

## *PVRC Newsletter* *October 2012*

### President's Letter – Rich NN3W

**G**eneral Quarters! General Quarters!  
All hands, man your battle stations!

With apologies to K0DQ, N4OC and the rest of our officers and enlisted ratings, it's TIME to rumble! I looked over at my calendar and just realized that we are 30, count 'em, 30 days from one of the biggest events in all of amateur radio – the CQWW DX SSB contest.

Unless you've been hiding in a cave, under a rock, or in a CIA run safe house, you'll undoubtedly know that the bands have come alive and are rocking and rolling. 15 meters is open well into the evening to central Asia, Southeast Asia, and other far-flung regions that the East Coast usually isn't accustomed to working on 15. In addition, 10 meters has come alive with more than reliable openings in the morning to Europe (and as far as into VU land at the same time), and then Asia in the evenings. Looking at the calendar, you all should take comfort in the fact that what we're seeing this week (especially this weekend with the

CQWW RTTY contest) should manifest itself again about 30 days later on CQWW SSB weekend. It's going to be **fun!**

Following CQWW, it is really time to don your battle helmets, put on your anti-flash hoods, and toss on your gloves as the age old domestic battle known as November Sweepstakes is fast approaching.

In 2011, PVRCers submitted a combined 279 logs (155 SSB and 124) – yielding nearly 22.9 million points. This score earned the club the coveted Unlimited Club competition gavel for the fourth time in a row. We would love to make it a fifth time! Please consider dusting off radios, getting your paddles and keyboards ready, and test out your antennas. Get on the air for 4 hours, 14 hours or the full 24 hours. Your time on the air not only benefits the club through each QSO you make, but also through the instances where you work other PVRCers.

In the coming days and weeks, watch the PVRC reflector as helpful hints, operating tips, band strategies, and general advice pointers are disseminated to the experienced and newbie alike.

Best of luck in the contest and very 73,  
Rich NN3W

### Steve GW4BLE Undergoing surgery – Jim WX3B

One of my good radio friends Steve GW4BLE is having surgery tomorrow at the Royal Gwent Hospital. I'm going to wager that many of you have also been working Steve in contests and rag chewing with him for years as I have. Steve is also good company with important "intelligence" about my competition when I'm at W3LPL.

Please consider dropping Steve a note, his in-patient stay is expected to be between 5 & 15 days and he will be living for his emails!! Steve's email is: [steve.gw4ble@btconnect.com](mailto:steve.gw4ble@btconnect.com)

Steve asked me to pass his regards to "the gang" and this is certainly the group that knows him.

### Membership News – Bud W3LL

PVRC added one new member since the last newsletter:

- Tamara K3TAM in the Rappahannock Valley Chapter.
- Adam W4TTY in the Southwest Virginia chapter.

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

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#### PVRC Officers:

President: NN3W Rich Didonna  
Vice President: W9GE Bob Finger  
Vice President: K8GU Ethan Miller  
Secretary: W3LL Bud Governale  
Treasurer: WR3L Dave Baugher

#### Trustees:

K3MM, N3OC, N4ZR, W4ZYT, NW4V, K2AV, K4ZA

#### PVRC Charter Members (all SK):

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

PVRC Website: <http://www.pvrc.org>

## Interesting Article on Weak Signals – Jim AB3CV

Reprinted from AB7E, original can be found [here](#).

### Minimum Discernible Difference – AB7E

Amateur radio, as with most things in life, is always filled with tradeoffs and compromises, particularly when it comes to matters of signal strength. Is that bigger antenna worth the extra cost? What would a few more watts buy me? Should I replace my feedline with something that has lower loss? How much more readable would I be if I added a few feet to my tower, or added a second antenna at some lower height, in order to gain a few db at the takeoff angle of interest?

In my case, it was the antenna question that first led me to try to quantify the difference in readability between two signals of comparable, but unequal strength. I was trying to decide between two antennas that differed by roughly 2 db in forward gain and by several hundred dollars in cost. My gut reaction said that 2 db wasn't worth the extra cost, but as a DXer and contester I changed my mind after I generated some audio files similar to the ones I've included here - especially when I considered the probable reduction in background noise that the tighter pattern of the larger antenna would provide. No doubt others with different motivations or constraints would have reached a much different conclusion, but hopefully these examples may offer some small assistance to anyone faced with similar choices.

Any comments (favorable or otherwise) would be warmly received via email sent to dave (at) ab7e.com. I am not an audio professional so be gentle with me.

### Methodology

All of the files on this page use background noise recorded from a moderately noisy and otherwise dead 20m band within approximately a 500 Hz bandwidth (roughly 350 Hz to 850 Hz with some rolloff in the 70 Hz segments at each end). The CW Signals were generated and recorded to .wav files using CW Player, a nice freeware application from F6DQM. Various tones and speeds were used depending upon what I was trying to accomplish, but in general I tried to choose those that I thought were mid range for the majority of people (roughly 550 Hz and 26 wpm). All audio files were converted to .mp3 format and mixed with appropriate level shifts using Goldwave, a reasonably competent audio editor.

These files were generated with decent fidelity (32 kHz and 64 kbs), but they may "play" differently depending upon individual situations such as headphone or speaker response, software equalization, user hearing response, user tone or speed preference, etc. Your mileage may vary ... a lot.

Each of the files must be downloaded from the links and played locally - they won't play directly from this website. Embedding a player here would have been possible but wouldn't have given the user much control over playback, at least not with my limited knowledge of web crafting. If you fear that these may not be legitimate .mp3 files, my recommendation is that you ignore them.

## Stepped Signal Strength

As a first analysis, and as could be inferred by the title of this page, I was curious what the minimum discernible difference was between two weak signals of approximately equal strength. Clearly the answer to that is a function of how close they are to the background noise level. A difference of a few db might be unnoticeable for two relatively strong signals, but if one of the signals is beneath the noise threshold and the other is above it the comparison would be more striking. I was interested in the weak signal case, so I generated this file with CW text stepped in six 1 db increments beginning more or less beneath the noise and rising above it.

[0-1-2-3-4-5-6db.mp3](#)

In my case, I could reasonably discern a difference in volume for each one db step, and my threshold of easy readability was at the third level ("two db" sent text). Your results might be considerably different.

Here is the same set of signals, except in reverse order from loudest to weakest.

[6-5-4-3-2-1-0db.mp3](#)

## Dueling Callsigns

The file above tries to display readability purely with respect to background noise. A somewhat different consideration is how two concurrent signals of unequal strength compare with each other - how much difference in volume does it take to be heard first when both are near the noise level. To explore that I created four files with different tones and different volumes, each with two callsigns sent at 26 wpm. The multiple files were an attempt to provide enough tone difference between the callsigns to distinguish them from each other, but with mirror image tone assignments to compensate for possible personal preference. Two of the files have a one decibel difference in volume between the two callsigns and the other two files have a two decibel difference. Each file starts out with Callsign A louder than Callsign B and then changes midstream to make Callsign B louder than Callsign A. Version 1 files use 550 Hz for one callsign and 520 Hz for the other, while version 2 files use the opposite assignment. Here are the four files:

[A-vs-B-1db-v1.mp3](#)

[A-vs-B-1db-v2.mp3](#)

[A-vs-B-2db-v1.mp3](#)

[A-vs-B-2db-v2.mp3](#)

In my opinion, one decibel difference is at least noticeable and two decibels represents a competitive edge.

## Effect of Speed

In the presence of spiky background noise (my best attempt at a suitable scientific term) it is sometimes helpful to use lower CW speeds so that our brain can integrate each element over a longer period and thus more effectively sort out the noise. To investigate that effect I created the following file. It contains 20 different callsigns: five each sent at 20, 25, 30, and 35 wpm, all of them using a 550 Hz tone. The volume of each callsign is the same as the louder of the two callsigns in the Dueling Callsigns files.

[Callsigns20-25-30-35wpm.mp3](#)

I wouldn't try to take this illustration too literally, though. Slower character speeds may help the dits bridge noise spikes but faster speeds will slip in the gaps between static crashes more effectively. Faster speeds may also facilitate copy during conditions of rapid QSB. Slower speeds may get you ignored by impatient operators or by those who naturally copy better at faster speeds. Still, if you're trying to make contacts with an area of the world when the band is opening or closing, or if you know the other end of the path is in an area of high QRN, cranking down the speed might make a difference. If the other operator keeps asking for repeats it might not be because his/her code speed is necessarily poor. Instead, it might be because the QRN spikes on his end are obliterating your dits.

73, Dave AB7E

## It's Never too Early to Think About Sweepstakes...

Save those dates:

- November 3-5 – CW SS
- November 17-19 – SSB SS

## Icom Gear for Sale – Bill N3RR

I just received my newly purchased IC-7800 which I will use with my ICOM PW-1 amplifier. That leaves me with (2) IC-781s and (1) IC-4KL, all three units, excess to my needs.

This is the first-ever For Sale posting of this equipment, as I am offering it to PVRC members first - with a PVRC discount. Anything remaining un-sold after this Sunday, September 30, will be posted to the general ham for sale websites, QTH.com, etc.

73 Bill, N3RR



**IC-781 S/N 2696:**

This IC-781 includes:

Icom EX-627 Automatic Antenna Switcher (for up to 9 antennas)  
Heil HM-5 Microphone  
Icom SP-3 speaker  
Spare CRT screen - Amber color  
UT-36 Voice Synthesizer installed  
ACC(2) cable for using the EX-627

The filters installed are: 2.4 KHz SSB (9mhz IF), 2.1 KHz SSB (455 KHz IF), 500 HZ CW (Both IFs), 250 HZ CW (Both IFs), 6KHz AM

The following are also included:

Sherwood cooling fan mod installed, Sherwood instruction manual  
Original REG Unit covers included (that were replaced by the cooling fan modification)  
Rack handles and rack mounting handles  
Original IC-781 Instruction Manual  
Copy of full Service Manual, with fold-outs of breakaway views of circuit boards & chassis details, in spiral-bound booklet w/plastic cover.  
Full set of schematics  
Accessories kit  
Icom CT-17 serial Interface for interfacing with PC logging program & freq control, e.g N1MM

I have the original factory box & shipping foam-surround suitable for shipping .

This IC-781 was updated, aligned, tested this year (2012) by Burghardt Radio Repair, Watertown SD. This unit works superbly. It was my main transceiver in my shack.

The price for this IC-781 with the above equipment/manuals included is: \$1,950 + packing, shipping & insurance FOB my QTH in Rockville, Maryland. PVRC members take \$100 off this price.

**IC-781 S/N 2941:**

2.8KHz, 500Hz, 250Hz filters  
Sherwood cooling fan mod installed, manual, original power supply covers replaced by the cooling fan modification  
Rack handles  
Original Instruction Manual  
No Service Manual - available online at: [www.n7tgb.net/pages/radio/icom\\_manuals.htm](http://www.n7tgb.net/pages/radio/icom_manuals.htm)  
Full set of schematics  
EX-627 Automatic Antenna Selector with ACC(2)cable (\$239 value vs. WX0BRatpak6)  
Accessories kit  
Updated, aligned, tested this year (2012) by Burghardt Radio Repair, Watertown SD.  
USB CT-17 Interface by ZLP Electronics, G4ZLP, for interfacing with PC logging program & freq control, e.g N1MM

**\$1,900.00 FOB Rockville, MD**

Price does not include: shipping, packing, insurance  
See PVRC & other discounts listed below

**IC-4KL S/N 1056:**

1000+ W output (160 - 20); 900+ W output on 15m; 800+ W output on 10m  
ACC(2) cable not included. (Cable requires two 7-pin DIN plugs & cabling between IC-781 & IC-4KL.)  
If using the EX-627, two cables are needed and are daisy-chained from IC-781 to IC-4KL to EX-627.  
The 4KL & 627 both have two  
ACC(2) connectors for daisy chaining. Rack handles. Unit also has casters installed (stock)  
Original Instruction Manual  
Original factory Service Manual  
Full set of schematics  
Original factory box with foam sidewalls and shipping box. The remote control unit has no box.  
**\$2,600.00 FOB Rockville, MD**  
Price does not include: shipping, packing, insurance  
See PVRC & other discounts listed below

**General:**

Whoever buys the first 781 gets their choice of one or both:  
Heil HM5 desk mic and ICOM SP3 speaker.

Both 781s have original factory boxes with the original foam packaging.  
For shipping, the Sherwood cooling fan must be removed (screws) & the original power supply covers re-installed (screws). The Sherwood fan may then be shipped separately.

Read IC-781 reviews on eHam: <http://www.eham.net/reviews/detail/399>

Buy a 781 & the 4KL together and subtract \$200.00 from the combined listed price. PVRC members (per the membership roster on the PVRC Website) subtract an additional \$100.00 per item purchased.

Arrange to see a demo of these units at my QTH in Rockville, MD: email me: [n3rr@erols.com](mailto:n3rr@erols.com)

## Upcoming Contests and Log Due Dates

### Contests This Month

Oct 6 – EPC Russia DX  
Oct 6 – Oceania DX SSB  
Oct 6 – CA QSO Party  
Oct 13 – Oceania DX CW  
Oct 20 – Worked All Germany  
Oct 27 – CQ WW SSB

### Logs Due This Month

Oct 10 – SARTG RTTY  
Oct 31 – All Asian DX SSB

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

## The Editor's Last Word – John K3TN

I'm looking for contributions for the November issue – especially pictures. The theme will be Sweepstakes hints and kinks, so any good SS stories or advice, or those pictures, send to [jpescatore at aol dot com](mailto:jpescatore@aol.com).

73 John K3TN

## **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 City Buffet, 1306 W. Patrick Street, Frederick, MD. (301) 360-9666. It's in a small shopping center. Most arrive about 6 PM for dinner and informal discussions. The meeting begins at 7:00 PM.

From W. Patrick Street, turn up McCain Dr. (the Mountain View Diner is on the corner), then turn right into the shopping center, then turn left and search for a parking place. The City Buffet is tucked back in the left corner of the shopping center behind the Mountain View Diner. You can't see the City Buffet from W. Patrick Street. 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](#) holds its meetings on the 4th Monday of each month at [the Mellow Mushroom](#), 314 W. 4th St., Winston-Salem, NC. Ragchew at 7:00pm, dinner meeting starts at 7:30pm. All contesters and interested guests are invited!

**Central Virginia Contest Club: Ed NW4V** Meets the first Tuesday of the month at St. Martins Church, 9000 St. Martin Lane, Richmond VA, (between W. Broad St. and N. Parham Road). Our meeting begins at 7PM.

**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

**SOMD Region Meeting:** The Southern Maryland Chapter meets at 6:30PM on the first Tuesday of even numbered months. We meet in the vicinity of Charlotte Hall, MD, with the specific location (usually a local restaurant) to be announced several weeks prior to the meeting (keep an eye on the reflector). These meetings are open to all PVRCers, guests, and those interested in joining PVRC. Contact Tom AB3IC for information: e-mail: [GL1800Winger@verizon.net](mailto:GL1800Winger@verizon.net) - cell: 240-434-3811

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 send PayPal donations via [DAVE@WR3L.NET](mailto:DAVE@WR3L.NET) or by snail mail to Dave's address at [QRZ.com](http://QRZ.com). 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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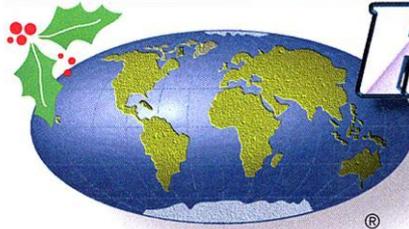
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