



PVRC Newsletter

November 2015

Sweepstakes!

And CQ WW CW!

President's Letter – Ethan K8GU

Happy November, PVRC! And, with November comes some of our favorite contests, the two ARRL Sweepstakes and the CQ WW CW! I'm going to keep this brief but want to revisit one of my recurring topics: the NCCC Challenge in NAQP. The results are in and we've been edged out by The Society of Midwest Contesters:

First Place: SMC, 1,313,948,399 points, 496 participants

Second Place: PVRC, 1,250,993,212 points, 467 participants

Third Place: NCCC, 636,427,114 points, 292 participants

Congratulations to Craig, K9CT, and all of SMC on your 30th anniversary of contesting and on this hard-fought victory. PVRC really mobilized at the end when we saw SMC surging early. Great job, PVRC!

If you've seen WX3B's Sweepstakes presentation, 2015 edition, you've seen these numbers and know the big effect that participation has on our Club scores. Please get on the air and make some noise, then submit your logs.

I'll be headed to KP4 on business (dreadful duty, I assure you) next week and that will probably eliminate much SS CW activity, but I do plan to get on the air and put some QSOs in the log when I get home, especially on 40 and 80 at night. I hope everyone else can do

likewise, getting on the air when possible and keeping the rate up. I've also enjoyed seeing the reports roll in from CQ WW SSB. There were lots of great PVRC scores! I hope you all had fun.

See you on the air this month!

73, Ethan, K8GU

Affiliated Club Competition		
Unlimited Category	Score	Entries
Potomac Valley Radio Club	18,828,792	276
Northern California Contest Club	13,457,554	178
Society of Midwest Contesters	8,515,332	169
Yankee Clipper Contest Club	7,051,322	111
Minnesota Wireless Assn	6,768,372	109
Florida Contest Group	3,923,574	57

2015 Sweepstakes Unlimited Category Club Results

<u>PVRC Officers:</u>		<u>Trustees:</u>
President:	K8GU Ethan Miller	K3MM, N3OC, WX3B, W4ZYT, N4NW, K2AV, KE3X, K4ZA, K3WRY
Vice President:	W3LL Bud Governale	
Vice President:	K3AJ Tom Valenti	<u>PVRC Charter Members (all SK):</u>
Secretary:	W4VIC Vic Culver	W3GRF, W4AAV, W4KFC, N0FFZ, W4LUE, W7YS, VP2VI/W0DX, W3IKN, W4KFT
Treasurer:	N3RR Bill Hider	
PVRC Website: http://www.pvrc.org		

Sweepstakes 2015 Resources – K3TN

Dates/times: CW: First full weekend in November (**November 7-9 2015**). Phone: Third full weekend in November (**November 21-23, 2014**). 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 24th for CW, December 8th for SSB.



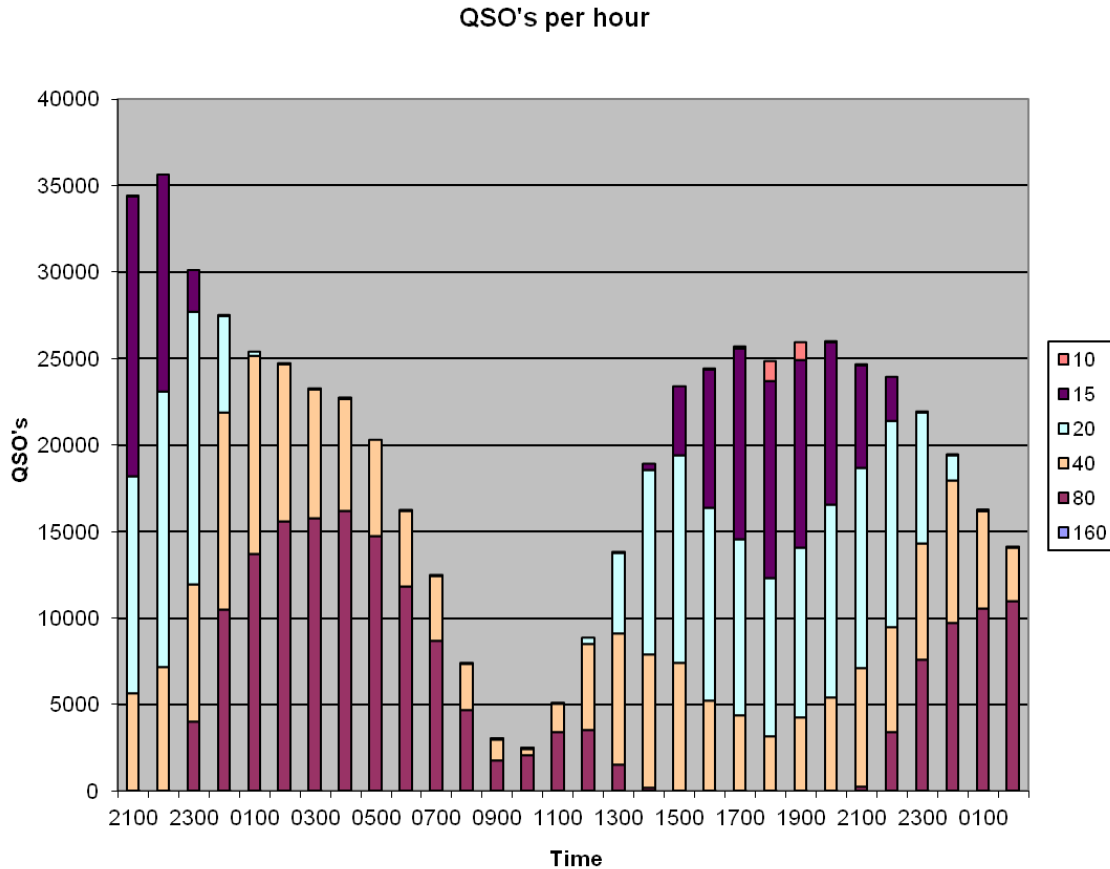
A pretty good N1MM Function Key file for SS CW

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

What Band Should I Be On? – One of the biggest decisions in any contest is what bands to be on and when? Domestic contests are very different than DX tests, and the “work once per contest” rule in SS really changes things, too,

Hunters and fisherman learn to go to where the deer and the fish are to get the best results and the chart below shows on what bands the most SS CW QSOs are made at what time of day.



Source: N2IC and ARRL QST June 2010

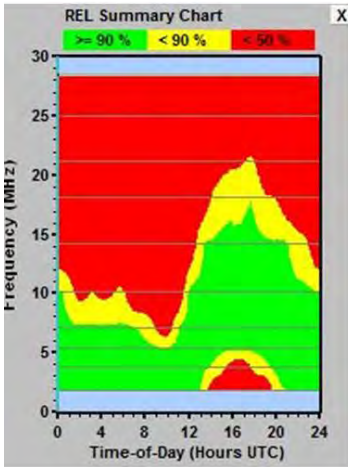
You can see several things immediately from this data:

1. Keep that butt in the chair for at least the first nine hours.
2. The 0900-1000Z hours are definitely good off time choices.
3. The last two hours are yawners – more good off time.
4. 80 and 40 are the bread and butter bands.
5. 10 and 15 being open siphon activity from 20 and 40.

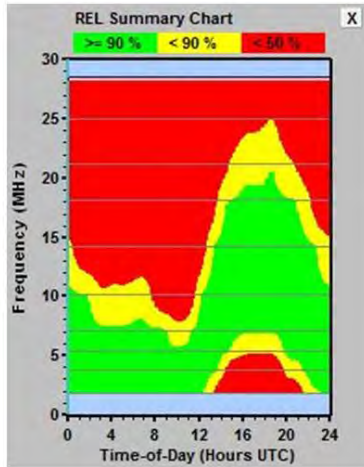
Another way to look at the “What Band Should I Be On?” question is to look at propagation models. Below are some ACE HF runs showing path reliability by frequency for the CW Weekend with likely solar conditions. The first show predicted path reliability for 100w and a dipole, the second is for a KW and a tribander.

You can see why 20/40/80 are the money bands for PVRC stations. It also shows why spending a lot of time on 10m is not a great idea.

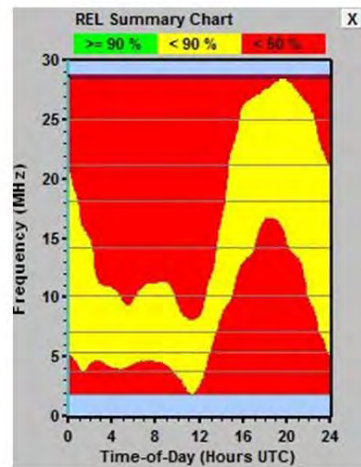
Sweepstakes paths for 100w and a dipole station



DC to Chicago

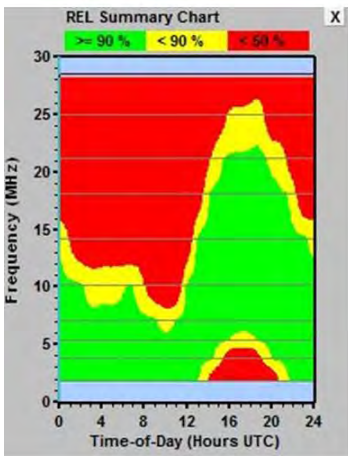


DC to Boston

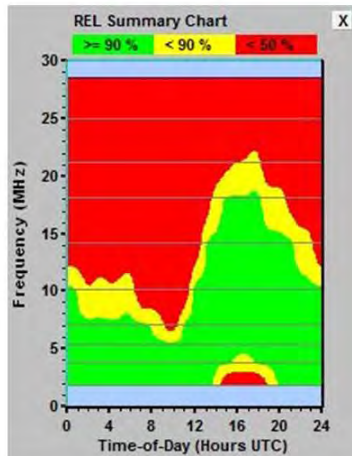


DC to California

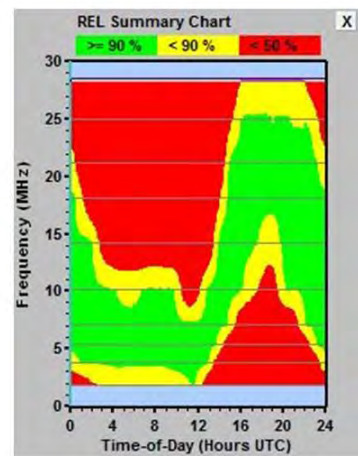
Sweepstakes paths for Kw and tribander station



DC to Chicago



DC to Boston



DC to California

A New Call, A New Tower – Mike W4AAW (ex WoYR)

Mike ~~WoYR~~ W4AAW is becoming a three tower station:



Matt Hackett from Mobile Equipment Services mans the backhoe.



W2YE, N1RM, W4AAW and N4PD pray to the rain gods that Hurricane Joaquin heads out to sea.



All Mike needs now is a few yards of concrete.



It is all about the base...

SO2R Interstation RFI Investigation, Analysis, Solution Procurement & Coaxial Stub Filter Installation – Bill N3RR

I completed my shack makeover from SO1R/SO2V to SO2R-capable in October 2013, just in time for CQWW SSB. I knew I might have interstation RFI when I operated SO2R, but because I didn't know the extent to which I would have problems, I decided to do some contest operating, take notes during several events and only then determine from my early experiences with SO2R what needed to be done. I wanted to operate several CW and SSB contests, so I would have the "spectrum" of operating RFI to consider before making any decision on what to do.

By late November 2013, my yellow note pads were chocked-full of notes I took re: interstation RFI during the contests. So much interference and so little time to address it in the middle of the 2013-2014 contest season! I had purchased W2VJN's book¹ earlier in 2013 and had read it with interest. In my early engineering career, I actually worked for two companies that provided engineering and hardware solutions to solve RFI problems for their respective customers. So, I was certainly aware of what might be needed to be done in my station.

I now needed to investigate potential interstation RFI solutions. I reviewed the Top Ten Devices, Inc. Website². Then, I gathered my RFI notes and called Dave, N3RD, and asked him what the Top Ten Devices process was for providing coaxial stub filters. Dave introduced me to George, W2VJN. My initial conversation with George began with my question about the feasibility of his building a set of band switching stub filters similar to what he built for K6LA. George told me that may not be what I need. He said we'd have to gather detailed engineering data from several tests he'd like to make on my SO2R station.

That began a 3-month process that transpired over email between George and me. I became George's lab technician and George was my lab engineering manager, directing me to make various measurements on my SO2R station, per a set of test plans he and I agreed upon. My station details, including my antennas, towers, SO2R operating position layout, antenna interface panel and other shack details are described in detail on my [website](#).

By early January 2014, George had an initial design and work plan for me to review along with a proposal for him to fabricate, test and ship the filters to me from his location in Oregon. Essentially, George would:

1. Design the 6 stub filter networks I needed, one network per band
2. Procure all of the parts necessary (coax, coax connectors, T-connectors)
3. Fabricate each band's stub filter(s)
4. Test and plot the VSWR, insertion loss, and stop-band null characteristics for each interference band on each of the 6 operating bands
5. Dismantle, package & ship each stub filter network to me.
6. Provide me with a CD containing the schematics of each band's stub filter network and containing the test plots of the final filters (39 plots in all)

George said the prices for the stubs are listed on the Stub page of the Top Ten Website.

In addition, I would pay for the T connectors, any elbow joints or double male connectors, and the shipping between George and me. During the design phase, I iterated his design with him to minimize the number of double-female connectors (reduced them to zero) and to use zero elbow joints. I also wanted to use all female T connectors, if possible.

George said he had used Cable Xperts T connectors in the past. They were all-female Ts. So, he procured those for me. While those Ts were somewhat difficult to work with due to their short-threaded length, they worked fine. I just needed to be sure I tightened the connections with plyers. Of course, I always use plyers to tighten all of my coax connections, so that was not a problem. George soon built and shipped me ½ of the first stub network, 40m, for testing. The 40m stub network was the most complex. So, initially for test purposes, I temporarily installed this ½ of the 40m stub network and made the measurements George requested. Based on those results, George would design the final stub system.

After I tested the 40m initial stubs at my station, I shipped the initial ½ of the 40m stub network back to George so he could install that into his final design and test and measure it in its final configuration. It was my idea to ship it back to him because I wanted to be sure that he tested everything there, so that I knew that it worked at least once and there would be no troubleshooting issues if I had problems after I put them together here. (I had no problems at all, with any of the final stubs.)

It was now mid-January 2014 and ARRL DX CW was quickly approaching. I wanted to be able to use my stub filter system in that contest, so I mentioned it to George. George proceeded to build, test and ship stub filters to me during those 4 weeks prior to ARRL DX CW. I received, installed and used the complete stub filter system in that contest. I was quite pleased with the results – during the contest, I didn't make any notes on my yellow note pad because I encountered no objectionable interstation RFI!

My experience with George and Dave at Top Ten Devices was exceptional. The professional planning, design, testing and the required level of customer involvement (minimal) and allowed level of customer involvement (as much as I desired) were among the best I have ever experienced in my professional career. On my [web site](#) you can see the band by band schematics of each band's stub filter network and the 39 plots of VSWR, insertion loss, and stop-band attenuation for each, plus photos of my final installation. Each plot has a description of the plot in the upper right hand corner. For example: "40 Null 80" means: The operating band is 40m, the plot shows the amount of attenuation that the stub(s) are applying to 80m signals. It's important to understand that the stubs are active on transmit as well as receive For example: Radio 1 is on 40m and Radio 2 is on 10m. Radio 1 on 40m has stub filter 40 Null 10 that, according to the plots, provides a minimum of 30dB attenuation to 10 meter signals. Radio 2 on 10m has stub filter 10 Null 40 that according to the plots, provides a minimum of approximately 18dB attenuation to 40 meter signals. That means when Radio 1 is transmitting on 40m, Radio 2 has 48dB (30dB + 18dB) of attenuation in place for signals transmitted by/from Radio1. That means when Radio 2 is transmitting on 10m, Radio 1 has 48dB (30dB + 18dB) of attenuation in place for signals transmitted by/ from Radio2 Note: not all band-to-band TX-RX possibilities are covered or required with the stub filters. But, many are, as above.

N3RR Station Topology

I operate on only the 6 HF contest bands. I have a SO2R station with two IC-7800s and two ACOM 2000As. These are connected to one 6-PAK. The N3RR stub filter system has one stub filter network per band. The input to each band's stub filter network is connected to the 6-PAK's corresponding band output. The output of each band's stub filter network connects to either an individual antenna for 160 & 80 or to the input/output port of a two antenna Stack Match on 40, 20, 15 & 10.

George used RG-213 in the fabrication of the stubs. I used RG-214 for the input and output cables to/from each stub network. Each radio/amplifier pair is always connected to a band through the 6-PAK, so both radios always have a stub filter "in-place" whether that radio is transmitting or receiving. To grasp the details of George's design for the N3RR coaxial stub filter system, I would recommend reading and studying George's book and study the Top Ten Devices Webpage on Band Reject Coaxial Stubs as you view the full report on my [website](#).

Membership News

PVRC added several new members since the last newsletter. Please welcome:

- Dave KC3B XK in the Central Maryland Chapter.
- Herman N4CH and Dave KV4JK in the Southwest Virginia Chapter.
- Kathy K3WTT and Tom K3ORC in the Annapolis Chapter.

Chapter leaders please remember to complete the [Meeting Attendance Report](#).

Upcoming Contests and Log Due Dates

Contests This Month

- **Nov 7 – CW Sweepstakes!**
- Nov 14 – WAE RTTY
- Nov 14 – OK/OM CW
- Nov 21 – LZ DX
- **Nov 21 – SSB Sweepstakes!**
- **Nov 28 – 29 – CQ WW CW**

Logs Due This Month

- Nov 6 – CQ WW SSB
- Nov 4 – UBA ON
- **Nov 24th – CW SS**

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

The Editor's Last Word – John K3TN

I was out of town for most of CQ WW SSB, but I did get on a bit Sunday afternoon – phenomenal conditions. It will be really nice if the CW Weekend comes close to that.

I suppose for Sweepstakes I should hope for bad conditions, as an open 10 meters helps the 6-landers more than it does us – but there will be enough time for those crummy conditions over the next 5 or 6 years.

Thanks to Bill N3RR and Mike W4AAW for 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 – Bill N3RR

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:



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 the Golden Corral Frederick, MD
5621 Spectrum Dr.
Frederick, MD 21703
PVRC Meets in the BANQUET ROOM
(301) 662-5922

From Interstate 270 south of Frederick, MD:
Take MD Route 85, "Buckeystown Road" NORTH.
First right on Spectrum Drive.
Restaurant is in a couple of blocks. Most arrive about 6 PM for dinner and informal discussions. The meeting begins at 7:00 PM.

Contact: Jim [WX3B](#)

Central Region: 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 6:30. 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 at <http://www.w4nc.com>

Over the Hill Bunch: The group meets for lunch at noon alternately in Maryland at the College Park Holiday Hotel Route 1 and the Beltway or in Virginia at the Parkview Marriot near route 50 and the Beltway. Meetings generally are held on the last Wednesday of the month and are subject to change. Meetings are announced by E-Mail. 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 on the 3rd Wednesday or Thursday of the month in the downtown area of Washington, DC. Locations occasionally change, but are always Metro accessible. Details are sent out on the PVRC reflector. Feel free to contact Eric W3DQ or Brian WV4V for details and directions.

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

Southern Maryland Chapter: We meet on the last Wednesday of each month at Nicolletti's Pizza located at: 22741 Three Notch Road, California, MD 20619 Phone: 301-863-2233. Check out their menu [here](#).

Talk-in on 145.350 (-) PL-156.7

Meet and Eat: 6:30 – 7:30, PVRC meeting afterwards.

Contact the Chapter Chair, Tom Shelton, ND3N at GL1800Winger<at>Verizon<dot>net or (240) 434-3811 with any questions

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 Rd and Providence Rd in Virginia Beach. The meeting starts at 7:00 PM.

Contact either Chapter Chair: Don Lynch, [W4YZT](#), or Ron Young, [W8RJL](#) All amateurs are invited.

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. Please donate online [here](#). You can also support the Club by buying from the firms listed who advertise in the newsletter, or by getting your company to sponsor the newsletter!

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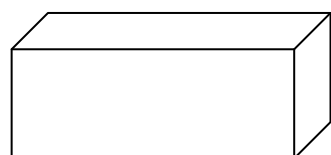
Attention: Contesters

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 BRH440M
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 BRH440M

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

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

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

Solution #4 - Use Mike-Link

Ferrite RF suppression chokes included on:

- microphone audio
- receiver audio
- PTT

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From Santa's shack to yours, DX Engineering has gifts for the Amateur Operators in your life!



Christmas Cards

Send your friends a card they'll want to keep. These Santa and Ham Radio cards are a lot cooler than those with only the scenic snow-covered village. Sets include 10 cards and envelopes.



Receive Preamplifiers

These are the best low-noise preamps on the market. With 300 kHz-35 MHz coverage, they are perfect for AM and HF DXing, SWL or contesting.



Receive Antenna Interface

You can use this unit to connect an external receive-only antenna, receive preamplifier, as a TX/RX switch (for older gear), or to interface with phasing/noise cancelling systems.



Pro 7 Headsets

These headsets block out background noise to leave just you and your radio signals, plus they feature a unique phase reversal switch to really dig out weak ones.



ZOOM Antenna and Cable Analyzer, and NANUK Equipment Case Combo

The AA-230 ZOOM is easy to use, boasting a large color display, intuitive hotkeys, and straightforward user-interface. We've paired it with a perfectly sized NANUK Equipment Case with cubed foam to keep it protected in the field. Select from seven colors.



Receive Antenna Variable Phasing Controller

Combine two identical receive antennas to create a "virtual rotator" directional array, so you can null-out unwanted directional noise, enhance distant signals or compensate for an imperfect antenna landscape.



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