+31%

Not to rest on our laurels but it's time to again focus on our premier contest series of the year, namely the ARRL SSB and CW Sweepstakes. Cheerleaders Jim and Ken are again taking to the podium to exhort all of us to do our best in putting another two in the win column! Please look at our homepage where you'll find, thanks to Tim, the K3MM Top GUN Sweepstakes presentation that was presented this past week by Ty at the Northwest PVRC meeting. You'll find these tips quite useful in increasing your score! November is a month of major contests including SS CW, WAE RTTY, SS Phone, and CQWW CW. A big one each weekend!!

Another goal was accomplished this month. The membership asked for PVRC logo shirts and VP Dan K2YWE delivered. We anticipated forty shirt orders but received a whopping 71 orders. Thanks to those that were fortunate enough to get their orders in before the cutoff deadline of 18 October.

This past month we had our third quarter Leadership conference call moderated by past president and present Trustee Ken KE3X. Invited to the meeting were PVRC Trustees, Officers and Chapter Chairmen. This is the meeting where we add to our goals and objectives and reset past goals. Fortunately due to the diligence of our officer team we were able to complete all past goals and objectives.

We must be resonating with the membership as no issues or new projects were brought forward! This doesn't mean we have nothing to do. It takes considerable effort by the officers and volunteers to just keep the day to day business of keeping the PVRC machinery in good working order.

One example is preparation for PVRC's seventieth (70th) anniversary next year. Another one is keeping Tim hard at work complying with ARRL's new requirements for certifying valid club member score submissions. He needed to populate the PVRC Roster with grid information from callbook.info (based on FCC addresses), recalculated all distances from our HF center based on the FCC addresses, and export the SQL statement to get calls and grids within our HF circle. Now that's a mouthful.

All officers meet bi-weekly via a conference call where we discuss those items on a shared agenda. Are we breaking channel ice or need more solution power to plow thru the floes?

Treasurer Tom K3AJ in concert with Dave K3ZJ initiated a project to raise PVRC donations to fund one or more WRTC tents to commemorate all PVRC SK's. This initiative will run until the end of this year. Standby for specific information announced by Tom and Dave.

Lastly I'd like to thank everyone who took the time to voice their views to the FCC in response to FCC Docket 16-239 NPRM (RM-11708).

Now onto the Sports Pages where we look at what you've been accomplishing in the contest ring during the past month:

The big one this month was the CQ WW RTTY contest. Who says PVRC'ers don't do RTTY? This year, there were 50 single op entries and four multiops with at least another 10 PVRC players. Compare that to last year, with 38 single ops and two multiops. And speaking of multiops, it seems like there is a lot of competition in the multiop categories. The W4AAW remote M/M station put up almost 2400 QSO for just under 3M points. Other PVRC multiops included K3OQ (at W3RFC), N3WZR and W3EKL. A lot of the PVRC single ops played in the very competitive HP categories. In SO(A) AB HP, top 10 US scores were put up by N3QE (3rd), W4PK (6th), AB3CV (8th), and antenna challenged W3LL (10th). Others with more than 500 QSO in that category included W4TTY and K4XL. In SO AB HP, AJ3UM at 4U1WB was 8th in the US, and W4VIC was 10th. K5VIP also put up over 600 QSO in that category as well. QRP maven AB3WS appears to have taken the Rookie AB QRP category.

Eight PVRC stalwarts showed up for the Worked All Germany Contest. Players in SO CW HP were W2CDO and N4CW in the top 10 US, along with WJ9B not too far behind. N4YDU operating NR3X put in the #2 score in the US in SO Mixed HP, and NN3W came in at 5th in that category. K3OQ (at W3RFC), KE3X (at N3HBX) and AI1W also played in the WAG.

Big scores in the JARTS WW RTTY contest were put up by W4AAW in M/M with 1979 QSO/1.5M points and W4PK as a SO HP with 840 QSO/429K points. Other PVRC'ers in this contest were W3GVX, N4UEZ and W8AKS.

Given current conditions, the Oceania DX Contest, CW was bound to be tough duty from the east coast, but out-of-circle PVRC'er WJ9B took advantage of his location in ID to take second place in the US in SO HP. NJ4Q also put in a good effort in LP.

The PA QSO Party saw activity from K3CCR (making over 500 QSO), K3TD, KA3JLW and K3TN. N3WD mounted a major mobile/rover effort with his XYL Sharon, K3DUH doing the driving.

10 PVRCers turned out for the Stew Perry Top Band Distance Challenge (Pre-Stew). In SO HP, W3LL (ND3D op) had 390 QSO/1,390 points and N3QE wasn't far behind at 360/1,144 both for a top 10 finish. Other SO HP efforts included N3HEE (293 QSO), N1LN (250 QSO), N4CW (200 QSO), NA1DX (185 QSO), N3AM (74 QSO). In SO LP, N3UA madew 144 QSO and WJ9B 106. AB3WS made 60 QRP QSOs.

That's it for this month. I hope to work all of you in the competition.

73, Bud W3LL

Sweepstakes 2016 Resources – K3TN

Dates/times: CW: First full weekend in November (**November 5 - 7 2016**). Phone: Third full weekend in November (**November 19 - 21, 2016**). Contest Period: Begins 2100 UTC Saturday and runs through 0259 UTC Monday.

List of ARRL sections - [here](#)

Call History files – check out the PVRC NC site [here](#)

Log Due Dates – 15 days after each contest: November 22th for CW, December 6th for SSB.

A pretty good N1MM+ Function Key file for SS CW

F1 RUN CQ,<ss> K3TN K3TN <ss>
F2 Exch,#~B * 69 MDC
F3 TU,TU *{CLEARIT}
F4 K3TN,*
F5 HIS Call,!
F6 QSO B4,B4 *
F7 NR,# B
F8 ?,?
F9 NR?,NR?
F10 CK?,CK?
F11 Sec?,SEC?
F12 Wipe,{wipe}

F1 S&P CQ,<SS> * * <ss>{CLEARIT}
F2 EXCH,#~B * 69 MDC
F3 SEC,MDC
F4 K3TN,*
F5 HIS CALL,!
F6 CK,69



DONATE via PVRC for WRTC2018 PVRC SK TENTS – Dave K3ZJ

PVRC hopes to join contest clubs worldwide to help sponsor the next World Radio Team Championships (WRTC). Rather than assess dues, PVRC relies upon individual donations. Therefore for WRTC2018, PVRC is soliciting donations directly from you, the members, to continue this tradition.

WRTC2018 will be held in the Wittenberg area of Germany during the 2018 IARU HF Championship on July 14-15. PVRCers Nate, N4YDU and Ken, KE3X, are vying for team leader spots that will be announced next year – keep your fingers crossed.

WRTCs are funded entirely from donations from clubs and individuals from around the world. A budget of approximately a half million dollars (\$500,000) is necessary to provide 65 identical stations and the organizational infrastructure to pull it off. For the WRTC2014, PVRC donated \$4,000 to sponsor four tents – three in PVRC's name and one in honor of Gene, W3ZZ (SK). An additional tent was privately sponsored (I believe) in honor of PVRC's W3MSK/W3AU (SK). This was comparable with our peer clubs – FRC, YCCC, SMC, NCCC, AOCC, CCO and FCG.

Please help us put together a similarly significant contribution in the name of PVRC. Donations will be used to sponsor one or more tents in memory of PVRC's Silent Keys. Any amount left that is less than the 1000 Euro donation per tent will be donated to WRTC2018 as a non-designated donation, also in the name of PVRC.

The officers set a **December 24 deadline** for this activity, so don't delay! Donations must clearly be marked "WRTC".

DONATE: (1) by check: payable to "PVRC", write "WRTC" in the memo area, and mail to PVRC Treasurer Tom Valenti, K3AJ, 17210 Foreston Rd., Upperco, MD 21155. (2) By PayPal: use button at the very bottom of PVRC's [homepage](#) and in the "Special Instructions to Seller" area be sure to type in "WRTC".

This fundraising drive runs only until December 24, so please do it today. Contributions to PVRC are not tax deductible as charitable contributions. If you wish to make a charitable contribution to WRTC2018 contact Dave, [K3ZJ](#).



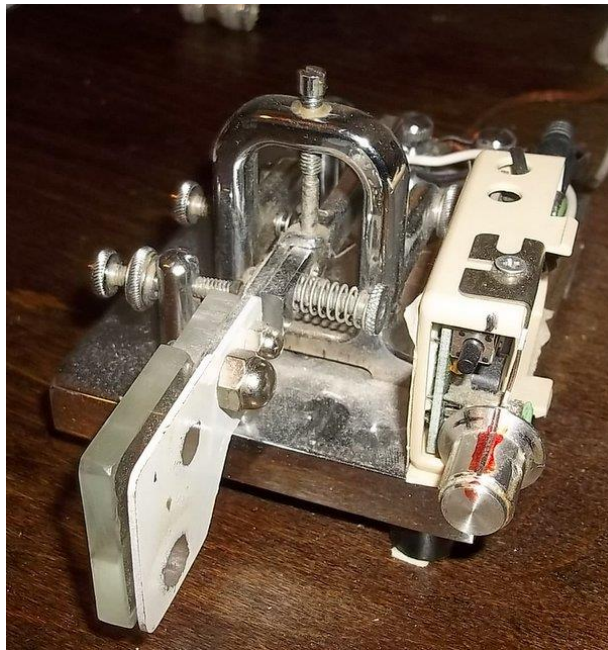
L-R, OM2VL, K6NA, & OM3RM pause at the PVRC-sponsored W1O site at WRTC2014.

The Real CW Keys of the Potomac Valley – John K3TN

A huge response to my “Send me Your Keys” call. Looks like Vibroplex is the clear PVRC winner.



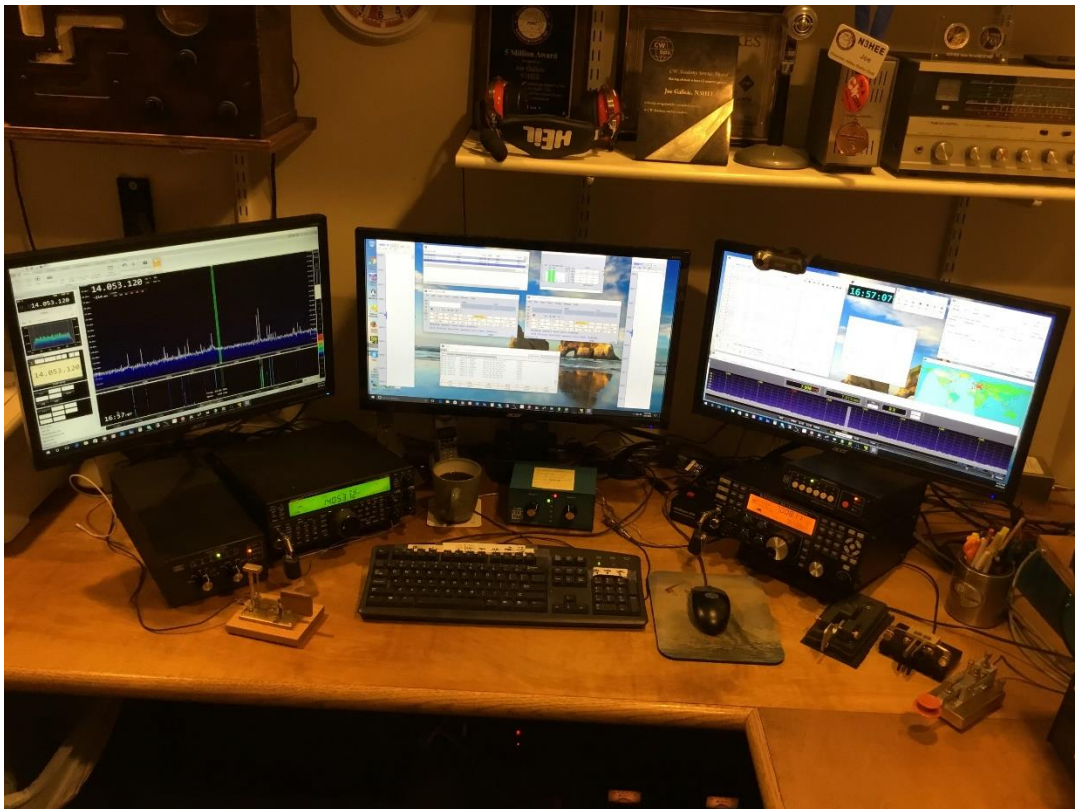
John N3AM - I've used this Bencher Hex Key for several years and like the magnetic tension and heavy weight that keeps it steady. I use a fairly close spacing for the contacts.



Brian K3KO – This is my ugly and much modified Vibroplex single lever paddle. Modifications: Four feet instead of 3 since it tipped when used; Foot height increased; Vibroplex finger pieces replaced with close spaced Plexiglas patterned after an older EL-KEY. Simply wore out the EL-KEY; N0XAS picokeyer added on paddle for easy QRS/QRQ. Runs for years on a coin battery.



John W4AU - my two favorites: the round brass paddle is a model ZN-9A by N3ZN. The rather funny looking one is a model V-22 by W9WBL.



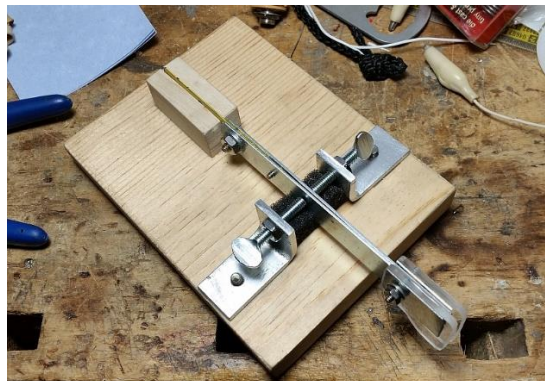
Joe N3HEE – Here are four of my keys in front of my new SO2R set up. From left to right is my homebrew single lever paddle called a torsion bar key, Begali HST single lever paddle, Kent dual lever paddle and my homebrew straight key. The rigs are a K3 and TS-590SG complete with Array Solutions bandpass filters and Six Pak antenna switch. Three computer monitors showing two panadapters, N1MM logging software as well as DX Labs Suite logging and spotting software. I also have several other homebrew keys.



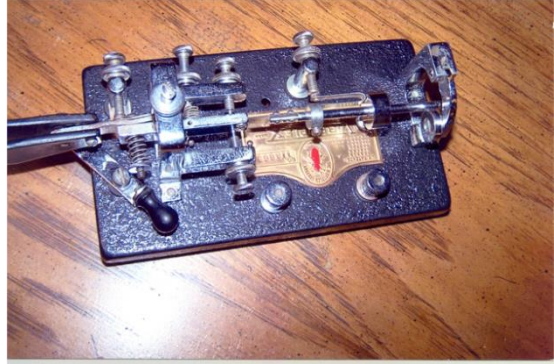
Dan K2YWE – Paddles in operating position. They get shifted around. Begali, Vibrokeyer, old faithful W8FYO, Autronic, bugs and straight keys in back right.



K2YWE Bugs pulled out for a pic. Plugged in when the mood strikes me. My childhood Champ, Lightning, Standard chrome, Standard chrome with closer. The Lightning and Standard with closer were gifts from W3PJ.



K2YWE Homebrew sideswiper in development for a friend on the N.S. Savannah



Hank K3YDX - before and after, of my restored Vibroplex Original bug I rescued from the trash in Honolulu after the office was going to discard it as CW was no longer "in fashion" as a backup mode of communications to HQ or other field offices. I claim (based on serial number) it was the key used to advise HQ of the Dec. 7, 1941 attack on Pearl Harbor. Since Vibroplex records were lost in a fire years ago no one can refute my claim, true or not! The serial number puts its production in the early 1940's as best I can determine. I don't use it but have put it to use with my powerhouse DX-60.



Mark K4SO – (L) Chrome base Vibroplex single paddle, ergonomically placed next to K3. CMOS Super Keyer I, built over 30 years ago, on top of the short stack to the right. (M) Vibroplex standard base (gray), with black fingerpieces. I attached my participation pins from the 1992, 1997, and 1998 SS CW. This is attached to the YCCC SO2R box (integral keyer); (R) When I really want to throw back, I use the T.O. Keyer with the gray-based Vibroplex. I have worked a few with this keyer in SS, using my Collins S/Line.



Eric W3DQ - My vintage Begali Simplex from back in the days when he had a table in the Dayton flea market.



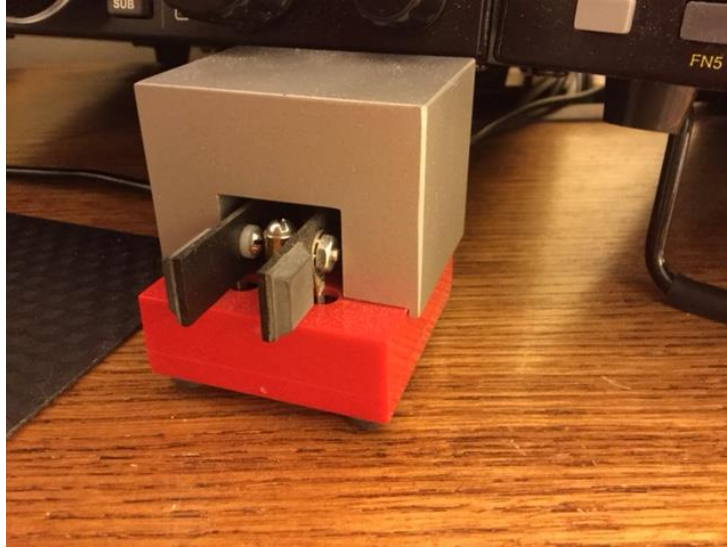
Jack W3TMZ - My home built W9TO keyer circa 1960 along with the original Autronic paddle circa 1958 or so.



Bill N3XL – painting of a key that I received from my Grandson on Oct 7th.



Bill NR4C - This is my N2DAN Mercury paddle. It is engraved N4EHL who is a silent key. He was an old friend and I am proud to have this keepsake to remember him by. I only wish I were the CW operator this paddle deserves.



Bud W3LL - It's a [Whiterook](#) MK-64MC. The world's smallest Mini-Paddle iambic keyer. Pushbutton mode switch for speed, paddle select, tune mode, iambic mode A or B, sidetone on-off, and more. The top piece is a block of aluminum that I machined in the Black & Decker model shop to custom fit on top of the keyer. It's a removable weight.



John K4HQQ - I use a Vibroplex paddle acquired at a hamfest long ago and operate it with my WinKeyer. I'm left handed but I think it's considered right-handed, yet it fits my fist just fine. Next to it is my Novice-era J-38 straight key, purchased from a vendor selling them as military surplus for 99 cents when I was 12 years old. Today it's on standby for times when the keyer is under the weather.



Sid K3SX - Here is my single lever Vibroplex paddle with custom finger pieces from [2B Radio Parts LLC](#). They are light weight but do not flex.



Bruce WK3A - Guess you can say I'm a Vibroplex guy...



Scott K7LU - Three Vibroplexes at K7LU. Only the iambic is operational at the moment. The two bugs are currently refurb projects but should be in service soon.



John K3TN – A few years ago I realized I was a slapper, not a squeezer – switched over to all single lever paddles. On the left is the Begali Sculpture Mono I use with my home station K3. On the right is my N3ZN SLR single paddle key I use for remotely operating W4AAW. I hate to admit it, but I spent more on those two paddles than I did on radio gear for my entire first 10 years as a ham!



Cliff W3CB - From left to right are a Vibroplex given to me by an ex radioman who had it in his basement. His son had cracked the thumb paddle and that is my replacement. Next is my MFJ keyer and paddles. I use this with the keyer bypassed and the paddles connect directly to the OMNI VI+ paddle input. On the right is a hand key that was given to me by W8FYX Harvey Ball around 1962 when I first got my WN8EOO novice ticket in Sault Ste. Marie MI. If you look at the tension screw, you'll see a threaded eye hook. :) He put it together with parts from his basement junk box and my dad mounted it on the base. I've kept it all these years for sentimental reasons but it still works just fine when I'm on the Maryland Slow Net doing traffic handling training.

Harvey Ball worked for the Lorain County Radio Corporation and he repaired the radios on the ships as they came through the Soo Locks. His basement was his ham shack and grand junk box and all the kids in the electronics club at school hung out there as did most of the hams in the area. I remember an NC-300 and an SBE SSB transmitter along with some two meter AM gear. As a 14 year old, this was really cool stuff and it had a tremendous impact on my choosing EE as a career.

<u>PVRC Officers:</u>		<u>Trustees:</u>	
President:	W3LL Bud Governale	K3MM, N3OC, WX3B, W4ZYT, N4NW, K2AV, KE3X, K4ZA, K3WRY	
Vice President:	K2YWE Dan Zeitlin		
Vice President:	W3TB Tom Edwards		
Secretary:	N3QE Tim Shoppa	<u>PVRC Charter Members (all SK):</u>	
Treasurer:	K3AJ Tom Valenti	W3GRF, W4AAV, W4KFC, N0FFZ, W4LUE, W7YS, VP2VI/W0DX, W3IKN, W4KFT	
PVRC Website: http://www.pvrc.org			

Membership News – Tim N3QE

PVRC added one member in the last month – please welcome Vikki KA3PVS to the Northwest Chapter.

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

Upcoming Contests and Log Due Dates

Contests This Month

- **Nov 5 – CW Sweepstakes!**
- Nov 12 – WAE RTTY
- Nov 12 – OK/OM CW
- Nov 19 – LZ DX
- **Nov 19 – SSB Sweepstakes!**
- **Nov 26 – CQ WW CW**

Logs Due This Month

- Nov 4 – CQ WW SSB
- Nov 4 – UBA ON
- **Nov 22th – CW SS**

See WA7BNM's [Contest Calendar](#) for more detail and the latest information.

The Editor's Last Word – John K3TN

Thanks to all for the key/paddle submissions for this month's newsletter. If you have any good Sweepstakes stories or photos, or anything else – send to jpescatore at aol dot com.

From the PVRC Treasurer – Tom K3AJ

PVRC has chosen not to implement an annual Dues requirement. We depend on the generosity of all of 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 together will always be sent out on the [PVRC reflector](#) and posted on the PVRC [web site](#).

NW Region: Meetings are generally held on the third Tuesday of each month at: [Chef Lin](#), 417 S Jefferson St. Frederick, MD 21701 Phone #: 301-620-0664(2675)
The meeting begins at 7:00 PM.

Contact: Jim [WX3B](#)

DC Metro: Meets monthly the second Monday of each month, except June, July & August). The location alternates between the below MD and VA locations. Pre-meeting dinners start at 6:00 pm and meetings start at 7:30 pm.

VA LOCATION: Anita's, 521 E. Maple Ave, Vienna, VA. Tel: 703-255-1001. Meets at this location during the months of February, April and October.
Contact: Rich [NN3W](#)

MD LOCATION: Max's Café. 2319 University Blvd W, Wheaton MD 20902. Tel: 301-949-6297 People usually begin arriving at the restaurant around 6:00. Meets at this location during the months of January, March, May, September and November. Contact: Art [K3KU](#)

The Laurel, MD Region: Bill N3XL The PVRC get-together is held at the first [LARC](#) meeting each quarter at the clubhouse.

The Annapolis Crew: Dan K2YWE Meetings are held on the 4th Wednesday of each month at Broadneck Grill in Annapolis. We gather at about 5:30 PM and order dinner about 6. We break up usually before 8 PM. E-Mail [K2YWE](#) to be put on the e-mail reminder list.

PVRC-NC: The **PVRC-NC East** chapter meetings are held at [Manchester's Bar and Grill](#) on the 9100 block of Leesville Rd. in North Raleigh, with "QRM" beginning at 6:00pm and the dinner meeting following shortly thereafter. The meeting is held monthly on the 1st Thursday of most months, cancellations or changes usually announced on the [PVRC-NC website](#).

The **PVRC-NC West** chapter meets the 3rd Monday of each month (except December) at about 7:00 PM at Hams Restaurant, 414 S. Stratford Rd., Winston-Salem on the south end of the Thruway Shopping Center. We meet in the front meeting room of the restaurant. A wide variety of cold 801s and Sports bar menu available. Contact Henry Heidtmann [W2DZO](#), full info [here](#).

Over the Hill Bunch: The group meets for lunch at noon alternately in Maryland at the Sir Walter Raleigh Inn 6323 Greenbelt Rd, Berwyn Heights, MD or in Virginia at Anthony's restaurant in Falls Church. Meetings generally are held on the last Wednesday of the month and are subject to change. Meetings are announced by email.

All PVRC members, non-members interested in membership and guests are welcome. For information contact Roger Stephens, [K5VRX](#), 703-658-3991 for Virginia meetings; or Cliff Bedore [W3CB](#) or get on 147.00 for Maryland meetings.

Downtown Lunch Group: Meets: At 12 o'clock noon on the first Wednesday of every month in Downtown DC.

Location: R.F.D. Washington, 810 7th St., N.W. Washington - Metro (Green Line) at Gallery Place Station

Meeting since April 2005, PVRC'ers, contesters, DX'ers, and others coming through this area have been meeting for lunch in the Metro Center area of downtown Washington, DC. If you give him enough notice, regular attendee Fred, K3ZO, may bring you your 3-land QSL bureau cards! We invite and encourage you to join us every month for good food, good company, and good conversation. If you have any questions feel free to email or call W3DQ or our co-convenor, Rich NN3W. Hope you can join us!

Southwest VA Chapter: The Southwest VA group meets each Wednesday at about 8:30 AM at Hardees at 20265 Timberlake Road in Lynchburg, VA. This is an informal gathering, but normally has about 10-12 attendees. Contact Mark Sihlanick N2QT, Tel: 434-525-2921

Eastern Shore Chapter: Meets every three months, on the second Saturday of April, July, October and January at noon. In keeping with the tradition established by SK Dallas W3PP we will also meet at the contest station of Eric WG3J one hour before the start of most major contests. Contact Eric Hudson [WG3J](#)

Location: Delmar Pizza, north west corner of the intersection of highways 13 and 54 in Delmar, DE

Southern Maryland Chapter: Currently on hiatus, if interested in meeting contact the Chapter Chair, Tom Shelton, [ND3N](#) via email or (240) 434-3811

Colonial Capital Chapter: Meets the 2nd Thursday of each month at 8:30 am
Location: Hot Stacks Restaurant, 6495 Richmond Rd, Williamsburg, VA 23188
757-565-1105

Contact: Bill Conkling [NR4C](#)

The Tidewater Chapter meets the 3rd Tuesday of every month at Frankie's Place for Ribs located in the Fairfield Shopping Center on the corner of Kempsville Road and Providence Road in Virginia Beach. The meeting starts at 7:00 PM. All amateurs are invited.

Contact either Chapter Chair: Don Lynch, [W4YZT](#), or Ron Young, [W8RJL](#)

If you'd like to add or correct a listing, contact [K3TN](#) for inclusion in the Newsletter!

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!

QSL CARDS By LZ1JZ

WWW.LZ1JZ.COM



By Scott KA9FOX

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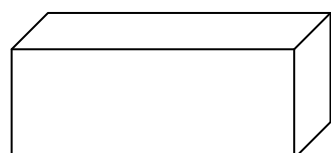
Attention: Contesters

7 Big Problems that are Probably Affecting Your Scores Right Now!

and

How The RF Connection's Mike-Link and
Shure® Legendary Performance™ Broadcast Headsets

Solve them ALL!



Your Radio

Mic/PTT cable
RX Audio: L/R cable
From Footswitch



The RF Connection's
Mike-Link

Headset cable



Shure BRH440M
Broadcast Headset

Problem #1: Foot Not Near Footswitch, QSO Missed

Solution #1

Use Your Finger Instead!

- Mike-Link finger-touch PTT
- Momentary SPST switch
- Positive tactile feel



Problem #5: Operating CW, you have a "pain in the head" after "Y" hours on-air

Solution #5 - Use Mike-Link

Periodically, Flip the Reverse/Inphase Audio Switch

- Reverses mono audio source for greater listening pleasure



Problem #2: You wear eyeglasses and you have a "pain in the temple" after "X" hours on-air

Problem #3: Brand 'Z' comfortable headset solves problem #2, BUT increases external background noise

Solutions #2 & #3

Use Shure BRM440M
Broadcast Headset

- External background noise isolating
- Closed back—noise isolating
- Gamer-style, circumaural (over-the-ear) ear cup pads



Problem #6: Special microphone is needed for your ICOM radio

Problem #7: External batteries needed when your ICOM-specific headset is used with other radio brands

Solutions #6 & #7

Use Mike-Link & Shure BRM440M

- Built-in, user-selectable, Active ICOM pre-amp
- External power/battery NOT required
- Built-in, user-selectable mic input impedance 2.5K or 10k

Problem #4: "RF in your mic audio OM!"

Solution #4 - Use Mike-Link

Ferrite RF suppression chokes included on:

- microphone audio
- receiver audio
- PTT

Call For Your FREE REPORT:

"The R.F. Connection's 'Mike-Link' and
Shure® Legendary Performance™
Broadcast Headsets"

Call Joel for your SPECIAL PVRC PRICE!

301-840-5477

HAM RADIO OUTLET

WWW.HAMRADIO.COM

NEW MILWAUKEE SUPERSTORE NOW OPEN!



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 • More features



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 • Large Touch Screen Color TFT LCD



IC-PW1 | HF/50 MHz Amplifier

- Wide freq. coverage - 1 kW from 1.8 MHz to 50 MHz (amateur bands only) • Wide ALC adjustable range • Full duty cycle • Auto antenna tuner built-in • Auto AC input voltage selector is employed • Current (Ip), Voltage (Vp), temperature, SWR and output power protectors are available



IC-7700 | HF/50MHz Transceiver

- The Contester's Rig • HF + 6m operation • +40dBm ultra high intercept point • IF DSP, user defined filters • 200W output power full duty cycle • Digital voice 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-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-7600 | All Mode Transceiver

- 100W HF/6m Transceiver, gen cov. receiver • Dual DSP 32 bit • Three roofing filters- 3, 6, 15kHz • 5.8 in WQVGA TFT display • Hi-res real time spectrum scope



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



ID-880H | Analog+Digital Dual Bander D-STAR

- D-STAR DV mode operation • DR (D-STAR repeater) mode • Free software download • GPS A mode for easy D-PRS operation • One touch reply button (DV mode) • Wideband receiver **D-STAR ready**



IC-9100 | The All-Round Transceiver

- HF/50MHz 144/430 (440) MHz and 1200MHz[†] coverage • 100W on HF/50/144MHz, 75W on 430 (440) MHz, 10W on 1200MHz[†] • Double superheterodyne with image rejection mixer



ID-5100A Deluxe | VHF/UHF Dual Band Digital Xcvr

- 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 • FM Analog/DV Repeater List Function



IC-V80 | HD 2 Meter FM Transceiver

- Tough construction • 750mW loud audio • Powerful 5.5W of output power • IP54 and MIL-STD-810 rugged construction • Built-in CTCSS/DTCS • WX channel & weather alert function



IC-7410 | HF/50MHz Transceiver

- 32-bit floating point DSP unit • Double Conversion Super-Het Receiver • Built-in 15kHz 1st IF Filter • Built-in Band Scope • Large, multi-function LCD • RTTY Demodulator/Decoder • USB for PC control



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 with optional MBA-4 • Wideband receiver

ID-51A Plus | VHF/UHF Dual Band Xcvr

- 5/2.5/1.0/0.5/0.1W Output • RX: 0.52-1.71, 88-174, 380-479 MHz** • AM/FM/FM-N/WFM/DV • 1304 Alphanumeric Memory Chls • Integrated GPS • D-STAR Repeater Directory • IPX7 Submersible **D-STAR ready**



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*Except 60M Band. **Frequency coverage may vary. Refer to owner's manual for exact specs. †Optional UX-9100 required. QST OCTOBER 2016. The Icom logo is a registered trademark of Icom Inc. Toll-free including Hawaii, Alaska and Canada. Call will be routed to the nearest store. All HRO 800-lines can assist you. If the first line you call is busy, you may call another. AZ, CA, CO, GA, TX, VA, WI residents add sales tax. Prices, specifications and descriptions subject to change without notice.

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FTDX5000MP Limited | 200W HF + 6M Txcvr

- Internal Power Supply • Two Totally Independent Receivers • Super Sharp "Roofing" Filters • High Performance Yaesu Custom-designed 32-bit Floating Point DSP • True Analog Meter Precision



FT-450D | A100W HF + 6M Transceiver

- 100W HF/6M • Auto tuner built-in • DSP built-in • 500 memories • DNR, IF Notch, IF Shift **Call For Pricing!**



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



FTDX3000 | 100W HF + 6M Transceiver

- 100 Watt HF/6 Meters • Large and wide color LCD display • High Speed Spectrum Scope built-in • 32 bit high speed DSP /Down Conversion 1st IF **Call For Low Pricing!**



FREE
YSK-857

FT-857D | Ultra Compact HF/VHF/UHF

- 100w HF/6M, 50W 2M, 20W UHF • DSP included • 32 color display • 200 mems • Detachable front panel (YSK-857 required)

Call For Our Low Price!



FT1XD | 144/430 5W Digital Transceiver

- C4FM/FDMA • 1200/9600bps AX.25 APRS & GPS Recvr Built-in • Dual Band Operation w/Dual Receivers (V+V/U+V/V+U) • Wideband Receive/AM Bar Antenna/Aircraft Receive • 1266 Memory Channels w/16 Char Alpha Tagging



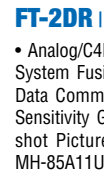
FT-991 | HF/50MHz/2M/440 Transceiver

- 160 M-440MHz - SSB/CW/FM/C4FM Digital/AM/RTTY/PSK • 100 W (2M/4440: 50 Watts) • 3.5" TFT full-color touch panel operation • High speed spectrum scope • Roofing filters: 3kHz & 15kHz • 32-bit high speed floating point IF DSP • 160-6 meter high speed automatic antenna tuner



FT-2900R | Heavy-Duty 75W 2M FM Transceiver

- Massive heatsink guarantees 75 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-2DR | C4FM/FM 144/430 MHz Txcvr

- Analog/C4FM Dual Monitor (V+V/U+U/V+U) • System Fusion compatible • 1200/9600 APRS Data Communications • Integrated 66ch High Sensitivity GPS • Wide Band Receiver • Snapshot Picture Taking Capability With Optional MH-85A11U



FTDX1200 | 100W HF + 6M Transceiver

- Triple Conversion Receiver With 32-bit Floating Point DSP • 40 MHz 1st IF with selectable 3 kHz, 6kHz & 15 kHz Roofing Filters • Optional FFT-1 Supports AF-FFT Scope, RTTY/PSK31 Encode/Decode, CW Decode/Auto Zero-In • Full Color 4.3" TFT Display



FTM-100DR | C4FM FDMA/FM 144/430 MHz Txcvr

- Power Packed System Fusion Transceiver • High Audio Output Power • Rugged Powerful Transmitter • Integrated 66ch High Sensitivity GPS • 1200/9600 APRS Data Communications • Voice Guide and Recording Function *Optional FVS-2 Required • Digital Group Monitor (GM) Function • Digital Clock & Timer Functions



VX-8DR | 50/144/220/440

- 50/144/220/440 • 5W (1W 222 MHz) • Bluetooth optional • Waterproof/ submersible (3' for 30 min) • GPS APRS operation optional • Li-ion Hi-capacity battery • Wide band Rx



FT-60R | 2M/440 5W HT

- Wide receiver coverage • AM air band receive • 1000 memory channels w/alpha labels • Huge LCD display • Rugged die-cast, water resistant case • NOAA severe weather alert with alert scan



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TS-990S | 200W HF + 6M Transceiver

- World's first dual TFT display • 200W output on all bands • ± 0.1 ppm TCXO ensures both high stability and reduced power consumption • Triple 32-bit DSP's dedicated to main/sub receivers and band scope • Main receiver employs full down conversion, new mixer & narrow band roofing filters • Third order intercept point (IP3) +40dBm for highest level of RX performance (main receiver)

Call For Special Price!



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KENWOOD
COUPON**

TM-D710G | 2M/440 Dualband

- V+V/V+U/U+U operation • Built-in GPS • Built-in TNC for APRS & DX-Cluster operation • 50W 2M & UHF • 1,000 memories • Dual receive • Green or amber backlight colors • Latest APRS firmware w/new features • Sky Command II remote functions

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KENWOOD
COUPON**

TS-480SAT/HX | HF + 6M Transceiver

- 480HX 200W HF & 100W 6M (no tuner) • 480SAT 100W HF & 6M w/AT • Rotatable w/front panel/speaker • DSP built-in

Call Now For Low Price!



**+\$300
KENWOOD
COUPON**

TS-590SG | HF/50MHz Transceiver

- Equipped with 500 Hz/2.7 kHz roofing filter as standard • ALC derived from TS-990S eliminating spike issues • Antenna output function (shared with DRV connector) • CW - morse code decoder function • Improved 1st mixer • New PFB key with multi-function knob • New split function enabling quick setting • LED backlight with selectable color tone



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TM-V71A | 2M/440 DualBand

- High RF output (50W) • Multiple Scan • Dual receive on same band (VxV, UxU) • Echolink® memory (auto dialer) • Echolink® Sysop mode for node terminal ops • Invertible front panel • Choice of green/amber for LCD panel • 104 code digital code squelch • "Five in One" programmable memory • 1000 multifunction memory

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TH-D72A | 2M/440 HT w/extended RX

- 5W TX, RX 118-524 MHz, VxU, VxV, UxU • APRS w/built-in 1200/9600 TNC • Built-in GPS, Built-in USB, digipeater • Echolink® compatible, • Mil-Spec STD810

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TS-2000

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TS-2000X

TS-2000/2000X | HF/VHF/UHF Transceiver

- 100W HF, 6M, 2M • 50W 70CM • TS-2000X 10W 1.2GHz
- Built-in TNC, DX packet cluster • IF Stage DSP • Backlit front key panel

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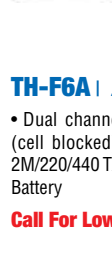


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TM-281A | 2 Mtr Mobile

- 65 Watt • 200 Memories • CTCSS/DCS • Mil-Std specs • Hi-quality audio

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TH-F6A | 2M/220/440

- Dual channel receive • .1 - 1300 MHz (cell blocked) RX • FM, AM, SSB • 5W 2M/220/440 TX, FM • 435 Memories • Li-Ion Battery

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TH-K20A | 2M Handheld

- 2M 5.5W • VOX • CTCSS/DCS/1750 Burst built-in • Weather alert

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ALL MODE SDR RECEIVER

- Continuous Coverage from 100kHz to 2GHz
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- Built-in High performance Front-end Filters
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- Outstanding Reviews on eHam
- Call for special low price



MA-40

- 40' Tubular Tower

Call For Latest Pricing!

MA-550

- 55' Tubular Tower • Handles 10 sq. ft. at 50 mph • Pleases neighbors with tubular streamlined look

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All US Towers shipped by truck; freight charges additional.



TX-455

- 55' freestanding crank-up • Handles 18 sq. ft. @ 50 mph • No guying required • Extra-strength construction • Can add raising and motor drive accessory • Towers rated to EIA specifications • Other models available at great prices!



218XATC-PL-(length) RG8x (240UF) w/PL259 Connectors Each End. Weather-Proof Heat Shrink Tubing.

- Stranded Center Conductor.
- 95% TC Braid + bonded 100% Foil Shield.
- Very Flexible, Light Weight, and Smaller than RG8 sizes.
- Non-Contaminating-UV Resistant-Direct Burial-Black Jacket.



233/2-G4-(length).

- Unique design (Nickel Grommets 4" Spacing) allows for easy attachment to a vehicle's body or truck bed to create a "ground-plane".
- Good option as a "buss-bar" in the shack.
- 1/2" wide tinned copper 38x48x8/384 10ga 53 Amps.
- Stocked in 1.5', 3', 5', and 10' foot lengths.



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The Premier Sound Card Modem!

- Quiet - hear what others miss!
- Proven USB Sound Card built-in
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- Complete - Six FTDI COM ports
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- Works well with HRD, M110A, Fldigi, WSJT & many more software programs
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