

# Potomac Valley Radio Club Newsletter

December 2003

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Welcome to Mark, AC5RR, voted in at the November meeting of the Northwest Region

**Don't forget the ARRL 160-Meter Contest, 2200Z, Dec 5 - 1600Z, Dec 7 and the  
ARRL 10-Meter Contest 0000Z, Dec 13 - 2400Z, Dec 14**

PVRC regrets to report the passing of Bob Mitchell, N5RM, longtime PVRC'er who lived in Greenville, Texas (December QST - thanks to Ray, KT4W for alerting us)



**Best Wishes for the holiday season and a happy, prosperous new year from  
your Newsletter Editor, Pete Smith, N4ZR, Bob Weinstock, W3RQ, Publisher  
of the USPS edition, and all of our columnists and contributors**



## **From the President by Jack Hammett, K4VV**

We are delighted to have Christopher Imlay, W3KD, General Counsel of the ARRL, as our Guest Speaker for the Holiday Dinner in Vienna, VA on Monday, December 8. He will address BPL and other current issues in Amateur Radio, and field our questions. We will hold quick elections, and finish with the presentation of the PVRC 5 Million Awards.

In November, the amateur radio community in Loudoun County, VA faced a serious challenge to our future potential, as a zoning package was presented to the Board of Supervisors that included a provision to limit our antennas to a maximum height of 75 feet with 1-for-1 setback from "the required yard" of 25 feet.

With the strong leadership of the Loudoun Amateur Radio Group (LARG) including very active PVRC members Norm-AI2C, John-W4AU, Dick-W2YE, and Mike-W0YR [and the leadership of K4VV - ed.], we were successful in convincing the Staff and the Board to send the language back to Committee for further consideration. Tom Dawson, WB3AKD, the ARES Coordinator in the County spoke to the Board, presenting a very articulate input on the need for our antenna towers for our emergency services in the public interest. Many of us worked directly with our local Supervisors for support.

Fred Hopengarten, K1VR, a communications law attorney and author of "Antenna Zoning for the Radio Amateur," provided a powerful five page input on the applicable law on our issue, and worked well with our local attorney, and after the Board referred the issue, did brief the Board with his assessment of the legal issues. This was a just-in-time team effort.

Now we need to work with the County staff to work out a solution. We are optimistic that we will gain willing cooperation, and we are determined to work this issue to a successful outcome. Those of you in other counties need to be watchful to be alerted for zoning changes so that you have the opportunity to work the issues at the lower levels, before they rise to the decisionmakers for a vote.

Congratulations to all who contributed to the PVRC victories in the 2003 CQWW 160M (combined CW and SSB), as well as the ARRL June VHF QSO Party. I urge you all to make a special effort to get on in the ARRL 10-Meter Contest,

which we won in 2002 over a very strong challenge from SMC. They *will* be back! All of us are personally responsible for encouraging our friends and comrades in PVRC to step up and operate in contests to grow our skills, to set an example for others, and to contribute to PVRC tradition.

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## **Contesting as the Solar Indices Plummet (Part IV)**

**by Fred Laun, K3ZO**

Well, the 2003 CQWW SSB and CW SS Contests are now history. How did my predictions hold up?

In my article in the October Newsletter I did say: "October 1992 looked like a good candidate [for comparison with this fall's conditions - ed.] but just about the time the CQWW was arriving the solar flux suddenly shot up to 225. (We could always hope that history would repeat itself, of course, and that the solar flux would suddenly increase during this year's CQWW -- wouldn't THAT be great?)"

As we now know, hope became reality. During CQWW SSB the SFI hit 222 on its way up to an eventual high of 298. By the time the CWSS came along it was still up around 249.

Solar scientists have been marveling at the flare production of monster sunspot 10486, which produced several massive X flares, including two that were among the strongest ever recorded since solar measurements began to be made. Some of these scientists have even ventured that this activity may portend fundamental changes in the Sun's behavior. However, as we have seen, in October 1992 there was a similar burst in activity as the cycle moved downward.

At any rate, with this activity fresh in our minds, I would like to devote this month's column to a discussion of recent observed propagation conditions.

When spot 10486 and sister spot 10484 first made their presence known to us, they had not yet begun to eject massive amounts of material, but their effects on the Sun's "steady state" output had already caused the solar flux to ratchet up substantially. In one week the SFI moved from a value of about 90 to a value above 200.

Fortuitously, the CQWW took place while this high SFI value existed but before the activity had much negative effect on the Earth's geomagnetic field. This had the result of increasing the MUF so that 10 meters was much better than I had predicted, without initiating geomagnetic storming which would have the effect of shutting down polar paths. Indeed, from the contest results I have seen thus far, "black hole" inhabitants W9RE and N9RV enjoyed generally excellent conditions on 10 and 15, which could not have happened had conditions been massively disturbed.

I did notice that atmospheric absorption increased on the lower bands, particularly the first night on 160. It was a real chore even to break through to stations in the Caribbean, not to mention Europe. However, I found conditions on 80 to Europe OK the first night and really quite good the second night, and conditions to Europe on 40 to be good both nights.

The SFI has sort of a flywheel effect on the ionosphere, so that when the Solar Flux has been elevated for a long period of time, the MUF remains high even when the Sun is not shining directly on the patch of ionosphere in question. Not so with sudden massive spikes in the SFI. Remember, until just before the CQWW Phone Contest, the SFI had been hanging around 90 to 110 for weeks. So when the SFI suddenly jumped up over 200, the MUF was nice and high while the Sun was shining, but as soon as it went down, the MUF plummeted like a rock. This had the effect of closing 20 to Europe -- except for some EA's and I's -- very shortly after 15 had closed to Europe. It was concerning this facet of propagation that I made a serious error in not hitting 20 hard at sunrise, at the beginning of the 20 meter European opening. I will keep this in mind for the CW end of the contest!

We did have a solar flare during CQWW, which caused a blackout on most bands for stations on the sunlit portion of the Earth at the time the blackout hit. It occurred at 1745 UTC Sunday according to Jeff, N8II. I was running Europeans on 15 at the time and I recall noticing that the surrounding QRM, which had been running S9+ for some time, suddenly faded away to nothing. I thought I had finally cleared myself a hole in the band! The stations calling me were not as strong but I could hear them fine and I continued my run all the way through the blackout. Apparently the blackout was worse for stations in tropical areas, as I heard complaining from the Caribbean.

We had another flare during CW SS, on Sunday at 1717 UTC. This time I really noticed it as I was running on 20 when suddenly all the signals around the frequency just faded away. I went looking to see if I could find anyone, and found K3DI who I still needed and worked Dick. Then I heard Marty, K2PLF, who I had already worked. Otherwise, dead si-

lence on the whole 20 meter band. Curiously, the experts say the flare occurred at 1725 UTC, but by then the bands were already long dead. Can it be that there is something even faster than the speed of light that affects the ionosphere?

Just after a major flare signals often drop out, but in half an hour or so the bands generally begin to return to normal. It takes a couple of days before the principal products of the Sun's belch hit Earth's geomagnetic field. There was a massive solar flare at 1110 UTC on October 28, and another, a little less potent, followed within a day. So on October 29 when I got home from the Over the Hill lunch that day, a major aurora was already in progress. I got on 2 meters at 1937 UTC and immediately worked a station in the Nashville, TN area, pretty far south for aurora. My next QSO was with Bob, W4MYA who, despite his being close enough so that he is always S9+ with me on 2 meter CW, was that day 100 percent aurora hiss with my beam to the North.

In my next installment, I will discuss how propagation is affected on the various bands during a major geomagnetic storm. With normal conditions gone many hams give up, but propagation during such storminess can be fascinating, as I will illustrate next month.

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## **New FAR Representative Needed -- W3CP QSY to Oregon** **by Jim Headrick, W3CP**

For several years W3CP has been PVRC's representative to FAR [the Foundation for Amateur Radio - ed.], although not a very active one. Last month I moved to Oregon and will no longer be able to participate in any local PVRC activities. FAR is a worthwhile organization and PVRC should continue being a member. Some of you may have noticed that the FAR magazine AUTOCALL has been brightened up recently - contesting articles and everything! If you like I can ask FAR to send PVRC the forms that designate new Trustees, each club should have two. As my old friend W3XE used to say "CU on the low end of the Band"

[Editor's note -- Among other things, FAR sponsors a number of scholarships for amateur radio operators, including the PVRC scholarship. If you are interested in becoming the club's representative, I'm sure Jim can provide details on what's involved (headrick@radar.nrl.navy.mil). If you want to take it on, then contact Jack, K4VV -- k4vv@aol.com.]

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## **Operating in the CQWW at YI3DX...** **by Fred Matos, YI3DX and W3ICM**

Except for about a three week vacation in October, I have been here in Iraq since mid-June. Returning from my vacation, I left Dulles on Thursday 23 October, changed airlines in London, and pulled into Qatar late Friday night. Then I caught the redeye out of Qatar, leaving at 3:00 AM Saturday, flying direct to Baghdad where I arrived at 6:00 or 7:00 AM, finally making it back to my living quarters around 1100 local time. Needless to say, I was exhausted and jet lagged from the grueling trip.

But I wanted to get some SSB CQWW operating time at my station YI3DX, which I had operated from time-to-time. The CQWW is the operating highlight of the year, a contest in which you find the most DX stations.

Finding operating space and a good antenna location here in the Green Zone is difficult. (The Green Zone is a large area about four or five square miles that contains our main work area, the Republican Presidential Palace, the Al Rasheed Hotel, and other office spaces and living quarters for thousands of Coalition Forces military and civilians.) My operating room is here on the top floor of the Palace in a small kitchen, a location that took me a long time of scouting around the building to find. The building management keeps changing locks on the room as it has plans to convert it to office space. They changed the locks while I was away, so the room was locked and I was denied access; and the key couldn't be located, so the guy with the master-key had to let me in. Because of possible theft, I don't leave my station in the room and set it up and break it down every time I operate.

A good roof location at the Palace is difficult to find, and taken together with locating a suitable room with a short coax run, it is very challenging to set up a station. The roof is also full of antennas of various types, ranging from whips to Inmarsat to helical UHF satellite antennas. I have a 20-meter dipole, but it is not very high off the roof, and on returning and inspecting it, I found that it had sagged considerably at one end, and needed more height. So I put the end up on top of another small building which gave entire antenna more elevation. There are various air conditioning fans on the roof near my antenna, and they likely contribute to the QRN.

I finally got my Kenwood TS570 and dipole all together to make my first QSO, JH4UYB, at about 1200 UTC, Saturday. I'm weak, so calling CQ usually results in no answers. If I did call CQ long enough and happened to generate a large pileup, my signal would probably be so weak that I couldn't control the pileup. So I just answer stations.

Propagation to North America has been terrible ever since I arrived here in June, but I was hoping that we would have good conditions for the CQWW. The late afternoon and early evening times here usually find openings to Japan, Eastern Asia, and Europe.

Some of better DX that I worked Saturday evening was B1Z, VK2IA, KH0AA, and 9V1YC. I briefly heard but didn't work ZL/W3VE, VU2PEB, ZS5T, ZU9NC??, and a VK9.

I found myself wondering who would be my first U.S. station. The first U.S. station that I heard was NT1Y around 1900 UTC. I called several times, but he didn't hear me answer his CQ's, and he disappeared very shortly thereafter. Then came the very strong signal of W3LPL at 14.172 at 1930 UTC. I gave one short call and he answered me immediately. Not only did LPL have a strong signal, but his antenna and receiver were good enough to hear me without me having to repeat my call. I don't know who the operator was, but I could easily tell the great exuberance in his voice as he gave my call and report. I then worked N3RS a few minutes later. Other stations that I heard and called numerous times, but who didn't hear me were AA1K, N2NT, VE1JF, K4JA, and N2NU. The 20-meter opening wasn't very long, but W3LPL's very strong signal held up very well despite the deteriorating conditions, and he was easily heard, even long after the other stations faded out.

I shut down for the evening at 1940 UTC, exhausted as I was. I would have probably somehow found the energy and work on adrenalin to keep operating if the conditions were good, but the band went out.

I got in some operating time on Sunday, but I didn't hear any more North Americans. I heard HC8N, but he was busy working U.S. stations and didn't hear my calls because I couldn't overcome the U.S. stations. I called numerous times, hoping to slip in and be heard during a brief quiet time, but it was no go.

I had the opportunity to work Trent, YI/N2OBM, who I had licensed a few months ago. Trent said he was set up in a cigarette factory. My score was low, but I had some fun in the contest giving out the multiplier. I would have had more operating time, but Saturdays and Sundays are workdays in Muslim nations, with Friday being the day off from work. I am also extremely busy with radio frequency spectrum management.

## **Field Day -- Another PVRC/CARA Win by Rich Boyd, KE3Q**

The Columbia ARA gang joined us again for the W3AO Field Day. This was our second year at the southern Carroll County (Maryland) site, in the athletic fields of the Mountain View Middle School, and our sixth or seventh year total.

Our VHF+ and overall transmitters-on-the-air operation came together better than ever, with 51 transmitters claimed -- putting us in the 51A category. We accomplished this by having every allowed HF bandmode on the air, a total of 18 transmitters claimable, the regular HF bands, 160-10, which is six bands, three modes on each (CW, SSB and digital). We also had the "bonus" GOTA, "Get on the Air" station, known prior



to 2002 as the novice-tech station. The first VHF station on the air also counts as a "bonus." The two bonus stations do not count in the total transmitter count (51), so we actually had 53 on the air. KA3EJJ brought his nice VHF+ station. W3EKT helped Maurice with a lot of the operating. They were on at least 6, 2 and 432. Added to that, ND3F came with his converted ambulance on Sunday to add virtually all the other VHF+ bandmodes and made QSOs on almost all of 'em, by a combination of schedules and moving stations to other bandmodes. This is how we were able to get such a large transmitter total -- another all-time transmitter record. Our previous best, and an all-time record, was 35 transmitters, so we broke it by quite a bit.

Conditions were down, so we were nowhere near our 10,500 (or thereabouts) W3AO record number of QSOs, but our 7,500 or so QSOs still appears to be considerably above the "usual suspects" competitors. Congratulations also to W4IY and their operators, most of whom are PVCers as well, who inspired many aspects of our W3AO operation, most obviously our reliance on AB-577 antenna supports. ARRL also opened up Field Day to official participation from other countries of the hemisphere, beyond the U.S. and Canada. The CO0US operation from Cuba was a first-ever, led by well-known testers NP4A and K7JA of Yaesu, no doubt with significant support from Yaesu. I expect a significant "sidebar" story about that in the December QST. The presence on the bands did not appear to make them a contender, but perhaps they were running five watt battery or something that will give them a disproportionate score. That's the wild card factor in FD that you just never know about until the magazine comes out. As was largely expected, QSO totals were WAY down on 10 and 15, but held up relatively well on the other bands. The decline in those two higher bands almost entirely explains our lower overall QSO total. Our 80M totals were up I believe, but not enough to make up for the high bands. I think 40 phone may have also benefited from the conditions and activity level shift.

The operation was very smooth, starting with N3KTV and others mowing the site, which it needed, then N3KTV heading up the AB-577 installation operation. KC3VO's trailer-borne generator with battery bank to big inverter and power controller (about a \$10,000 package total) was slick. Given how we've done things in past years, we were all nervous when the generator would run out of gas. We expected our radios and computers to shut down, but they didn't even flicker. Bob says the batteries and such can run us for another 45 minutes after the gas runs out. Bob didn't even get out of his chair (where he was BBQ-ing) when the generator shut down. I think he was "showing off" his setup's capabilities. Not bad, not bad at all. KC3VO and K3RA's YL/XYL Audrey (they weren't married then but are now) teamed up on the food and that went very well too.

Even though I bought a tent to house my bandmode and GOTA, K3RA and W3LPL decided to move me from the GOTA tent (where I assisted them and "control opped" for them last year, in addition to doing 40CW, which I think worked pretty well) to the main tent, and we did away with the second "main tent" this year, so the entire HF operation was in the same actual tent, and I haven't heard any complaints yet. We set it up in a U around the perimeter of the tent then set up a "short row" in the middle and all the operating positions did fit. There are definite advantages in terms of camaraderie and seeing who's fallen asleep, what chairs are empty, etc. if everyone's in the same place.

CARA did a great job in setting up the satellite tent and food tent and made more satellite QSOs than ever before. We always try to make at least one to get the 100 bonus points. Many years, K3RA has had to leave 20 CW long enough to go make that one. Not this time. The poorer conditions meant even W3LPL could shut down 20 phone for a while during the night, at which point we only had 40, 80 and 160 on the air. In previous years 20 has been round-the-clock.

The logging network using CT and ethernet put together by two CARA guys worked great. After FD they started suggesting we go to a Windows-based logger next year, which was discussed for a few weeks and it appears we might try Writelog, with W3LPL providing and setting up the computers. Skepticism about certain aspects of Writelog has apparently been answered satisfactorily, the last I heard. So, it appears before FD 2004 W3LPL will be working together with the two CARA guys to get that set up with ethernet, etc.

A major improvement in 2003, from my perspective, was what I call "transport." In previous years I have taken many loads back and forth to the site myself, pre and post FD. That worked out okay when we opped at my dad's site for 4-5 years, the main concern being security for the gear. Someone needs to be there to make sure it doesn't wander off. At the new site no one is there normally. Several people jumped into that task this year and took a pickup truck load, among them myself, AI3M, N3KTV, N3OC and K3BAZ from CARA. Also, buying seven folding tables and with a few more brought by others, and by using them efficiently, we were able to avoid borrowing 10-15 tables (to make sure we had enough), as we have in the past, from my church, another logistical headache overcome.

That's about it. There has been very little discussion of the plan for 2004, other than the logging program change. I think that discussion presumes we will do it again in much the same way. We can't think of much that went wrong this year,

other than propagation, so the "tweaks" are becoming fewer and fewer from year to year.

The biggest snafu this year was that we didn't have anyone on site when the portable toilet was delivered, so the toilet man delivered it a few hundred yards from our operating site, which was very inconvenient. The easiest way to get to it was to drive. Fortunately, we did eventually succeed in having it moved to a closer location.

Congratulations again to CARA and PVRC for overcoming the typical issues whenever any two groups try to work together efficiently, and each group, of course, made up of very individualistic individuals. It ain't easy at times, but this year was smoother than almost ever before.

## **The Toolbox** **by Don Daso, K4ZA**

*Where shall we set the wayback machine today, Mr. Peabody?*

The history and work of three famous minds (along with some chance observations and discoveries) led to what we now call galvanic current—induced when two dissimilar metals/alloys are electrically connected and in contact with an electrolyte.

First was Luigi Galvani (1737-1798), an Italian physiologist, who observed dead frogs "twitched" when coming into contact with dissimilar metals. While Galvani incorrectly attributed this effect to "animal electricity," produced by the frog's nervous system, this was a fundamental discovery.

Next comes Alessandro Volta (1745-1827), who was fascinated by Galvani's experiments, but realized the electricity came from the dissimilar metals in contact with the tissue, rather than from the frogs. Volta's work included developing batteries, consisting of two dissimilar metals in contact with an electrolyte. (Only a limited number of metals were available to Volta at the time, notably copper and zinc. The generation of current by Volta's galvanic cells, called a "pile," was described in a Royal Society paper in 1799.)

Along comes (Sir) Humphry Davy (1778-1829), who realized that current was generated by chemical reaction within Volta's cells (he noticed oxidation of the zinc anode). Volta all along had assumed that mere contact of the dissimilar metals with the electrolyte was sufficient to generate current, when the metals were connected. (Also important to note is the reverse—that an electrical current can induce a chemical reaction, the basis of electroplating. Davy produced potassium, by plating it out on a platinum cathode in a galvanic cell; other metals were also later isolated this way by Davy.)

In 1813, Davy hired another famous scientist, Michael Faraday. Faraday is credited with the rule of proportionality between the mass of material deposited (or dissolved) and the current flowing in a cell. This law is known as Faraday's Law of Electrolysis; we still use it to convert corrosion current densities to mass loss.

*How's this relate to ham radio, Mr. Peabody?* And the answer can be found inside every metallic joint you have in your station. Obviously, the number, once you stop and consider it, can be significant. When two dissimilar metals are placed in contact with each other, as a rule of thumb, the higher the electrical potential difference between them, the greater the possibility of a reaction. The chart (referred to as a "Galvanic Series") here shows the electrode potentials of metals in sea water. If two metals with different potentials are placed in contact (in a conductive medium, such as sea water, or if there's condensation surrounding them), there can be a reaction commonly called a galvanic cell. A key factor in the reaction between dissimilar metals is contact surface area. Severe reactions can occur when a large cathode (more positive potential) is in contact with a small anode (more negative potential). In this situation, corrosion rates can increase dramatically.

*How should I deal with my metal-to-metal joints? Mr. Peabody.* The best answer is to try always using metals separated by as little distance as possible on the Series table below—to ensure the least current potential. Where and when that's not possible, a "buffer" of suitable metal can be used between each dissimilar metal (stainless between copper and galvanized steel, for instance). [The complete galvanic table is reproduced on the next page - ed.]

Simply another informational tool to keep handy. *What's in your Toolbox??*

## Most Anodic (#1) to Most Cathodic (#92)

1. Magnesium	26. Al 5052-H16	51. Brass (plated)	76. Stainless steel 316L (passive)
2. Mg alloy AZ-31B	27. Tin (plated)	52. Nickel-silver (18% Ni)	77. AM355 (active)
3. Mg alloy HK-31A	28. Stainless steel 430 (active)	53. Stainless steel 316L (active)	78. Stainless steel 202 (passive)
4. Zinc (hot-dip, die cast, or plated)	29. Lead	54. Bronze 220	79. Carpenter 20 (passive)
5. Beryllium (hot pressed)	30. Steel 1010	55. Copper 110	80. AM355 (passive)
6. Al 7072 clad on 7075	31. Iron (cast)	56. Red Brass	81. A286 (passive)
7. Al 2014-T3	32. Stainless steel 410 (active)	57. Stainless steel 347 (active)	82. Titanium 5A1, 2.5 Sn
8. Al 1160-H14	33. Copper (plated, cast, or wrought)	58. Molybdenum, Commercial pure	83. Titanium 13V, 11Cr, 3Al (annealed)
9. Al 7079-T6	34. Nickel (plated)	59. Copper-nickel 715	84. Titanium 6Al, 4V (solution treated and aged)
10. Cadmium (plated)	35. Chromium (Plated)	60. Admiralty brass	85. Titanium 6Al, 4V (anneal)
11. Uranium	36. Tantalum	61. Stainless steel 202 (active)	86. Titanium 8Mn
12. Al 218 (die cast)	37. AM350 (active)	62. Bronze, Phosphor 534 (B-1)	87. Titanium 13V, 11Cr 3Al (solution heat treated and aged)
13. Al 5052-0	38. Stainless steel 310 (active)	63. Monel 400	88. Titanium 75A
14. Al 5052-H12	39. Stainless steel 301 (active)	64. Stainless steel 201 (active)	89. AM350 (passive)
15. Al 5456-0, H353	40. Stainless steel 304 (active)	65. Carpenter 20 (active)	90. Silver
16. Al 5052-H32	41. Stainless steel 430 (active)	66. Stainless steel 321 (active)	91. Gold
17. Al 1100-0	42. Stainless steel 410 (active)	67. Stainless steel 316 (active)	92. Graphite
18. Al 3003-H25	43. Stainless steel 17-7PH (active)	68. Stainless steel 309 (active)	
19. Al 6061-T6	44. Tungsten	69. Stainless steel 17-7PH (passive)	
20. Al A360 (die cast)	45. Niobium (columbium) 1% Zr	70. Silicone Bronze 655	
21. Al 7075-T6	46. Brass, Yellow, 268	71. Stainless steel 304 (passive)	
22. Al 6061-0	47. Uranium 8% Mo	72. Stainless steel 301 (passive)	
23. Indium	48. Brass, Naval, 464	73. Stainless steel 321 (passive)	
24. Al 2014-0	49. Yellow Brass	74. Stainless steel 201 (passive)	
25. Al 2024-T4	50. Muntz Metal 280	75. Stainless steel 286 (passive)	



## **N1MM Logger at W3PP Multi Multi** **by Glenn Biggerstaff, N3HUV**

I have been asked to share my experiences running N1MM Logger this year. I have had some problems in the past at my station with DOS based logging programs on newer machines and was concerned that as time went on it would get to be a problem to keep the old machines running. At W3PP we train a lot of new contest ops and I felt that Windows-based software would be easier to teach to new ops since most people have at least some exposure to Windows.

What do you need? A Pentium 266 MHZ or better running Windows 95 or newer. The more memory the better. We have some machines at W3PP with 32 megs of ram and they do work but more is better especially if you run Windows 2000 or newer. At home I run Pentium 266s with lots of memory and Windows 98 and they work fine. Pentium IIs of this speed are readily available and cheap. I bought the mine on ebay for \$30 apiece.

If you are networking a number of machines at a Multi Multi the machine that runs the packet needs to be faster, much faster. We have a 700 MHZ machine that only runs the packet for the network. You will need the N1MM software, it's free for the downloading. That's right FREE, not shareware. The software is a group effort headed up by Tom Wagner, N1MM. The concept is similar to Linux. There is a large community of hams using this software on the N1MM reflector and they are very active and helpful. You download the base file and the latest Version update and help files and unzip them to your hard drive. While not difficult it does take some time to learn how to install it. If you are going to network more than one computer you will need to know some basic windows networking skills. At W3PP networking was the biggest part of the workload to convert from DOS based logging software.

How well does it work? We ran it at W3PP for the first time for CQWW in October, when the contest first started Dallas and I both had our hands full due to some networking problems that were largely due to our inexperience with the software. After the first hour things settled down and went fairly smoothly although there were a few tense moments. All the operators seem to like the software after the first hour. I usually run the night shift and that is when we train a lot of the new ops. With the old software I always get lots of questions like, "What is the key stroke for xyz?" N1MM is much more intuitive and there were far fewer questions. With the old software we had an extensive "cheat sheet" that was big and cumbersome. With N1MM the sheet was small and almost unneeded.

I ran W3PP for SSCW a couple of weeks later and everything worked great. At W3PP to run single op you run the network like a multi and change chairs to switch bands. To simplify setup for running the station as a single op I got permission from Dan Henderson N1ND for this year to submit a log that has serial numbers for each band instead of the usual method. This may answer why I had a serial number that seemed low for the time you worked me. Dan has promised to work this out with Tom in the off season.

CQ already accepts band serial numbers for WPX. There are several issues with one set of serial numbers for the station and I hope that ARRL will allow band serial numbers in the future. Features such as check partial, band maps, packet radio, keyboard radio control, and keyboard CW generation that you are accustomed to in other programs are included as well as some nice new ones.

I personally think that this software is going to become one of the best contest software packages available. It is very good and getting better all the time. The manual still needs a little bit of work but it is ok. Data entry, particularly for SS is great. The exchange can be entered in any order and the computer sorts it out. I ran the entire SS contest without one lost QSO on the network. To learn more go to <http://page.ctime.net/n1mm> or run a search on your favorite search engine for n1mm logger. I think that you will be pleased and you will probably learn some new computer skills as well.

[I plan to try N1MM Logger on a very part-time basis on CQWW CW this coming weekend - ed.]

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## **K4JA, W3LPL, W4ML Available by Telnet**

W3LPL has joined K4JA and W4ML in offering Telnet access via the Internet to DX Cluster services. W3LPL's Telnet address is telnet:w3lpl.net, while K4JA can be reached at telnet:209.147.70.241 and W4ML (run by the CVCC/PVRC group) at telnet:dxc.w4ml.net. All of these nodes are running the AR-Cluster software, which offers a variety of advanced search and filtering options. For example, users can now easily limit the spots they receive to only those coming from the third and fourth call areas. The sysops all credit Dave Zeph, W9ZRX, with a key role in getting these nodes operational.



## **FCC Looks at a New Way to Assess Interference**

**by Jim Talens, N3JT**

The FCC is looking at a new way to quantify and manage interference among different radio services, in response to the "ever increasing demand for radio spectrum, and recognizing the additional challenges this presents for effectively managing interference." Translated, there is a need to fit more users into the available frequencies.

Until now, the FCC has relied on limits on transmit power to reduce interference. The new rules would regulate interference directly. Basically, interference temperature is a measure of the "noise" power in a particular band and location. The new approach would use that parameter and specify a maximum permissible noise temperature in a given bandwidth. The FCC has stated, "It may be possible . . . to overlay spread spectrum systems on spectrum used by conventional services with little or no mutual interference." The Commission is seeking comments in general on the concept, and is proposing a trial in the form of new rules for the frequency band 6525-6700 MHz and portions of the 12.75-13.25 GHz band that are used for satellite uplinks and fixed point-to-point microwave bands.

Implications for Amateur Radio are not clear at this point. The new interference measurement proposal may help in some situations, but it may also open the way for increases in interference, depending on the circumstances. Hams often want to copy signals that would be considered unusably weak by commercial users, such as in EME or weak-signal VHF work; an interference temperature could be permitted in a given band that is acceptable from a commercial standpoint but, if applied to an Amateur band, would deprive it of much of its usefulness.

If the FCC's new approach wins acceptance, it could be applied in a variety of situations, not just in microwave bands. Hypothetically, it could even be used to determine a level of "acceptable" interference in the case of broadband by power-line ("BPL") signals interfering with Amateur bands, even down into the HF spectrum. It is likely that such an application will not occur for a while, by which time BPL deployment may have been decided by the Commission. Still, the issues in this proceeding are worth following for their broader possible application in the longer term. [FCC Daily Digest, Vol. 22, No. 217, November 14, 2003 (ET Docket No. 03-237)]

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## **Belkin USB to Serial "Black Box"**

**by John Youell, W4TNX**

Recently, I replaced my old DOS shack computer with an XP computer. My legacy peripherals (RTTY TNC, radio) needed COM ports, but the new computer only had one COM port and multiple USB ports. A solicitation to one of the reflectors (can't remember which now – over 50, you know) yielded a response from Bob (N4BP) that the Belkin unit was FB for this purpose.

I ordered the Belkin USB / Serial model F5U103 over the internet and have been extremely pleased with the ease of installation and the performance. Current price is around \$60. It allows my computer to communicate with my MFJ-1278B TNC that I use for RTTY and CW in conjunction with DX4WIN. I have yet to install CTWIN in that hurricane "Isabel" left me with much clean up yard work to do prior to getting back to radio business!

The Belkin USB / Serial device comes with a standard 6 foot USB cable and is powered from the computer's USB port. The serial speed can be up to 230 kbps and it requires no IRQs. It has both a Mini-DIN 8-pin female and a DB9 male port. You need to supply the appropriate cable / connectors from the Belkin unit to your serial device. The Belkin website has a friendly interface to download the latest drivers (mine is for USB 1.1, but 2.0 may be available). The unit is advertised as compatible with Windows 95 rev. B, 98, & 2000. It works FB in my application with Windows XP.

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## **PVRC Defending Its Crown in ARRL 10-Meter Contest December 13(Z) -- Be There!!!**

Can the PVRC continue to win the Unlimited Club class in the ARRL 10-Meter Contest? Last year, the top 3 were: PVRC, with almost 40 million points from 89 entrants, NCCC with almost 29 million from 78 participants, and SMC with over 28 million points from 95 entrants. Rumor has it that SMC intends to follow its own example in SS and try to beat us through sheer numbers. With the sunspot cycle in decline, our geographic advantage will definitely be less this year, so lots of domestic QSOs may indeed be the formula for success..

One of the great things about the 10-Meter contest is that you can work both modes in one weekend, which means lots to do and never a shortage of people to work. Even if you can only be on a few hours, please contribute.

## VHF and Above Radio Frequencies by Chuck Watts, W4XP

Once thought of as useless, now one of the most sought after resources in the world ... use them or lose them!

A question often asked is “what do I need for an antenna to be competitive?” Another question asked is “can I do FM only, or do I need to be able to use CW and SSB?” The questions go on from there, how much power, what’s the “best” rig, and so on.

No single answer fits every single situation. If you don’t have CW skills, then a radio capable of CW operation won’t be of much use when a cheaper FM only radio will suffice. If you’re not familiar with propagation on a given band, you may miss a fantastic opening, if you have only a vertically polarized antenna, you will be hard put to work many stations that are not operating FM. So how do you decide what you can do in VHF contesting? Again, this is not an easy question to answer.

If your primary interest in VHF is FM, chatting with the same group everyday as you make your way to and from work, then you may want to see how you can use your “mobile” radio in the house, or cruise up to a local high location. In Virginia that high spot might be Tysons Corner, in Maryland Sugarloaf. Or you may want to install an omni-directional vertical or a small vertically polarized Yagi at your home station.

In the case of going to a high location there is likely to be a major problem; inter-modulation [IMD] distortion caused by high-powered paging transmitters and other commercial-service transmitters located near you. Adding a simple in-line band pass or band reject filter can easily cure this problem, but is sometimes more bother than it’s worth. If you remain at home IMD is less likely to be an issue. So, if you don’t already have an antenna suitable for FM operation, they’re relatively easy to make or if you’re not the builder-type, they are relatively inexpensive, especially compared to, say, a full-size three element Yagi for 7 MHz.

Just about any radio made for 144 or 144/440 MHz operation will deliver about 50 watts [2-meter band] and 35 watts [70-cm band]. In the metropolitan DC area either power level is more than adequate to make many QSOs, especially during a contest where there are a lot of stations on the air that are FM only or have FM capability.

If you’re more inclined to operate the “weak signal modes,” CW, SSB, JT44/JT65, etc., you will need to do things a bit differently. The first is to have horizontally polarized antennas. There are a few examples of omni-directional antennas, such as the Halo and the Big Wheel to fit this need. At 50 MHz the Big Wheel design is cumbersome, to say the least. But the Halo is useful at this frequency even though there is negative or, if you’re lucky, unity-gain. At 222 MHz and frequencies up through 903 MHz the Big Wheel becomes a real performer. At 432 MHz the Big Wheel is only 66 cm [~26 inches] in diameter and a stack of four, which will yield an omni-directional gain of ~8 dBd, is only ~51.25 cm tall [~20 inches]. At 222 MHz the diameter increases to 135 cm [~53.2 inches] and a stack of four antennas is about 2.44 meters tall [~8 feet]. You will find in the pages of *QST* and *CQ* magazine company advertisements for Big Wheels, and unless you are really keen to build yours from scratch, you might consider buying them from a manufacturer. Of course, if you have a “spare” spot on your tower for a Yagi, this might be a preferred alternative to the Big Wheel. “Short” wavelength Yagi-antenna kits are reasonably priced. C3i, M<sup>2</sup>, and Cushcraft offer well designed models [I prefer C3i, but I am biased!].

There are several multimode radios on the used and new equipment markets that will get you on the 50-, 144- and 430-MHz bands, and several recent models, which have all three bands. If you’re not sure you want to get into this VHF contesting game there are several early model multimode radio available at very reasonable prices. Some of these include the Kenwood TS-600, TS-700 [several versions], Yaesu FT-221, FT-325, FT-290, FT-690, FT-726R, FT-736R [which has band modules for 903 and 1296 MHz], Kachina, Various Clegg models, and the grandmother of all commercially manufactured VHF multimode radios [and VERY rare!], the Gonset 6- or 2-meter Sidewinder. There are several more makes and models out there, but this is a good cross section. Typical power output ranges from a few watts to about 10 watts for most of these radios. If you are a member of the ARRL, or want to purchase a book from the ARRL on used equipment, many of these radios have been reviewed and there is a lot of information available on the Internet about modifications done to “improve” the performance of many of these models. Used equipment prices for these “antique-to-modern radios” will range from less than \$100 to \$800 or more for the FT-736R with four-band modules installed.

As usual, this is a cursory look at an area covered by book-length publications. Please remember that the next VHF and

above contest [in the US] is the ARRL January VHF Sweepstake, 24 – 26 January 2004. January SS is a Club Competition event, so it will be important for all members to get on the air and work as many fellow club members as possible. If FM is your only VHF capability, use it! If you have one of those new “DC to Daylight” radios, use a “wet noodle” if you have too, but get on the air!

If you have suggestions or comments, please contact me at w4xp@arrl.net or send me a message via the DXCluster.

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## **Around the Club**

### **Meeting minutes from the regions**

**Central** Region meeting minutes from the 11/10 meeting in Temple Hills, MD. The meeting was preceded by dinner at Topolino's. Members in attendance were W3TOM, W3DQ, KE3Q, K3TW, KD4D, K4VV, WR3L and N3OC (acting as recording secretary for this meeting).

The meeting was started at 7:30. Jack, K4VV gave the president's report. Jack reported on efforts to educate the Loudoun County Board of Supervisors on the benefits of ham radio as they consider their new proposed zoning ordinance that would limit our members ability to put up antennas. He reports a large contingent of both neighbors, PVRCers and other hams in support of exempting ham antennas from the new regulations under consideration by the supervisors. Jack reports their presentation was well received.

Jack also brought up a side effect of their presentation, which is the lack of ham radio public service by most contesters. Understanding fully that PVRC was formed as, and is dedicated to radio contesting, it was still felt that we have some of the biggest stations and some of the best radio operators and we should get involved in this to some degree.

W3TOM, the MDC ARRL Section Manager, spoke about this and how we would need to become involved in the organization and receive training to accomplish this. Tom also pointed out that PVRC spans many jurisdictions and ARRL sections. Tom agreed to work with N3OC and others to develop this idea and get something in the newsletter how interested members could participate in this needed aspect of ham radio.

PVRC has received a couple of suggestions for nominations to the contest hall of fame. Since this is the first time we have received more than one, a small group will be formed to look at the nominations and select one to receive our support for this year. N3OC gave the VP's report. A brief discussion was held on the 5m award program, as to what the next endorsement level above 25m would be. Currently there are a few members who have exceeded 50m, so it was agreed that 50m would be the next endorsement level.

The annual elections were supposed to be held in November, but everyone forgot about it and the nominations are not ready. It was agreed that the elections would be held at the annual holiday dinner to be held on Monday, December 8th. In the meantime the slate of nominations will be prepared.

N3OC circulated the reported scores so far for the CW sweepstakes, which were not looking too good so far. It seems scores are down some, probably due to conditions. Also the number of logs seems down, although all scores may not have been reported so far. Rich KE3Q gave a report on how he did in the CW SS from WP3R, and what the effects of the solar flare were on his results.

There was no new or old business, and no membership action. The discussion then went around the room for everyone to report on what they did for SS, and what their plans were for the rest of the contest season.

**Southwest Virginia** Chapter held its November meeting Friday the 7th. at the Roanoker Restaurant. Present were Jerry-K1SO, John-K4IQ and his son Cory, Chapter Coordinator David-N4JED and his son Robert, John W4JAM and Susanne W0MAN, Bill WA4BKW, and the new chapter secretary, Randy-KC9LC. We had a good turnout and hoping for a great turnout in December to share stories about the upcoming contests.

Contests right around the corner are SS-SSB, CQ-WW, and ARRL-160M. Let's all try to participate and submit our scores to the PVRC.

Buddy, W4YE, had the highest local score in the recent SS-CW with 651 QSO's. A great effort. In this same contest, Nat had 387, David 121, and Randy got his pin with 103.

Other discussions were focused on the ARRL's LOTW and E-QSL's benefits and future. E-QSLS are now available for a hand full of awards world wide while LOTW has not yet activated any tracking or awards features yet.

Bill, WA4BKW, reported that he has been unable to operate in recent contests due to computer problems and just too busy, but will be in the SS-SSB.

Jerry, K1SO, will also operate his fine station in SS-SSB. He reported that his progress as a county hunter is 1,110 out of 3,077. Good luck Jerry on the remaining 1,967! Also, he informs us that Independent VA cities may use any bordering county as their county for credit.

John, K4IQ, recently attended the PVRC central meeting and found the discussion very interesting, as the organization wants to change with the times, but retain its heritage. John recently returned from Armenia and will be going to Russia soon in his work. He has promised to bring back photos of the styles and lives from the people he sees in his travels for club members. He also plans to be on SS-SSB.

John, W4JAM, worked an impressive score in the CQ-WW and will soon submit his score. He has been busy repairing antennas and relay boxes to prepare for the contest season. Susanne reports herds of tame deer running through her yard and is nervous about a neighbor with a tree stand.

Next meeting of the Southwest Virginia Chapter will be Friday, December 12th, around 6pm at the Roanoker Restaurant, Roanoke, VA. Everyone is encouraged to attend and bring his or her latest scores. Meeting was adjourned to the parking lot.

Northwest Region Meeting November 2003 by Bud Governale, W3LL, Chairman

The **NW Region** met at the City Buffet in Frederick, MD on 18 November 2003.

In attendance were K4FTO, N4MM, K8OQL, W4AU, W2YE, K4VV, NC4S, W0YR, W3EKT, K3DNE, N3VOP, K2PLF, W3KHZ, K3WC, K3TZV, N3UM, WD3A, K3ZO, W3ZZ, W8ZA, AC5RR and W3LL.

As usual, lots of good informal discussion both before and after the meeting.

Announcements: W3LL, Bud announced that PVRC Elections for Officers will take place at the holiday dinner on 08 December at Anita's Mexican Restaurant in Vienna. Those wishing to be on the nomination slate for President, VP, Treasurer, Secretary or Trustee should notify either Jack, K4VV or Brian, N3OC prior to the dinner.

The December NW Region meeting will be on 08 December - combined with the holiday dinner. Look for updated announcements on the reflector. Jack, K4VV hinted there may be a mystery speaker at the dinner.

5M contests scheduled prior to our next meeting: CQWW CW 28 November and ARRL 160M 05 December.

AC5RR, Mark sponsored by Bob W8ZA, was voted unanimously into PVRC. Congratulations Mark!

W0YR, Mike asked if the ARRL RTTY Roundup is a 5M PVRC contest. John, N4MM said it was an ARRL sponsored club event. It was unanimously voted to add the ARRL RTTY Roundup to the 5M list.

John, N4MM reminded all of the Richmond Hamfest on 08 February.

W8ZA, Bob NEEDS CQWW CW OPERATORS!!!! PLEASE CALL BOB IF INTERESTED

From around the table:

K4FTO, Art's first meeting since January. He participated in eight contests with a total of 752 Q's using attic antennas (CCNR's). Art is now active after 30 years.

N4MM, John announced that PVRC won the CQ 160M 2003 gavel. John was in CQWW Phone with 579K pts, SSCW with 41.5K pts and 60K pts on SS Phone. He worked both A17K and VY1MB at the end. Moving the antenna SW netted the NT.

K8OQL, Jerry was at W8ZA for CQWW SSB and will be there for the CW contest. He found 10M conditions good for the Phone portion.

W4AU, John likes the PA QSO Party. He got a clean sweep with 400 Q's in 15 hours. In SSCW he had 840 Q's, 832K pts and 79 sections.

W2YE, Dick's 6th ham radio affair in the last week. He got to see the Spark Gap demo at the QCWA luncheon in Vienna. Search and pounce was his method for the last contests.

K4VV, Jack provided insight into the workings of the Loudoun County board regarding antenna ordinance issues. He was appreciative for the support at the hearing. The tower issue was tabled for further review. Jack commented that PVRC and contesters may not be respected for what we do, and our potential to support the public. We need to get more involved and train for emergency communications (ARES). Our capabilities should be known prior to the need.

Fred, W3ZO indicated we have an international influence rather than local. Comments were made that participation at the local club level should be encouraged.

Bob, W8ZA suggested that our sign in sheet should have an additional column for noting other club affiliation.

Jack was in the CQWW Phone from N3OC's station gathering nearly 1M points. SS was from the home QTH using a C3E and 40M dipole. He had 490 Q's in 12 hours.

NC4S, Gary's first meeting. It was Steve Affens, K3SA who got Gary into ham radio. He had the highest score in the VA QSO Party two years ago which still stands. Gary was in field day and has a 60' tower.

W0YR, Mike worked N3OC and N4MM in SS Phone. However, he earned 2nd place in the U.S. for the WAE RTTY contest and was 1st in the U.S. last year.

W3EKT, Ed reports no improvement in his vision. He's using Writelog in a blown up format to see the screen. Ed now has over 100 grids on 2M using 100w to a treetop yagi. Applause.

K3DNE, Ed was at W8ZA for CQWW Phone and at home for SS Phone using a Carolina Windom. Ed passed around his level converter showing the blown IC from his lightning strike. His 1296 tower mounted preamp was trashed. Other equipment is being repaired.

N3VOP, Mike noted that the Carroll County club participates in ARES/RACES. During the CQWW he learned his mom was in ICU and that ham radio is just a hobby. Mike had 160 Q's in the SS phone contest after restringing his dipole.

K2PLF, Marty's AB105 tower sections are still on the ground. His Quadra amp is still being diagnosed at Yeasu. Marty was at N4RV for both CQWW Phone and CW. In SS he put in 22 hours on CW and 23 on Phone mostly running stations from home. He will be away for the 10M contest.

W3KHZ, Art lost all his wire antennas in last Wednesday's wind storm. This kept Art out of SS phone. Eight truckloads of debris went to the dump.

K3WC, Dusty's tower is still on the ground but in one piece. Dusty reports Joe, NE3H will be in BV land for two years.

K3TZV, Steve says Joe, NE3H took care of the nodes and will now need to find someone to take over that job. When his water heater broke, Steve found ham treasures he didn't know he had stashed behind the water heater.

N3UM, Ben operated in CQWW Phone and CW. Also SS Phone and CW. In CQWW he had more Q's, lower mults and lower score. Getting Q's was slow in SS CW at the start but Sunday produced lots of Q's from stations having 100-150 Q's in the log.

WD3A, Tom was at W8ZA for CQWW Phone. He's been looking for work the last two months.

K3ZO, Fred lost his FT1000MP on 8 October with a reported dead power supply. He's now using his TS830. Looks like he will be 5th nationally in CQWW Phone. Fred went 9 minutes over in SS CW and wonders how ARRL will adjudicate this. He put in 18 hours in SS Phone - until it was no longer fun.

W3ZZ, Gene's 80M antenna was lost during Isabel and his 40M antenna lost last year. The good news was the hurricane reset the high SWR on the tribander to an acceptable level. Not in SS but made 120 Q's in 432MHz contest. Gene reported on the Leonides meteor shower tonight, peaking tomorrow morning.

W8ZA, Bob had 250 Q's and 36.7K pts in SS Phone and 185 Q's with 26K pts in SS CW. Bob says new member Mark, AC5RR fit in well during CQWW. The score for this contest was over 4M points. Bob had no antenna damage from Isabel. On the mountain, the wind sounded like a train.

W3LL, Bud commented on the superb quality of the newsletter and those contributors to this and other publications: K3ZO Fred's part 3 operating during the decline of the solar cycle; W8ZA Bob's scaffolding solution to crankup antenna maintenance; N3HBX, John's NCJ article on SO2R setup; K3LP, Dave's World Radio article and cover page on PVRC operation from St. Lucia. Bud had 716 Q's in CQWWSSB and in SS SSB 605 Q's with 77 mults - missed MT, AK and NT. Last year was a clean sweep.

The meeting adjourned at 8:45PM and reverted to informal discussions. Our PVRC holiday dinner meeting is Monday, 8 December at Anita's. The next NW Region meeting is Tuesday, 20 January 2004.

**PVRC/NC November meeting --**

Club Business:

Jim WW4M forgot to mention at the meeting that the pvrnc.org domain name was renewed for 2 years (Jim's treat) and the web hosting was renewed 1 year for \$99.50 (discounted 2 months for moving to a new server). He'll try to remember to pass the hat at the next meeting.

Guy K2AV intends for the December meeting to be a joint affair with the chapter members in Winston-Salem, to be held in Burlington on a Tuesday or Thursday evening. At this meeting we'll vote to grow/split into two chapters: PVRC/NC-West and PVRC/NC-East. Details about the meeting plans will follow.

Member news: Jeff NX9T (via email): "Sorry to say I will have to miss tomorrow night's meeting. I will be stuck in Kinston on work until around 8pm. Enjoy! I was on a little during SS CW and hope to be on with a bigger splash during SS phone."

Guy K2AV said he blew up an AL-1200 in SSCW (after experiencing problems earlier in WPX). He replaced the blown electrolytic cap with 25 mf oil-filled caps and rearranged some diodes, but then started to melt the plate choke and blow out the grid meter. He has replacement parts on order. Guy relayed regrets from W2CS, who is experiencing an intermittent noisy fence. He was disappointed by SSCW but is getting ready for CQWW CW. Also, N4AF is reported to be finished restoring the antenna farm following Hurricane Isabel, and his scores have been looking good. (He has also migrated to WriteLog.)

Will WJ9B had fun in SS CW. Did better on 20m after changing out his feedline and got 934 Qs LP. Also was on for WAE, and experienced no neighborhood TVI running HP in the Sprint. He'll be at NY4A for CQWW CW. Wes K4WES has been working on hardline connectors and adjusting his rotor on his new tower. He hoped to be on the air that weekend for RTTY.

Andy NI4S was looking forward to SS Phone. He's also slated to take over the helm at the Raleigh ARS soon - congratulations Andy!

Jim WW4M will be operating SS Phone from W4ATC, the student club station at NC State University. [ps: Pete AD4L will join him]. He reported that the club's TR7 wasn't making power, and Bert N4CW volunteered to take a look. He also said Jeff N3NPQ had straightened out nearly all of his aluminum following this year's storms and was looking forward to getting back on the air.

Bob K4HA has been recovering from lightning damage, and he related a good story about rescuing Chuck K4NYS's tower

by removing a tree that had fallen on the guy wires with a block and tackle and electric winch.

Tom N4TL had a hundred Qs in SSCW, plus another hundred in a contest the weekend before. He's been working on a 1938 rig his brother rescued from their uncle's estate, and he was amused to see his coworkers' reactions when they saw tubes for the first time.

Jim K4QPL had fun in SS CW; since he was using WJ9B's filters he stopped at 907 Qs to "let" Will finish with the better score. This was the first time he had tried SO2R. Nonetheless this was a personal best for Jim in SS.

Bert N4CW remarked on the many loud QRP stations he heard in SS. While in Maine he experienced winds every bit as strong as those on Hatteras, and the antennas on his tower got twisted. He dabbled in CQWW Phone S&P. His 706 is working very well, and he's been enjoying using his SCAF filter (switched capacity audio filter), which he built from a kit from Idiom Press for \$89. He's been using Spectrascope software to analyze his filters - the results are interesting but he's still analyzing. Bert will miss CQWW CW this year due to a wedding. And a recommendation from Bert - he is very happy with his \$89 Code Warrior Junior from Vibroplex. Of all of the keys in his collection, this little one ranks #2 on his satisfaction meter.

The **Over the Hill** luncheon was held at the College Park Holiday Inn at 12 O'clock , noon on Wednesday November 19, 2003. Those anteceding were Bob - W2BZR, Pud - W3YD, Fred - K3ZO, Bill - W3AZ, Ron - K3RO, John - W3BE, Cliff - W3CB, Frank - W3LPL and Lawrence-W3GN. We have lost a faithful attendee, Jim - W3CP who has moved permanently to Oregon. As usual many different topics were discussed. If any of you have a chance of seeing the NOVA program on the weakening and the reversal of the polarity of the earth's magnetic field on PBS be sure to watch it. I am not sure of the exact title. High frequency communications certainly will be entirely different for some future generations if what they describe comes to pass. They believe that we are starting to enter that period of change Everyone had good food and conversation.

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## PVRC Wins June VHF QSO Party

ARRL has announced that PVRC was the top club entry in the June 2003 VHF QSO Party. There were no Unlimited Club entries, but PVRC topped the Medium Club group. The top three were:

	Entries	Score
Potomac Valley Radio Club	23	3,696,618
Society of Midwest Contesters	24	1,978,878
South Mountain Contest Club	3	1,399,470

## 5M Scorecard by Bob Dannals, W2GG

ARRL Sept VHF											
Call	Power	Bands	QSOs	Mults	Total						
Single Operator						W2YE	H	1	67	19	1,273
W4RX	H	11	650	259	318,311	WM3T	L	2	38	23	874
N3OC	H	6	472	148	106,708	W3CB	L	1	37	16	592
K2UOP	H	7	370	142	80,798	N3FNE	L	1	24	12	288
K3ZO	H	2	375	84	31,500	N4JED	L	#	19	6	114
W3ARS	#	#	###	##	9,487	Rover					
N3II	L	2	181	48	8,688	W3IY	H	11	968	153	307,683
K4FTO	L	#	116	46	6,946	Multi-Op					
N3UM	L	2	126	37	4,662	W3SO	H	4	1208	239	375,947
N3VOP	L	4	96	33	3,696	Logs: 20					
N3AM	L	3	82	32	2,752	Club Score: 1,266,600					
N8II	#	#	103	26	2,678	Operators (non-PVRC in parentheses):					
K3DSP	L	3	64	33	2,145	W3SO: WR3Z W3BTX K4VV K2PLF AI3M K3IXD					
N4MM	#	#	54	27	1,458	K3RUQ W3PAW KD3SA W3TEF W3YOZ					
						W3IY: W3IY (ON4IY)					





**The PVRC Store by Brian Bayus, N1KC**

The **PVRC Store** is reopened for business with a selection of apparel and accessories for **PVRC Members**, which we hope will please and will enable us to “show the colors” of our fine organization and proudly display the logo of an esteemed and accomplished group of amateur radio contesters. We hope you will consider placing an order.

We have, with no small effort, been able to hold the line on prices from our last order in early 2000. In addition to the basics being offered, we are working on a long sleeve, light blue or white dress shirt with an embroidered PVRC logo for about \$30.00, in sizes up to 4X. Please let me know if you are interested.

**Item No. 1** - PVRC Tee shirt, white color, with a pocket and a large, 3 color, silk-screened PVRC logo on the back and a small, 3 color, silk-screened PVRC logo over the left breast.

Circle Size M, L, XL \_\_\_\_\_ @ \$14 each; XXL \_\_\_\_\_ @ \$16 each = \$ \_\_\_\_\_

**Item No. 2** - PVRC Golf shirt, white color, with a small, 3 color, silk-screened PVRC logo on the right breast and a pocket on the left. Call sign and name (in blue) to be embroidered over the pocket.

Circle size M, L, XL \_\_\_\_\_ @ \$26 each; XXL \_\_\_\_\_ @ \$28 each = \$ \_\_\_\_\_  
Name and Call sign (Print clearly) \_\_\_\_\_

**Item No. 3** - PVRC cap, blue with silk-screened PVRC logo. One size fits all.

Quantity \_\_\_\_\_ @ \$8 each = \$ \_\_\_\_\_

**Item No. 4** - PVRC Coffee Mug , white, with three color PVRC logo and call sign (set in red Helvetica , bold type) on both sides of the mug. The mug is microwave and dishwasher safe. (We must order a minimum of 24 mugs, so we don't order them very often. Don't miss this chance!) Can be ordered without callsign.

W/callsign \_\_\_\_\_ @ \$13 each; w/o call sign \_\_\_\_\_ @ \$10 = \$ \_\_\_\_\_  
Call sign (Print clearly) \_\_\_\_\_

**Item No. 5** - PVRC Lapel Pin. One inch diameter with PVRC logo in three colors. Silver back and pin clasp.

Quantity \_\_\_\_\_ @ \$5.00 each = \$ \_\_\_\_\_

**Delivery/ Shipping and Handling**

All items can be picked up at my home or, with advance notice, at a regular club meeting, at no cost. If you want items shipped to you, the charges for UPS delivery are as follows:

**Mugs:** \$4 each x \_\_\_\_\_ quantity = \$ \_\_\_\_\_

**Lapel Pins:** \$ 2.50 each x \_\_\_\_\_ quantity = \$ \_\_\_\_\_

**All Other Items:** \$5 for one item, \$8 for two or more items, including pins = \$ \_\_\_\_\_

TOTAL FOR ITEMS ORDERED \$ \_\_\_\_\_

TOTAL SHIPPING AND HANDLING \$ \_\_\_\_\_

**GRAND TOTAL (Check for this amount enclosed)** \$ \_\_\_\_\_

**Make checks payable to Brian E. Bayus, and mail along with your order form to:**

**Brian E. Bayus, N1KC, 2521 Heathcliff Lane, Reston, Virginia 20191-4225**

Any questions: call me at 703-264-1180, or send an email to: n1kc@arrl.net.

**Deadline for PVRC Shirts, Mugs, etc. orders is 6 PM December 15th. Brian will also be accepting orders at the holiday dinner December 8. May be some time before we order again. (Please print)**

NAME: \_\_\_\_\_ CALL: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**PVRC REFERENCE PAGE Please send corrections to the editor. December 2003**

**PVRC OFFICERS:**

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**PVRC Reflector** administered by N4AF <http://mailman.qth.net/listinfo/pvrc>, postings to [pvrc@mailman.qth.net](mailto:pvrc@mailman.qth.net) (Members only, if your callsign is not part of your email address, send an email to [n4af@qsl.net](mailto:n4af@qsl.net) to subscribe.) **PVRC Dues**

**Dues** PVRC has no annual dues. Donations are gratefully accepted by the Treasurer, Dave Baugher WR3L, 615 Rockaway Beach Ave., Baltimore MD 21221. Please make your checks payable to PVRC.

**Autocall Column Editor** is K3DI, [k3di@arrl.net](mailto:k3di@arrl.net). Send your inputs to him.

**PVDXSN Packet Network**

W3LPL	Glenwood MD	145.590, 441.250	W3IP	Crownsville MD	145.570
WR3L	Baltimore MD	145.610, 440.950	N3RR	Rockville MD	145.510, 441.325
K3SKE	Frederick MD	144.930, 441.125	W3YOZ	West River MD	144.910
W3TOM	Acokeek MD	145.770	N1WR	Lusby MD	145.690
N4OHE	Mt. Weather VA	145.710, 446.025	NE3H*	Harrisburg PA	144.970
W3BD	S. Mountain PA	145.630	N4SR*	Woodbridge VA	145.630
W4XP	Bull Run Mtn. VA	144.990	K4JA*	Callao VA	145.090

The system is sponsored by the Potomac Valley DX Spotting network except those marked with an asterisk are independently funded by each SYSOP.

**PVRC MEETINGS**

**Central Region** -- Regional Coordinator Brian McGinness N3OC 301-924-1712 [n3oc@wirelessinc.com](mailto:n3oc@wirelessinc.com)

Meetings are always the second Monday of each month, except June, July and August. Meetings alternate between MD and VA locations. January, March, May, September and November are in Temple Hills, MD at the Church of the Nativity. February, April, October and December are at the Patrick Henry Library on Route 123 (Main St.) in Vienna, VA. Pre-meeting dinner get-togethers are held at Topolino's Italian restaurant on Old Branch Ave. before the MD meetings, and at the Outback Steakhouse on Route 123 before the VA meetings, usually around 6pm. Talk in is usually available on the 147.00 repeater.

**Northwest Region** -- Regional Coordinator Bud Governale W3LL 410-666-9189 [w3ll@arrl.net](mailto:w3ll@arrl.net)

Meets monthly on the third Tuesday. Dinner around 6pm, meeting at 7pm at the City Buffet, 1306 W. Partick St., Frederick MD, located to the rear of the shopping center behind Mountain View Diner.

**North Carolina Region** -- Regional Coordinator Jim Price WW4M See <http://www.pvrcnc.org>. PVRC/NC meets the first Thursday of each month, September through May, with an additional meeting in April at the Raleigh hamfest.

**Tidewater Colony** -- Contact W4ZYT 757-457-5181 or email [w4zyt@exis.net](mailto:w4zyt@exis.net) for additional info.

Meeting concurrent with the Virginia DX Century Club at Ryan's Steakhouse, on Battlefield Blvd. In Chesapeake, VA. Take the Battlefield Blvd South (VA 168) exit off I-64. Meetings are the third Tuesday of the month around 6:15-6:30pm.

**Northeast Region** -- Regional Coordinator Dave Baugher WR3L 410-DX1-WR3L [wr3l@arrl.net](mailto:wr3l@arrl.net)

**Eastern Shore DELMARVA Region** -- Dallas Carter W3PP 302-875-0550 [Ludal@dmv.com](mailto:Ludal@dmv.com)

**Southwest VA Region** -- Regional coordinator Mike Barts N4GU 540-641-1626 [n4gu@vt.edu](mailto:n4gu@vt.edu)

Meets Sept-June. Meetings are at the Roanoker Restaurant in Roanoke, VA dates vary, contact N4GU for latest info.

**BWI Region** -- Contact Ike Lawton W3IKE 410-263-2830 or Howard Leake W6AXX 410-465-7008 [w6axx1@starpower.net](mailto:w6axx1@starpower.net)

Weekly breakfast Weds. 7am at Basil's Deli Port (410-850-4333) on Elkridge Landing Rd 1/4 mile south of Wintergreen Rd.

**Over-the-hill Lunch** -- For info contact Ben Shaver AA4XU 703-534-4740 or Bill Leavitt W3AZ 301-292-5797.

Meetings are held monthly at three locations: Falls Church VA at the Parkview Marriott, Oxon Hill MD, and Beltsville MD. Meeting schedules are available by telephone or email. All are welcome.

**Pennsylvania Region** -- Steve Gutshall K3TZV 717-763-0462 [k3tzv@paonline.com](mailto:k3tzv@paonline.com)

**Rappahannock Region** -- Steve Bookout NR4M [nj4f@erols.com](mailto:nj4f@erols.com) or Larry Schimelpfenig K7SV [k7sv@va.prestige.net](mailto:k7sv@va.prestige.net)

**Occoquan Valley Region** -- Jack O'Mara W4NF 703-791-3302 (h) or 703-739-7636 [w4nf@comcast.net](mailto:w4nf@comcast.net) and Cliff Deel W4CE 703-491-0841 [W4ce@aol.com](mailto:W4ce@aol.com)

**Central Virginia Contest Club** -- CVCC Pres. Roy Davis WK4Y 804-741-9315 [rdd@i2020.net](mailto:rdd@i2020.net). Meetings at Henrico Doctors Hospital (Parham Rd. Campus) 7700 E. Parham Rd., Richmond VA. Meet in the Hospital Cafeteria. Meeting Day & Time: 2nd Tuesday, Monthly, 7:00 PM, except June, July, & August - No formal meetings are held in June, July, & August. Talk in Freq. - 145.430

**Southern MD Region** -- Barry Shapiro WR3Z 301-862-2466 [shapirobj@navair.navy.mil](mailto:shapirobj@navair.navy.mil) meets at N1WR's home.

**Shenandoah Region**

Bill Hinkle KV3R 304-567-3138 kb3aug@juno.com

**Carroll County Region**

Jim Nitzberg WX3B 410-374-9233 Nitz@selectsa.com

**Laurel Region**

Pud Reaver W3YD@arrl.net Laurel Region meets concurrently with the Laurel Amater Radio club at the first LARC meeting of each quarter.

December 8 PVRC annual holiday dinner, Olive Garden, Tyson's Corner VA 6pm.

**5 Million Club Competition Events**

- January ARRL VHF Sweepstakes
- January CQ 160m CW
- February ARRL DX CW
- March ARRL DX SSB
- March CQWW WPX SSB
- May CQWW WPX CW
- August 9-10 DARC WAEDC CW
- September 13-14 DARC WAEDC SSB
- September 13-15 ARRL VHF QSO Party
- October 25-26CQWW SSB
- Nov 2-3ARRL Sweepstakes CW
- Nov 15-16 ARRL Sweepstakes SSB
- November 29-30 CQWW CW
- December 5-7 ARRL 160m
- December 13-14 ARRL 10m Contest

**Hamfests (thanks to Glenn, K3SWZ)**

- September 20 Allentown, PA
- October 4 Lancaster, PA
- October 11 Carlisle, PA
- October 12 Wrightstown, PA
- October 19 Sellersville, PA
- October 26 Westminster, MD

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- 160-6M\* @ 100W
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- Enhanced Rx performance
- SSB/CW Synchronous tuning
- Multiple DSP controlled AGC loops
- Advanced CW functions
- 101 alphanumeric memories



**IC-746PRO** All Mode 160M-2M

- 160-2M\* @ 100W
- 32 bit IF-DSP + 24 bit AD/DA converter
- Selectable IF filter shapes for SSB & CW
- 102 alphanumeric memories
- Enhanced Rx performance



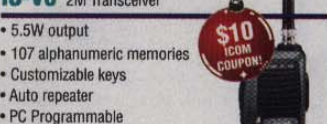
**IC-718** HF Transceiver

- 160-10M\* @ 100W
- 12V Operation
- Simple to Use
- CW Keyer Built-in
- One Touch Band Switching
- Direct frequency input
- VOX Built-in
- 101 alphanumeric memories



**IC-77H** 6W, Dual Band Transceiver

- 2M/70CM
- 70 alphanumeric memories
- 6W output
- CTCSS encode/decode w/tone scan
- Auto repeater
- Easy operation!
- Mil spec 810, C/D/E\*\*



**IC-V8** 2M Transceiver

- 5.5W output
- 107 alphanumeric memories
- Customizable keys
- Auto repeater
- PC Programmable
- CTCSS encode/decode w/tone scan
- Drop-in trickle charger included



**IC-W32A** Dual Band Transceiver

- 2M, & 70CM @ 5W
- V/V, U/U, V/U
- Independent controls for each band
- 200 alphanumeric memories
- Auto repeater
- CTCSS encode/decode w/tone scan
- IRLP compatible



**IC-T90A** Triple Band Transceiver

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- 500 alphanumeric memories
- Dynamic memory scan
- Backlit keypad & display
- CTCSS/DTCS encode/decode w/tone scan
- Weather Alert



**IC-2100H 25N** 2M Mobile Transceiver

- Cool dual display
- 50 watts
- CTCSS encode/decode w/tone scan
- Backlit remote control mic
- Mil spec 810, C/D/E\*\*
- Auto repeater
- 113 alphanumeric memories



**IC-V8000** 2M Mobile Transceiver

- 75 watts
- ICOM DMS scanning
- CTCSS/DCS encode/decode w/tone scan
- Weather alert
- Weather channel scan
- 200 alphanumeric memories
- Backlit remote control mic



**IC-2720H** Dual Band Mobile

- 2M/70CM
- V/U/U/V/U
- Wide band RX inc. air & weather bands
- Dynamic Memory Scan (DMS)
- Remote Mounting Kit Included
- CTCSS/DTCS encode/decode w/tone scan
- Independent controls for each band
- DTMF Encode
- 212 memory channels



**IC-208H** Dual Band Mobile

- 55 watts VHF (2M), 50 watts UHF (70CM)
- Wide Band RX\*\*
- 500 alphanumeric memories
- CTCSS/DTCS encode/decode w/tone scan
- Detachable remote head
- DMS w/linked banks

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