

# Noise Floor

Vol. 2, No. 1

Pacific Northwest VHF Society

Winter 2003

## ***Microwave Update 2003/PNWHFS Conference Wrap-Up***

More than a hundred attendees, including some from as far away as England, Japan and Australia, enjoyed great Seattle weather and three-and-a-half days of camaraderie at Microwave Update 2003 in Everett, Washington, on September 25-28. Co-hosted by the Pacific Northwest VHF Society, the event was very well received.



### **VHF/UHF Straight Key Night**

*By Lynn Burlingame (N7CFO)*

PNWHFS members are invited to participate in "VHF/UHF Straight Key Night." Actually, it's the same time and date as the traditional HF "Straight Key Night" or "SKN" activity hosted by the ARRL on New Years Eve and the following day. The PNWHFS had an impromptu SKN activity last year on the bands above 50 MHz and it was quite a time, so we'll do it again this year.

SKN is a friendly gathering on the air...not a contest... with an emphasis on rag-chewing rather than on the number of contacts made. Full details are on the ARRL web site (<http://www.arrl.org/contests/rules/2003/skn.html>) or see page 96 of the December 2003 issue of QST magazine.

Entries to the ARRL consist of only a listing of stations worked plus a vote for "Best Fist" and "Most Interesting QSO." PNWHFS members are requested to post the same information on the society reflector. (Send it to the ARRL too! - *Editor*)

Recommended frequencies for VHF/UHF SKN are: 50.135, 144.2100, 222.110, 432.110, and 1296.110.

MUD 2003 organizers Rick Beatty (NU7Z) and John Price (N7MWV) did a great job throughout the conference, directing traffic, resolving minor schedule glitches and generally keeping the programs flowing smoothly. This was the first time in the history of Microwave Update that the event had been held in the Pacific Northwest. Positive comments from many of the attendees indicated that it may not be the last.

In attendance were many of the major "movers and shakers" in the amateur radio microwave world. Just rubbing shoulders with world record holders, cutting edge innovators and genuine "big guns" was an experience in itself.

In addition to speakers and forums, there were two flea markets...indoors on Friday night and an outdoor "tail-gater" on Sunday morning. There was also a vendor's room filled with a wide array of interesting and exotic microwave equipment, parts and test gear. Downeast

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*Ward Silver (NOAX) spoke to the attendees on the ARRL's perspective regarding VHF, UHF and microwave contesting.*

## MUD 2003 Wrap-up...

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Microwave (DEM) had a large booth with a wide selection of VHF, UHF and microwave kits and pre-built equipment available for purchase. If the number of PNWVHFS members found eyeing their wares at any given point is any indication, there may be a population explosion on the 50 MHz and up bands in the region over coming months.

An early Friday evening PNWVHFS annual meeting attracted about 30 members for a brief business session and awards presentations. PNWVHFS President Lynn Burlingame (N7CFO) received the "VHFer of the Year" award for his efforts in promoting the society and attracting new members. (See article elsewhere in this issue of *Noise Floor*.)

Microwave 2004 will be held in the Dallas/Forth Worth, Texas, area. Details about the conference will be posted at [www.microwaveupdate.org](http://www.microwaveupdate.org) as they become available.



*DEM owner Steve Costro (N2CEI) at right discusses his wares with PNWVHFS members in the vendor area at MUD 2003.*

**Noise Floor** is the official publication of the Pacific Northwest VHF Society. All opinions expressed herein are those of the individual authors unless specifically stated as being otherwise.

**Editor**

**Jim Aguirre, W7DHC**

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*Lynn Burlingame (N7CFO) at right receives the 2003 "VHFer of the Year" plaque from Awards Chairman Eric Olson (N7EPD) at the society's annual meeting.*

### N7CFO is 2003 "VHFer of the Year"

At the 2003 Pacific Northwest VHF Society annual meeting, President Lynn Burlingame (N7CFO) was presented with the 2003 "VHFer of the Year" plaque. Lynn was recognized "For helping to initiate the society from scratch, the constant promotion of the PNWVHFS at hamfests to bring in new members, contesting and rover training, and promoting operation on the higher bands to those who have not experienced them."

Presented annually by the Pacific Northwest VHF Society (PNWVHFS), this award is given to an individual or group in the Pacific Northwest that has gone above and beyond the call to further activity on the bands above 50 MHz. This award was established shortly after the formation of the society in September 2001. The first recipient, in 2002, was Rick Beatty (NU7Z).

### Silent Keys

During the past year, four members of the Pacific Northwest VHF Society have become silent keys. All were charter members. They are listed below.

Leonard A. "Len" Westbo, W7MCU – Auburn, WA  
Richard D. Nygren, WA7EHE – Monroe, WA  
Zita Jo Hallstrom, KB7UFM – SeaTac, WA  
Nils A. Hallstrom, W7RUJ – SeaTac, WA

A moment of silence was observed at the 2003 annual meeting in their memory.

# State of the Society

By PNWVHFS President Lynn Burlingame (N7CFO)

2003 has been a good year for the PNWVHFS and we have made a lot of progress. The following are some of our accomplishments in the past year:

- Our webmaster, KF7CN, has redesigned and upgraded the web site. It looks great!
- We have grown from 145 members last year to 228 members as of this writing.
- We are financially solvent with no foreseeable money problems.
- We have held numerous activities. These include the KD7TS 10 GHz VUCC operation in July, the Poodle Dog breakfasts and the "Dry Side" breakfasts.
- PNWVHFS members have done many demonstrations/ presentations at hamfairs and club meetings.
- We have had extraordinary participation in contests, and many records have been set and broken.
- Participation in the WA7TZY/WB7BST Sunday and Tuesday activity nets continues to be strong.
- There has been a substantial increase in the number of new UHF operators. This has been facilitated by NU7Z's DownEast Microwave group purchases.
- We co-hosted the Microwave Update 2003 conference and held our annual meeting in conjunction with it.

Now, it's time to look ahead. I have several goals for the society for 2004. We have been in existence for over two years and it has been a lot of fun setting things up. The society is now moving into "maturity" and it is time to move into some new areas.

First and foremost, we need to have fun! We have a lot of room for activities and we need to encourage them, especially in areas other than Western Washington. It doesn't take much to put on an activity, and it seems like the more spontaneous they are, the more fun they are. An example is the recent KB7DQH/N7EPD "Turkey Shoot" that was held on the Saturday after Thanksgiving. There was a lot of participation and a lot of members got a chance to exercise their gear. Another example is the upcoming PNWVHFS Straight Key Night activity that is covered elsewhere in this issue.

Second, while it is likely that we have reached a plateau in our membership, it is important that we continue to reach those that have an interest in weak-signal amateur operations on the bands above 50 MHz. To meet this need, I would like to establish a "speakers bureau" to make presentations at hamfests and local radio club meetings. Along those lines, we need some props for display purposes at hamfairs. A PNWVHFS banner and a photo montage would look great and would attract a lot of attention. Anyone interested in taking this on?

Another way of raising our profile is to maintain contact with amateur radio clubs and keep them informed about operating events, contests, presentations, workshops, etc. Editors are always looking for articles for their newsletters, and this is a great way to get the word out.

Third, we must represent weak-signal interests with the ARRL, the FCC, repeater coordination groups and the public. This is a complex area, and one that will have a major impact on our activities in the future. We are now one of the larger clubs in the Pacific Northwest and we can have a major impact on these groups if we stand together and make our voice heard.

An example of this occurred at the Microwave Update. Ward Silver (N0AX) made a presentation on the future of VHF/UHF contesting and named four geographic areas with significant VHF/UHF activity in the U.S. These areas were identified after a review of the questionnaires that the ARRL sent out in 2002. The four areas mentioned were the Northeast, the Midwest (Chicago, Minneapolis, etc.), Southwest and...the Pacific Northwest! I have no doubt that it was the PNWVHFS that put our area on the ARRL radar screen. Now that we are there, we need to work with them to ensure that we are represented in VHF/UHF matters!

# What the heck is that bright red light?

By Jim Aguirre (W7DHC)

A small, but growing number of radio amateurs in the Pacific Northwest are using 474 THz (red laser) equipment to communicate over significant distances. Yes...474 THz is an authorized amateur band. In fact, anything over 250 GHz is an authorized amateur band. And, yes, laser contacts do count in contests!

Until recently, most of the laser communication activity has been taking place on the East Coast. Recently, however, Gabor Horvath (VE7DXG) and Clifford Robinson (VE7DDR) opened some eyes in the Pacific Northwest by making a laser contact on 474 THz over a 7.4 KM path in British Columbia.

Prompted by that success, Lynn Burlingame (N7CFO) and I now have completed 474 THz equipment and are building aiming devices. Scott Honaker (N7WLO) has also completed a pair of laser units and Rod Johnson (WE7X) has recently gotten the bug. There may be others who have not yet come to our attention.

All of the known laser stations in the Pacific Northwest are using inexpensive Ramsey "Laser Communicator Unit" kits as the basis of their activity, adding various

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## 2003 PNWVHFS Election results

As announced at the PNWVHFS annual meeting on September 26, 2003, all four incumbent society officers and directors up for election this year were re-elected and will begin serving their new terms on January 1, 2004.

President Lynn Burlingame (N7CFO) and Secretary-Treasurer Jim Aguirre (W7DHC) were re-elected to one year terms for 2004. Directors Ralph Parker (VE7XF) - British Columbia and Bob Lee (N7AU) - Eastern Washington were re-elected to new two-year terms that run through December 31, 2005.

Current directors Bob Hallock (K7TM) - Idaho, Art Moe (KB7WW) - Oregon, and Eric Olson (N7EPD) - Western Washington will be serving the second year of their two-year terms that end December 31, 2004.

If you have questions, concerns or comments, please feel free to address them to society officers and directors. You will find a listing of e-mail addresses for each of them on the PNWVHFS web site at <http://www.qsl.net/pnwvhfs/administration/staff.htm>.

Fresnel lenses ahead of the detector and precision aiming devices in order to improve performance. These units are comprised of separate transmitter and receiver units. Since the signal is transmitted in the visible light portion of the spectrum, there's no problem keeping the units on frequency. You either see it or you don't!

The Ramsey units use a commonly available laser pointer found in most office supply stores as the light source and an IR transistor as the detector. The laser is modulated on and off at 16 kHz and, at the receiver end, the 16 kHz carrier is filtered out, providing surprisingly good quality voice communication.

While the Ramsey literature says the units have a maximum range of 1/4 mile, that's obviously very conservative. Getting longer distance performance, however, is not without challenges. Aiming the units is one of the critical elements to being successful.

Unlike the traditional VHF, UHF and Microwave frequencies, laser is truly a line-of-sight mode. Think of it as extremely long-range target shooting! That's where light-gathering Fresnel lenses and precise aiming mechanisms come into play. Even with these enhancements, long-distance communications can be a challenge. At one mile, a one degree change in aiming moves the laser dot slightly more than 92 feet!

As with all lasers, common sense safety precautions apply. At close range, even low-powered lasers can cause injury if aimed directly into the eye. At longer distances, there is little danger unless a high magnification optical device (binoculars or telescope) is used to view the laser.

If you want to join the growing number of laser operators here in the Pacific Northwest, go to <http://www.ramseyelectronics.com> and check out the "Laser Communication Unit" kit. They're a snap to build.

See ya' on the "red light" band!

# Awards...awards and more awards!

The following people won the awards below for September 2002 through August 2003. Certificates were presented at the 2003 annual meeting or mailed to those not in attendance. In some cases, entries were not received in all categories, resulting in no awards for those categories.

## Most worked PNW grids 2002/2003

Bob N7AU 24 grids grand winner and EWA  
Earl N3EG 16 grids Oregon section  
Jim K7ND 18 grids WWA section  
Paul VE7RCW 4 grids BC section  
Mark W7MEM 11 grids Idaho section

## Most activated PNW grids 2002/2003

Marty N7MX #1 single op rover 39 grids  
Jim W7DHC #1 two op rover 14 grids  
Eric N7EPD #1 mixed rover/ portable 12 grids

## September 2002 ARRL VHF Contest

N7CFO #1 rover PNW  
VA7ISL #1 unlimited multiop BC  
KE7SW #1 single op high power WWA  
N7AU #1 single op high power EWA  
W7DG #1 single op low power WWA  
KD7TS #1 single op portable WWA  
KI7EL #1 limited multiop WWA  
W7MEM #1 single op high power ID  
K7HSJ #1 single op low power OR  
W7USB #1 single op low power ID  
K7AWB #1 single op low power EWA  
VE7RCW/R #1 rover BC

## January 2003 ARRL VHF Contest

KK7GU #1 rover PNW  
N7EPD #1 single op high pwr WWA  
N7AU #1 single op high power EWA  
W7DG #1 single op low power WWA  
W7MEM #1 single op low power ID  
W7AV #1 limited multiop EWA  
WR7X #1 single op low power OR  
KI7EL #1 unlimited multiop OR  
W7DSA #1 single op high power OR  
K7AWB #1 single op low pwr EWA

## June 2003 ARRL VHF Contest

K7CW #1 unlimited multiop EWA  
VE7DXG #1 single op low pwr BC  
W7AV #1 limited multiop EWA  
N3EG #1 single op portable OR  
W7GHZ #1 single op low Pwr EWA  
W7GTM #1 single op low pwr WWA  
W7USB #1 single op low pwr ID  
K7YVZ #1 single op high pwr ID  
WR7X #1 single op low OR  
KK7GU #1 rover PNW  
KI7EL #1 limited multiop WWA  
KD7TS #1 single op portable WWA

## 2003 CQ Magazine VHF Contest

N7EPD #1 single op all band low pwr WWA  
N7DB #1 single op all band low pwr OR

## 2003 ARRL UHF Contest

N7EPD #1 single op high power PNW  
KB7DQH/r #1 rover PNW  
K7AWB #1 single op low pwr PNW

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## 47 GHz VUCC for NU7Z

Rick Beatty (NU7Z) recently received his VUCC for the 47 GHz microwave band. This is only the third VUCC ever achieved on this band. Added to the 24 GHz VUCC he already holds, this puts Rick in very rare company.

Both previous VUCC awards on the 47 GHz band were issued to the W2SZ callsign or a variation of it. W2SZ is the club callsign of the Rensselaer Polytechnic Institute...RPI Amateur Radio Club. The first VUCC on 47 GHz was accomplished in 1998 by Doug Sharp (K2AD) and Brian Justin (WA1ZMS) under the banner of the Mount Greylock Expeditionary Force and using the callsign W2SZ/1.

Congratulations to NU7Z for bringing VUCC #3 on 47 GHz to the Pacific Northwest.

# Post contest log checking is important!

By Eric Olson (N7EPD), PNWVHFS Awards Chairman

I stressed in an email to the membership a while back the importance of checking their contest logs for entry errors after the contest...and before submitting them. Logging errors can cost your score by the ARRL or other log checkers removing contacts if they find errors and even reducing your score by a certain percentage if the errors are frequent. I cited examples of grid squares logged as ones out in the Pacific Ocean for local operations (a CN87 was hastily typed as CN07 as an example) or call prefixes changing for the same station (a K7 becoming a W7 for one contact).

One way to check calls is if your logging software can make dupe sheet lists by band. You can look at these alphabetized lists to see if two or more calls look similar (same suffix with different prefixes or slightly different suffixes that may be actually the same station) and correct them before submitting the log. You can also see if a station was logged as a fixed station and then /R later- better go back and fix the earlier Q to /R!

The dupe sheet method is good for checking calls but how about grid square errors? I use a Microsoft XL spreadsheet and copy/ paste the Cabrillo log information into it. I then sort the data into columns and do a sort by grid square. The following is the procedure for doing this:

Once the contest is over, save your log and then open it using a text editor like WordPad or Notepad. You can also use a word processor program like Word, but beware since the log file is just plain ASCII text and the more complex programs may shift the data columns around because the log file is not formatted for them.

Use your mouse to highlight the QSO data portion by clicking at the top left corner of the data and dragging the mouse to the end of the last line. Avoid any summary data if using the Cabrillo log. The QSO data should now be highlighted in blue.

Right click on the highlighted data and select "copy." Now open up the XL spreadsheet and paste the data into the spreadsheet.

With the highlighted data now in the spreadsheet select "text to columns" from the "DATA" pull-down menu. This opens a window to determine how to break the data into columns in three steps. First click "fixed width" and "next." Second, look at the vertical lines XL uses to show where the data will be broken into columns. If two or more parts are in the same column click where the additional break should be to put a line

there before clicking "next". Lastly, make sure the column data format is "general" and click "finish". You should now have a date column, call sign column, grid column, etc.

Now you are ready to sort the spreadsheet. Click "sort" under the "data" pull-down menu. If a "Sort Warning" window appears click "expand the selection" and the "sort" button again. Now you can select which column to sort. Pick the grid square received one, select "no header row", and click sort. The whole spreadsheet will sort by the grid squares received in alpha numerical order. Just look down the sorted grid column to see any discrepancies. A wild local grid will be at the top of the list or just before the non-Northwest grids begin.

You can make the list even better by sorting by grid and then the call sign column (you can select up to three columns to sort by in order) to see if the same call has different grids on different bands, is logged as fixed and /R for the same grid, has similar calls for the same grid and so on. If errors are found go back to the original log file, fix the errors, and recreate the Cabrillo file for submission.

Better yet, some software (like TRlog) will do post log checking of multipliers and calls, and alert you if calls are very similar, such as missing the /R, or a non /R has different grids logged on different bands. If you know of other software that does good log checking after the contest let the other members know on the email reflector!

If you don't use these methods, at least give your log a good looking over for wild grids and funny prefixes etc. for stations you know. No matter what method you use, your score will have a better chance of holding up at the log checking robot and you won't face the embarrassment of having your score reduced due to a wild multiplier.

Keep on contesting!

# PNW VHF/UHF Weak Signal Nets

By Fred (WA7TZY) and Susan (WB7BST) Telewski

The two-meter PNW VHF Weak Signal Net was started some years ago on 144.240 by Dick Ewing (KO7N). From his centrally located QTH in Eugene, Oregon (CN84), Dick was able to engage stations from California to British Columbia. The group met on Sunday mornings at 8:00 am and on Tuesday evenings at 8:00 pm; both local time.

In an effort to maintain a more consistent level of activity when he had other commitments, Dick asked if I would act a backup host for the net when he was otherwise occupied. Depending on who is available, the net is now hosted by KO7N (CN84) or WA7TZY (CN87). See the PNWSVHF web site at <http://www.qsl.net/pnwvhfs/resources/nets.htm> for the capabilities of the respective net control stations. The Sunday morning/Tuesday evening schedule remains in effect.

The purpose of the net is to promote and encourage VHF/UHF DX and weak signal activity. We frequently have check-ins as far as 300 miles or more from the respective net hosting stations. Stations are encouraged to check in and avail themselves of the opportunity to work any of the stations they can hear.

Don't be discouraged if you can't hear some of the more distant stations. For newcomers, a good start might be a 50- or 100-mile "DX" contact. As you make improvements in your station, you will be able to hear farther and monitor your improvements. In addition, there is always the possibility of a tropo band opening or some other propagation enhancement that will permit contacts over distances that are not normally practical. Many stations point their antennas toward Mt. Rainier, using the mountain as a diffraction ridge/reflector. A number of very consistent contacts with stations in Eastern Washington and Eastern Oregon are made this way.

The weekly procedure is easy to follow. The hosting station will normally post a message on the NWWSVHF reflector so that folks will know where to point their antennas for the net control station (NCS). The posting will frequently contain additional details about the listening plan of the NCS. Requests for 70 cm activity may be made on-the-air or by e-mail. An activity report is also filed on the reflector indicating those stations that participated in each session.

## 1296.1 MHz Weak Signal Net

Susan (WB7BST) began a 23 cm group earlier this year. This group also meets on Sundays and Tuesdays at 8:30 am and 8:30 pm local time, just a half hour after the start of the VHF/UHF Weak Signal Net. Frequent participants in the group include stations from Eastern Washington (CN96 and DN06) and Vancouver Island (CN88), as well as folks from CN87.



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