



CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL
Affiliated
Club



Volume XLVI

May 2004

Number 5

PREZ SEZ

April's meeting was a lot of fun. From the sopping wet carpet to the sump pump alarm serenading us. Kay Craigie N3KN did a great job of keeping us informed on such topics as VHF rules, regs and the BPL enigma. Eric Olena WB3FPL covered PRB-1 attempts by Eastern and Western Pennsylvania sections. The awards presentation went well although the winner's attendance was low. I still have lots of plaques to be presented. There are also participation certificates. The winners were as follows:

Single Op High Power: AA2UK (436,104), WA3NUF (227,666), W3RJW (126,224)

Single Op Low Power: WA3GFZ (124,236), W3KJ (113,390), N3FTI (40,772)

Multi Op: N3NGE (300,384), K1JT (254,408), K3EOD (107,910)

Most Improved Score went to K3TUF at a 188% Increase

Home Brew Awards were: K3IUUV Oldest Homebrew, W3KKN Most Unique, W2PED Best Design, N3NGE Most Ambitious The Mario Fontana Award went to N3FTI for the Reflock and Bandswitch projects

It was an honor to present the Packrat Of The Year Award to Paul Drexler, W2PED for outstanding service to our members and to the organization. It was well deserved. Congratulations to all of the award winners.

The June contest is rapidly approaching and we need operators, operators, and more operators. The band captains are ready to go. As a person who enjoys the technical side more than operating, let us do the setup. Just show up and call "CQ CONTEST"! You may get an answer from FN00rr (Rolling Rock, that is) in Latrobe, Pa. It's going to be a lot of fun. The new networked logging system worked out by Phil, K3TUF will improve our operation and efficiency. I haven't seen an effort like this in all the 5 years that I have been a Packrat. We need everyone's help. Let us know how you are contributing. It's gonna rock!!

Elections are coming up next month. As Rick Rosen put it in a past editor's column, "It takes a Village". There are many people who contribute and make our club the great organization that it is. I enjoy the fraternity that exists amongst our members. Doc W3GAD will be calling many of you to join the officers in the capacity of President or Vice President. We also need to see some of our newer members join as board members, to learn how the club is run and to offer fresh ideas. Say YES when asked to help. It is an enjoyable experience. See you at the meeting and on the mountain. Paul WA3GFZ



W2PED (L) receives the Packrat of the Year

June Contest...Get The Fever! Ahhh, spring is here. You can see it, hear it, feel it! And with the coming of the warm weather comes Spring Fever- Packrats Style. Make no mistake about it, preparations for the W3CCX June VHF QSO Party Multi-op on Camelback mountain have reached fever pitch. Many packrats have been and are continuing work on improving the contest station or repairing equipment. This year we plan to have a fully networked logging system and improved coordination with local rovers to improve our score. Overall improvements are planned on most bands 6M thru light! With many eager Packrats working hard to put up a first class station at a first class location we have the makings of a top competitor, IF WE HAVE ENOUGH HELP!! THIS IS WHERE YOU COME IN! (If you already have signed up for the event please disregard the following) The club needs more help thru this event so I'm asking for all able-bodied Packrats who can find the time to come up and help out. I'm especially (cont'd on p4)

Pack Rats **CHEESE BITS** is a monthly publication of the
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222.98/224.58 MHz, Churchville, PA

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PACKRAT BEACONS - W3CCX/B

FM29jw Philadelphia, PA
 50.080 144.284 222.065 432.295 903.071 1296.251 MHz
 2304.037 3456.220 5763.190 10,368.140 MHz (as of 3/1/01)

MONDAY NIGHT NETS

TIME	FREQUENCY	NET CONTROL
7:30 PM	50.150 MHz	WA3EHD/K3EOD
8:00 PM	144.150 MHz	N3ITT
8:30 PM	222.125 MHz	W2SJ/N3EXA
8:30 PM	224.58R MHz	W3GXB
9:00 PM	432.110 MHz	WA3GFZ FN20
9:30 PM	1296.100 MHz	WA3NUF FN20le
10:00 PM	903.125 MHz	AA3GN FN20ig
10:30 PM	2304.085 MHz	W3KJ, & go to 3.4G & up after FN20hg

K1DS, N4HY, KF6AJ & K1TEO at the ESVHF-NEWS Banquet



CheeseBits

Editor's Column

Going, going....but not yet gone...the hamfest, Timonium in particular, as several of us were there, for the past 3-4 years in a row, and see the shrinking crowds and vanishing vendors, with less and less radio, more and more obsolete computer parts, and vendors of light displays, socks, tools and general merchandise. I think we all know that the internet, and particularly eBay has become the radio marketplace, and when we heard the usual price haggles, the response from the seller was, "these go for so-and-so-much on eBay." And yet it's fun to see the crowd, eyeball QSO with Dan, N1ND, (see p8) and despite the damp weather, there were parts for construction (yes, I always needed a few switches, connectors to re-do the mountain rotor cables, a log-periodic for 0.1-1.3GHz, and look, brand-new mini-digital multimeters for \$10).

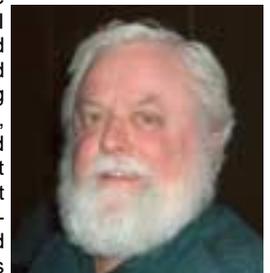
Spring has sprung and I finally have a free weekend to get my 24G rig lined up—but no-one is available—so I'll golf or garden—never at a loss for things to do here. Then there are the connectors for the clubs rotors for June, and a few other radio construction projects.

New members! The club is growing by leaps and bounds, but in order to have these new Packrats get in the groove, some Elmering and mentoring is required. Remember that the club is a community, with lots of different skills and personalities, but bound together with a set of common goals and activities. Both existing and new members have an obligation to each other to introduce themselves, participate actively in the club events and on-the-air, and to ask for and give assistance when needed. One of the key issues is meeting attendance, followed by stepping up to the tasks of event leadership, officership and chairmanships. There are plenty of opportunities in the club, but as you can see by the short list on the left, there are many more members that can elongate the leadership list. The nominating committee is actively working to complete a slate for the June meeting. Be receptive when they call. Yes, I'll say it again, you do get back a lot more than you can put in, but you gotta make the effort.

2006 will mark the club's 50th anniversary. A planning committee is being formed, and ideas are being shared in order to make it a special year for the Packrats. This is another important area for your contributions. We are seeking to gather some memorabilia and have interviews with the OT's, so let yourselves be known, find those old pictures and vintage VHF gear. It's never too soon to plan.

It was great to hear from Kay Craigie, ARRL VP, and Eric Oleana, SCM at our ARRL night and to get a perspective on many of the issues facing us collectively with antenna and tower restrictions, BPL and band-plans. Congrats to all of the awards winners, too.

As seen in the pictures adjoining, many of us had fun at the ESVHF-NEWS VHF Conference. I got to see many of my old buddies (I was a charter member of NEWS) and enjoyed many of the presentations. Packrats were well represented on both the attendance sheet as well as the speakers' list. I managed to bid and win a 10G/24G combined feed, newly manufactured by W1GHZ, and hope it will be a useful addition. The meeting was more slanted toward the operational side, but the two best tech talks were by KB3XG and N4HY and Jerry Youngblood. I had a pleasant lunch with Gerald and Dan; I have a sense that the feedback from the VHF contesting community has had an impact, although there are valid concerns and constraints that the league has about costs and participation. Hopefully, this will turn into a win-win for all involved.



W1GS, an old PRA pal

This is my space for a BIG PITCH for microwave ops for the first weekend in May. It combines our usual first weekend Microwave Activity Day, and coincides with both the Microwave Sprint and the San Bernardino Microwave Club Competition. Am planning to be on Camelback that Saturday, May 1, with all bands thru 24GHz, and I plan to work you!! So be on the air. Coordination will be on 144.260 . Sunday May 2 ops also! 73, Rick, K1DS

Important Dates and Events—Be Radio-Active!!

Saturday May 1 **Microwave Sprint** **choose 4 hrs from 6AM-1PM**
ETDXA website at www.etsdx.org This year you need to submit a summary sheet along with your log for the Sprints

Saturday May 1 **SBMS International Microwave Contest-part I**
Sunday May 2 **SBMS International Microwave Contest-part II**

www.ham-radio.com/sbms/club_contest/2GHzUp.pdf

Packrat member logs need to be submitted to K1DS for collation and group submission

Monday May 3 **Microwave Activity Evening** **7PM-11PM**
All bands 432 & Up, Coordinate on 144.260

Sat-Sun May 8-9 **50 MHz Sprint** **2300Z Sat-until 0300Z Sun**
ETDXA website at www.etsdx.org This year you need to submit a summary sheet along with your log for the Sprints

Mondays, May 3,10,17,24,31 **Packrat Net Nights** **Start @7:30PM, see p2**

Sat-Sun May 8-9 **Mid-Atlantic States QSO Party** **1600Z May 8-2400Z May 9**
This activity extends across all bands through 432

SSB/FM/CW--sponsored by the Independent Mid-Atlantic QSO Party Committee from 1600Z May 8-2400Z May 9. Mid-Atlantic states include Delaware, Maryland-DC, New Jersey, New York, Pennsylvania, Virginia and West Virginia. Frequencies: 160-10 meters 50 kHz from bottom of band segment for operating mode, **50, 144, 222, and 432 MHz**. Categories: SO (LP and QRP (<5 W), MS/Club, Mobile, all classes except QRP max 200 W output. Exchange: serial number and QTH (Mid-Atl stations send 3-letter county and 2-letter state, US/VE send state or province, DX sends "DX"). QSO points: Phone--1 pt, CW--2 pts, Mobile--3 pts. Score: QSO points x Mid-Atl counties (Mid-Atl stations count S/P + 1 DX), all mults counted only once. More information: <http://www.qsl.net/maqso>. Logs due June 10 to maqlogs@yahoo.com or Mid-Atlantic QSO Party, Attn: Chuck Reville, K3FT, 6400 Baltimore National Pike 131, Baltimore, MD 21228.

May 1-10 **North American Spring Meteor Scatter Rally** **see times below**
Sponsored by the WSJT Group from 0000Z May 1 and ends 0000Z May 10 during the annual Eta Aquarids meteor shower. Please note that the annual Eta Aquarids is a morning shower, the radiant being in a good position from about 0500 to 1200 local time. For more information: <http://www.qsl.net/wa5ufh/Rally/NAHSMS.htm>.

Thurs, May 13th PACKRATS BOD MEETING 8:00PM-Open to All Packrats
QTH: N3ITT, Al Sheppard 77 Foellner La, Ottsville, PA 18942

Thurs, May 20th— PACKRATS MEETING—8:00PM
Southampton Free Library, 947 Street Road
Software Defined Radio—The SDR-1000
Bob McGwier, N4HY & Gerald Youngblood, AC5OG
This is an open meeting, bring a guest or friend!

June 17: **Elections and “Festival Night”**
July TBD: **White Elephant Sale—the best auction of “stuff” of the year**
Aug TBD: **Annual Packrat Picnic**

June ARRL VHF QSO PARTY: Sat-Sun June 12-13
Contact Chairman, Al Sheppard, N3ITT to define your role in this effort

- Central States VHF Conference, July 22-25, Missassauga, Ontario, Canada www.csvhfs.org for info
- 11th International EME Conference August 6 - 8, 2004 Trenton, NJ www.qsl.net/eme2004/
- Microwave Update (MUD) 2004 will be hosted by the North Texas Microwave Society and will be held in Dallas near the DFW airport on October 14, 15, and 16. www.ntms.org and www.microwaveupdate

HAMARAMA: Sunday, October 10th

MATRIX RF SWITCHES

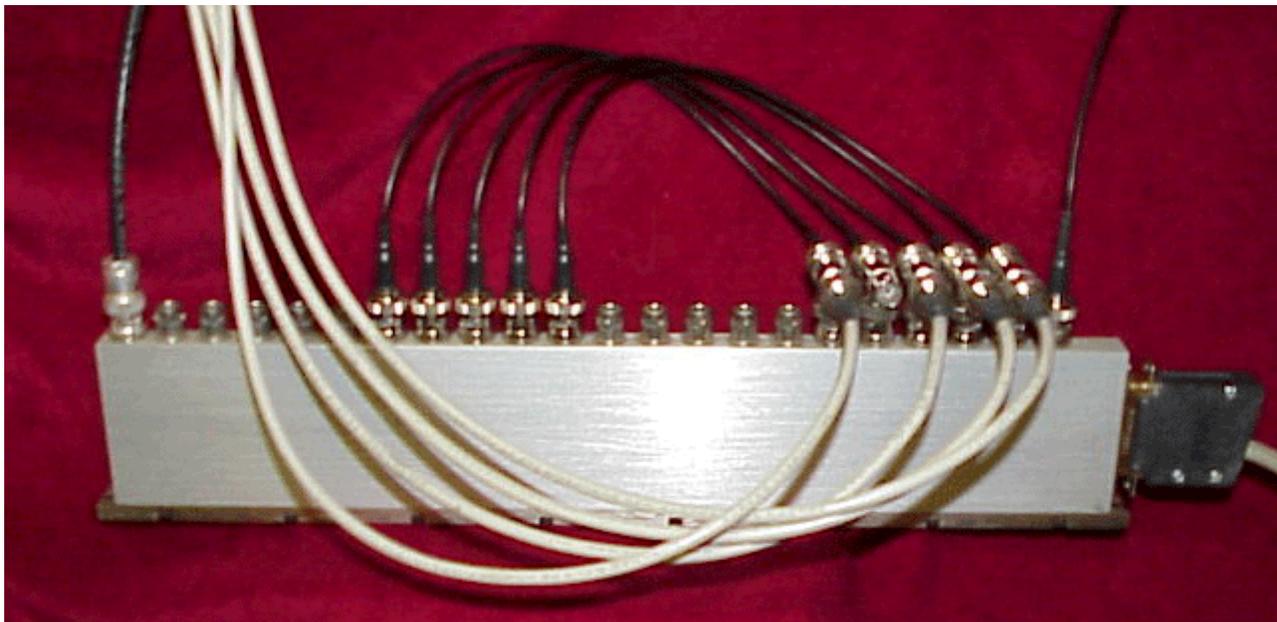
Matrix switches have been appearing on the market and recently were made available at a Packrats meeting. During the last contest I experienced crosstalk between various transverters feeding my IF transceiver which called for some greater isolation in my switching network that feeds the IF. Matrix Systems Corporation makes a wide variety of coaxial matrix switches that have found their way into the amateur market. They are driven by 26 volts dc and provide nearly an 80 db isolation at the IF frequencies we use on the amateur microwave bands. The switches that I obtained were 20 bnc ports to two common bnc connectors. More on that later.

An email to the sales address on the website (<http://www.matrixsystems.com>) brought a quick response from the sales manager giving me the correct pinouts to energize my new found solution. The switches are conveniently fed by a DB-25 connector and pin 21 gets plus 26 volts DC. Bringing any of pins 1-20 to ground will select the respective bnc connector port 1-20. Pin 25 is chassis ground. Couldn't be much easier, but just an ohmmeter made the job much more difficult, it's nice to work with such a responsive organization.

Things got even more exciting when I ran into Bruce, WA3YUE, and he started singing the virtues of the matrix switches I had recently acquired. He sang the praise of the very high isolation value and gave me the secret of getting two switches out of one. By removing the bottom cover a long bus bar is revealed. Since there are two common connectors, one on each end, simply cutting the bus bar in half gives you two single pole 10 throw switches. Wow, now we're talking. Bruce continued with the revelations saying that by feeding both switches with bnc tee connectors I could provide a switching network that would make all transverters available to multiple IF rigs. The finished product is pictured here.

This solution provides a very flexible and high quality means of selecting transverters and porting them to multiple IF rigs. My next step is to actuate and drive them with software. 73, Phil, K3TUF

(June Contest Cont'd from P1) interested in the seasoned contesters among us to come up to operate. YOU guys CAN make a difference. Support your club! Even if hard core contesting isn't your bag we still have need of tech support, general labor, truck drivers, K.P. Duty, etc. So please, if you're physically able and have the time consider coming up and joining the gang! Not only will you have the satisfaction of having helped your club you'll have the opportunity to operate a true superstation and have a good time with fellow Packrats, not to mention some great food and drink or simply enjoy the spectacular views from the top of Camelback mountain. Even with all the work we still have a great time! This is still, after all a hobby! Bring a guest! Maybe a new ham, or one who's been around a while but never did anything on VHF that didn't involve "courtesy tones" ,perhaps an HF contester tired of the "same old, same old" who might be curious about contesting on the VHF side, or even just someone who is interested in getting into the hobby. What better time to demonstrate Ham radio, VHF, and the Packrats at their finest! I do understand that many of us cannot make the trip up to the mountain due to age or other physical conditions. You can still help the effort! If you have an operating station TURN THE STUFF ON AND WORK THE W3CCX club station as well as others. Send in your log, remember there is now club competition in this event! Now planning a final CONTEST MEETING! Hope to have this where we can have "WRITE LOG" up and running. This is the software we will be using this year for the first time and many of us need to become familiar with it. Please let me know what a good date will be for you. I will post the date , time and location when we firm it up. STAY TUNED! Well got to run, lots to do, hope to see your name on the sign up sheet soon and ...STILL LOOKING FOR A FEW (MORE) GOOD PACKRATS.....CU on the mountain! 73 AI N3ITT

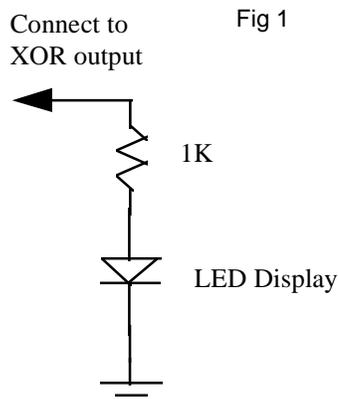


PLL Operational Indicator

When I am out in the field and away from test gear, I like to have a sense of what is the operational state of a phase locked loop. A simple phase indicator for any PLL with an accessible comparator output can be made with an LED and a series resistor.

For the relock board, the LED indicator can be connected to the XOR output or the PD2-down output, whichever may be providing the comparison output. For other PLL, the XOR output can be used. If the PLL has an XOR phase detector, the LED will indicate by blinking that the reference frequency and the controlled VCO are out of lock by a frequency represented by the rate of blinking. The rate of blinking indicates the frequency difference as seen by the comparator, not necessarily the reference frequency or the VCO frequency. When the comparator is an XOR and the reference and the VCO are locked, the relative phase angle between the two sources is indicated by the brightness of the LED. If for example, the phase angle difference was zero, the LED would not be lit. If the phase angle was 180 degrees, the LED would be maximally lit. I have found that setting the PLL operating point so that the LED indicator is mid way in brightness is a good place to operate the PLL. If the XOR based PLL is out of lock and the difference in frequency is great, the LED will be partially lit.

If the PLL output is the PD2-down signal on the relock board, the LED will indicate about the same information as described for an XOR comparator if the two frequencies are close together. The LED will blink at some

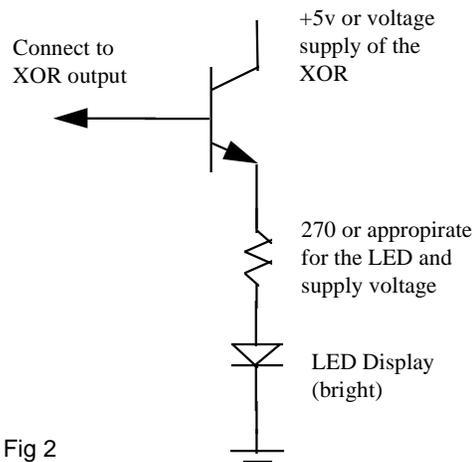


rate proportional to the difference in frequency if the reference and the VCO are not locked. If the two frequencies are locked, the LED will be either on or off. The PD2-down signal becomes complex when the two compared frequencies are not close together. The LED will be partially lit and will only thereby indicate that the two frequencies are far apart.

Figure 1 is for the case where the current needed by the LED is low enough to not load the XOR too much. Figure 2 is for a bright LED to be used in high ambient light environments.

Don NOUGY

Tnx for sharing this PLL enhancement! Ed



K3TUF and N3FTI share ideas at the ESVHF Conference

Rover Trailer Hitch Antenna Mount Ideas

The Question: Has anyone every used the trailer hitch to a Ford Explorer to mount an antenna mast? It appears to be a standard trailer hitch receptacle. I am trying to figure out if I can bolt on a mast or if welding is necessary. I am thinking that I would need to attach some kind of rods at about the 4 foot level to the rear corners of the luggage rack to stabilize the mast at the top. Maybe I can telescope the top of the mast up a few feet went stopped at rover locations. Any ideas or experience with this concept? Griff NE3I

The Responses: I thought about doing that with a receiver hitch. Is that what you have? Seems like a piece of square tube ought to slide right in there. Then you could mount yer stuff on the mast that you would weld to the tube. Kind of an L shape. You probably should weld it. Not really a problem though, we have at least one professional welder in the club (N3ITT)73 Joe AA3GN

I have not done that but it is my plan for the rental motor home I am bringing east for June. My plan is to make an insert into the hitch but have the mast go to the ground and sit on some sort of heavy something or other. That part I have not worked out. One thing to be aware of though is play in the hitch coupling. The ID of the receiver is slightly larger then the insert. They are designed that way so they can be easily put together and then taken back apart. For temporary use you can wrap a layer or two of tape around the insert to take up some of the slack. If you are thinking of driving with this in place then of course you can't go to the ground like I am planning on doing. But then, once I have my rove route mapped out and I see where I am driving to and from, I may change my thinking and make it semi-permanent. There is a ladder going up the back of the motor home that I can use as a brace. So let me know what you wind up with and I'll do the same. Good luck. See you in June. 73, Randy, NR6CA

I had a guy in Green Lane weld a plate to a short piece of square hitch stock. See attached pic on P6. If there is a tail piece sticking out, an L bracket could be easily made onto which a mast could be bolted, and then stabilized with a couple of pieces to the roof rack. At, N3ITT and Lenny, N3NGE are the welders, and John, KB3XG has an explorer and he did some rover antenna mounts to it when he went to Maine to be a K1WHS rover. John, KB3XG

To us old Hams... it's all been done before.

A machinist would turn (on a lathe) a short piece of round stock to match the ID of whatever size tubing or pipe your using for the mast --slightly smaller of course, so the mast will slip over

the "stud". This can also be done with an oak or maple dowel. I would then drill a hole in the center of the "stud" and mount it to the trailer hitch with a heavy bolt -- most hitch balls use a 3/4 or 1 inch bolt.

In today's world, the main problem with mounting masts this way is the hatch on the back of the SUV -- you can't raise the hatch to load or un-load the back of the vehicle. Same problem with my old station wagon (can't lower the tailgate).

I've thought about the problem and come up with a reasonable solution, but thus far it's un-tried...Make up a set of wood 2x4's (or use angle iron/ aluminum angle) that will mount to the roof rack on top of car -- and place this just at a point directly above the wheel -- this will be the upper mount. The lower mount can be made with plywood (or steel/ aluminum plate that's welded up) with the same "stud" as mentioned above. Now, drive over the plywood or aluminum plate, and park on top of it. This will give you a very sturdy place to sit the bottom end of your mast -- as good as re-bar driven into the ground. At the roof rack mount, use simple u-bolts to grasp the mast at the four foot high level.

More than simple enough -- and it shouldn't take all day to make up. Of course you can get very carried away with tilting and telescopic masts -- it's all up to how much time your willing to spend at the drafting table. Mark Hinkel WA3QVU

I have a luggage carrier mounted into my trailer hitch. My radio shack rotator is strapped to the luggage rack. I use a 30 foot retractable wonder pole which is stabilized with a 6 foot long 2x6 bolted to my roof rack. It has a hole drilled through it for the wonder pole. Works very well. Dave Wendling KB1EAA

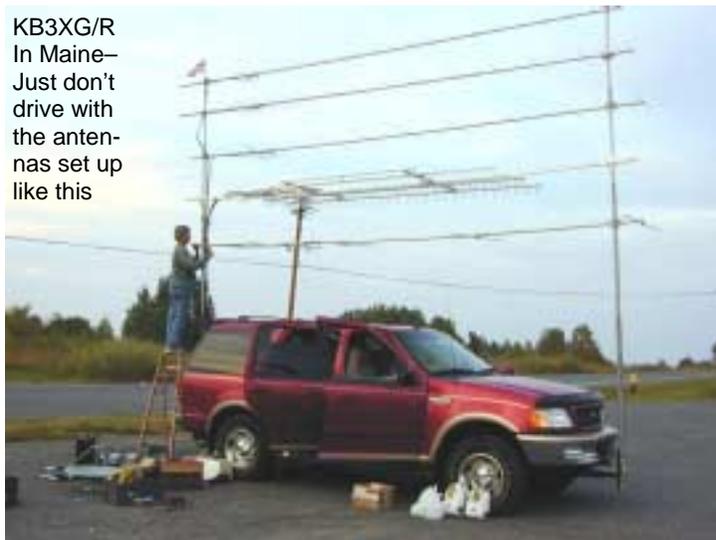
Many years ago I used a bumper hitch that had a horizontal plate on it. I mounted a 6 meter Halo on a 12 foot telescoping mast, by getting a large "L" shaped bracket made of 1/4 inch or heavier steel. bolted the bottom of the "L" to the horizontal plate with a 1/2 inch bolt. Also had to use some kind of straps to keep the mast and halo from falling backwards when I accelerated. Your idea of making some kind of a bracket to the roof rack is a good one. Good Luck Al K3EOD

You scheme is apparently what W3IY does and what I am intending to do with my van. I have a trailer hitch for my minivan. The base of the mast below the rotator will go where the ball mount goes. There will be a frame on the roof for holding things and this will be involved in holding the mast. I am putting a bearing in this so the rotator can be low. See Bill's excellent site and the photo. I am stealing more ideas from Bill than creating my own. He is a great resource as everyone knows. <http://users.adelphia.net/~w3iy/> Bob N4HY

It would take some metal working, but N1MU has a neat looking design for a hitch-mounted foldover mast that he uses for roving. His website is: tom.2ub.org/n1mu/rover/index.html I thought about building one myself for the Avalanche.73,Joe W3KJ

I have seen several mobile rigs using the common trailer hitch, square receptacle for a quick disconnect antenna mount. Think they were mostly pickup trucks and a big Yukon or the like, do not remember an Explorer configured this way, but cannot think of any reason it would not work, except the inability to open the rear hatch- a friend who has a bike rack on back of his Explorer complains about this inaccessibility. Some other ideas: I have two Explorers ('93 and '00) and chose to go different routes. Both have sun roofs so I cut a metal plate to fit over the opening and clamp down. Through this plate I put a gimbaled mounted tube with a RCA dish mounted on top and the 10 GHz rig on the bottom of the tube, hanging down into the passenger seat area. Works very well as a rover in the 10 GHz contest. Known as the "U-Boat" the setup has been pictured in Microwave Update Proceedings and elsewhere. For more conventional antennas I found at aluminum recycler a cell site antenna, the kind

KB3XG/R
In Maine--
Just don't
drive with
the anten-
nas set up
like this



you see on towers along the highways. When the radome and guts were removed the back of the antenna is a trough about 48 inches long, 9 wide and 2 high. Inverted, this slides nicely under the bars of the roof rack on the Explorer and rests on the rubber strips running lengthwise on the roof. There are two threaded mounting holes at each end of the trough,. I took the fixtures from a Yakima ski/bike rack, wrapped them around the Explorer's roof rack bars and lined them up with the trough's holes and bolted it down. I run three grounding straps from each side of the trough to the hold down screws in the tracks for the rack bars. On the trough I have mounted an Outbacker HF antenna and a Diamond 2m/70cm antenna. Also on the trough are a couple of mounts for masts that will fold down flat to the roof. I have put halos, small yagis, etc. on the masts and 'pop' them up when mountain topping. A rotor could be bolted to the trough if desired.

The Yakima fittings would give you good attachment points on the rear rack bar to mount your stabilizing bars if you go the trailer hitch route. If you would like pictures of my arrangements I will take a few and send - advise. Good luck with your project. 73, John WD4MUO/0

There's not much holding the standard roof rack onto the track. There are only 2 small thumb screws holding it in place, 1 on either side. Ed WA3DRC

Robert A. Griffiths
Attorney at Law

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SPRING SPRINTS

WORKED THE 432 SPRINT LAST NIGHT FROM 7:00 TO 9:30pm, QUIT WHEN I RAN OUT OF PEOPLE TO WORK. LOT OF CW STATIONS ON. WOUND UP WITH 23 QSO's AND 11 GRIDS FN 00, 10, 20, 31, 32, 43 FM 06, 08, 18, 19, 39 NO FM 28 STATIONS ON IN EITHER SPRINT (222, 432) GUESS THERE ARE NO HAMS IN DELAWARE, HI HI. ACTIVITY WAS (IN MY OPINION) VERY POOR, BUT I DID HAVE SOME FUN. TAKE CARE AL, K3EOD

I ALSO WORKED 23 STATIONS BUT ONLY 10 GRIDS - FM08, FM18, FM19, FM29, FN00, FN10, FN20, FN21, FN31, AND FN43 - NOT BAD FOR MY FIRST 432 SPRINT. I HAVE TO GET MY ANTENNAS UP HIGHER IN THE FUTURE. NEXT SPRINT FOR ME IS 6 METERS -ONE OF THESE DAYS I WILL GET ON BANDS ABOVE 432. THE ACTIVITY LEVEL WAS GOOD FOR THE FIRST HOUR THEN AFTER THAT IT REALLY DROPPED OFF. 73, BILL K3EOD

222 sprint was activated from the rover parked half-way in the garage with the downpours. I used a short 4 el beam and managed to work 19 stations in 10 grids. Shows what a small sig can do when the gain is from the other station! Rick, K1DS



W2PED, N4HY and WA3BZT at ESVHF Conference

Eastern States VHF-NEWS Conference

Excellent NEWS conference this past weekend. Lots of good talks and some spirited discussion on the recent League / contest happenings. It was great to see so many PackRats represented : KB3XG, K1DS (& XYL), KF6AJ, W3KJ, N3FTI, K3TUF, N4HY, WA3BZT, W2PED... did I miss anyone?

John gave a great talk on PCS power amplifier conversions. I saw a crowd of guys pinging John with questions afterwards, so chances are once guys get these amps modified and on the air, we'll all benefit from BIGGER signals on 2304. Bob N4HY gave a portion of the talk on Software Defined Radio. I'm still trying to digest it all but I KNOW this technology is going to shape and/or change the way we think about high performance radios. (Well all get to hear a little more about this at an upcoming meeting). Great talks, guys!

The banquet was very well attended (and it was FREE with the registration!). Brian The Rover ND3F gave an entertaining and informative talk on his roving experiences. I thought it was a perfect talk for the banquet. After the banquet there was the usual assortment of top notch door prizes. Afterwards a number of us got together over a few cold ones and had a chance to go over some potential June rover plans. Good inputs from everyone. (More on this topic to follow!). Sunday morning there was a small VHF swap fest. We all seemed to find a few good trinkets. Overall, a great weekend. Think about putting it on your calendar for next April! 73, Paul W2PED

QSL/QTH.NET Users

We are pleased to announce that due to the generosity of member we will be having another ham radio give away. For every donation to the QSL/QTH maintenance fund in April and May chances will be given to win your choice of one of the following: ICOM IC-746PRO YAESU FT-847 KENWOOD TS-2000. This is about a \$1500 value! Winner may pick the model of their choice and it will be purchased from any dealer chosen by the winner. Here is how it will work.... \$15 = 1 chance, \$25 = 3 chances, \$100 = 15 chances. The drawing will be held May 30, 2004 and the winner will be announced in the June 1, 2004 password reminder mailing. Please be sure to include your ham call or e-mail address so that you can be contacted for delivery. Here is your chance to help the system and get a great radio for your efforts. Good Luck to all and as always my sincere thanks to all our past and future supporters. REMEMBER.... Of all the major ham radio sites on the Internet QSL/QTH is the only one that is not a business. Everything here is done with volunteers and is funded by user donations. Donations are the only way we survive. 73, AI K3TKJ
By Credit Card <http://proxy.qsl.net/donation>
By PayPal <http://www.paypal.com> (account k3tkj@qsl.net)
By mail: QSL.NET, 34087 Old Hickory Road Laurel, DE 19956

It's 10GHz, Do You Know Where Your Frequency Is?

I have been playing with PLO's for 3456 and above. I am still waiting on a PLDRO for 24GHz. I recently purchased a pair of HP Z3801A 10GHz reference oscillators locked via GPS timing. These are a neat all in one compact unit. That can be purchased with a power supply and amplified GPS antenna from www.Buylegacy.com.

There are a number of good websites for conversions and software. I am using Sat-Stat software. The units come from the factory wired for RS422 interface. I bought an off the self converter and could not get either unit to talk with my laptop. There is a simple conversion found at www.realhamradio.com/GPS/Frequency_Standard.com. This site has all the information you will need to get your unit up and running. Just a quick note when I did the conversion from RS422 to RS232 solder jumpers above the board not under it. I had some shorts and this caused hours of troubleshooting to get the unit to communicate with my laptop. You might ask why did I get 2 units? Well I figure Murphy likes to strike during contests so I would have a second unit up and running for standby. Two units will easily fit side by side in a single 19" rack tray. The short term and long term stability look very promising. Pretty soon I should be able to tell everyone just what frequency the 10GHz beacon is really on! Gone will be the days of chasing my 10GHz signal while in QSO! 73 Bill AA2UK

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**At the ESVHF Conference, Dick, WA2AAU gave the interesting history of the W2SZ/1 (MGEF) rovers, and brought along this demo multiband rover station, with its 5MHz IF. You can draw your own conclusions about whether this is considered captive or not, and whether these rovers ever submit logs.**



## Es Alerting Service for North America.

A number of North American VHF DX operators signed up for PE1NLW's Sporadic E Alerting Service for North America last year. Unfortunately, the number of Es openings over here was only a fraction of those that Europe had. And the number of operators on the air during some of the short openings was low - indicating that a lot more people need to be posting their results in real time to alert the rest of the country. This is the function of PE1NLW's service, which sends out E-mail warnings to those who have signed up for it.

This year there is another Es alerting service available to North Americans. Live MUF, by G7RAU and EA6VQ, which has been in use in Europe for several years, has been modified to also be useful in North America - IF enough people will post their reports onto a DX Cluster (done through this program). Like PE1NLW's Es Alerting Service, it is worthless if people don't report! Live MUF takes a few minutes to get it on line (it uses a tele-net connection to the DX Clusters) and to get the options tailored for your particular needs. It is expected that there will be further modifications in the options to make it even more useful in North America, so check occasionally for upgrades. If you don't understand some of the terms and abbreviations, just play with it for awhile. As the program is changed to better alert the Western Hemisphere, watch also for an updated Help file more tailored to our needs.

Information on both of these programs, with links to their Web pages, is available at:

<http://www.qsl.net/w8wn/hscw/papers/esopen.html>.

In addition, background information on Es, other programs for figuring the probably location of the Es cloud, etc, are linked from there. **73, Shelby, W8WN**

## Can You Confirm this at Dayton?

**UNCONFIRMED e-mail:** VHF/UHF/Satellite transceiver at the 2004 Dayton Hamvention. The FT958 will be a do-it-all weak signal and satellite transceiver, meant to compete with the Kenwood TS2000 and ICOM 910H. The FT958 will come equipped with 4 bands as standard: 6 meter, 2 meters, 70cm at 100 watts output, and 23cm at 50 watts output. The FT958 will be able to hold 4 additional band modules, with optional modules offered for HF, 222 (at 100 watts), 902 (at 50 watts), and 2300-2450 (at 10 watts). Yaesu hopes to offer additional modules for 10GHz and 24GHz at Dayton 2006. This will be the ultimate VHF/UHF radio sources at Yaesu said. We may have dropped the ball in replacing the FT736 with the FT847, but this will put us at the top of the VHF/UHF/Satellite game again. The FT958 will include dual receive, including dual in-band receive. It will feature full duplex, AF-DSP for both receivers, crossband repeater capabilities, and a built in TCXO. > In addition, Yaesu will be instituting its own version of Kenwood's controversial Sky Command remote control system with the FT958. The systems, called WIRES Mark V, will not face the legal issues that Sky Command does because all control and return audio signals will utilize frequencies above 440MHz. The system will initially use the 70cm and 23cm bands for control and audio signals, with other combinations available in the future. Yaesu plans to introduce its new VX-9R quad band HT to work with the WIRES Mark V system. The VX-9R will cover 6 meters, 2 meters, 70cm and 23cm with dual receive, built in TNC, and LiON battery power. Yaesu hopes to be shipping the first FT958s to the US by late 2004, with the VX-9R to be introduced at the same time. These are exciting times for the VHF/UHF community and Yaesu sources at Yaesu said. We also hope to eventually introduce band modules for 3.4GHz and 5.7GHz. We want the FT958 to be the transceiver of choice for weak signal operating and contesting. Prices are expected to start at \$2300 for the basic FT958, with modules running from \$400 to \$800, depending on band.

## Letters to the Editor

Hi Rick:

As always, I enjoy reading the Cheesebits for April... Unfortunately this month I do find a couple of things that I think it is important to take issue with...

The biggest is in your Editor's Column at the very beginning. The Board Of Directors directed that a special committee look into the VHF problems and propose solutions, so a special adhoc Membership Services Committee VHF Study committee was formed. It is not, and never has been, tasked to the Contest Advisory Committee. I think you definitely need to make that correction of a factual error. There is no need for that group to receive unfair criticism for things it was not involved with.

Also, there was not and has not been a proposal to move the VHF SS. In fact there was not to my recollection a single comment in the several hundred that I have reviewed, nor in the surveys done 18 months ago that proposed that. Also, if you will recall, I did attend the Packrats conference in October, as did W3ZZ (another committee member) and in the open session I did and in none of the conversations was that topic ever presented to the group, or did any attendee bring it to the table for us to consider. Changing dates of none of the events was brought up in the surveys nor brought up in any of the comments to the committee. I think taking the committee to task for a point that was not on the table, not raised in any of the numerous available forums for comments, or proposed by the committee is unfair to the committee. To say that the committee did not ask for input also flies in the face of the facts. The whole proposal balloon was floated as that - a proposal - with open attempts for anyone to offer input, criticisms, suggestions, etc... Members of the committee have been attending various meetings seeking input...

Thanks and 73

Dan Henderson, N1ND

ARRL Contest Branch Manager

*Editor's note: The April (Fools') edition was a mix of fun and pun, and we certainly stand corrected as above in terms of the charge of the ad-hoc VHF Study Committee assignment vs the Contest Advisory Committee. We appreciate that the members of the ad-hoc Membership Services Committee VHF Study committee are giving serious consideration to the feedback from the active VHF-UHF and microwave amateurs. ~~~~~*

<-KB3XG delivers an excellent "how-to" on the conversion of high-powered 2304 surplus commercial amplifiers at ESVHF Conference



Bob, N4HY joined forces with Gerry, AC5OG to give us a great primer on SDR and the commercially available rig and software. They will be visiting us at the May meeting to do it again->



## Microwave Ham Band Frequency Changes

For those of us in the USA we knew it was only a matter of time, but the FCC's changes to the microwave allocations above 75GHz were posted in the Federal Register today March 24, 2004. See:

<http://frwebgate4.access.gpo.gov/cgi-bin/waisgate.cgi?WAISdocID=17438411601+3+0+0&WAISSaction=retrieve>

As I understand it, these changes (which include Amateur allocation changes) will become law 30 days after the posted date which was today. The changes to the US Amateur Allocations are in summary:

- 1) Refined band: 75 to 81GHz (still have some sub-band limits)
- 2) Delete band: 119.98 to 120.02GHz
- 3) Delete band 142 to 149GHz
- 4) NEW band 122.25 to 123GHz
- 5) NEW band 134 to 141GHz

In short....we can retire our 120 & 145 GHz gear and start building new gear for the 122 & 134GHz bands. So make your QSOs now while you can. This change also brings the USA allocations in-line with the rest of the world. I hope to have some atmospheric loss data for the new bands for those who are interested. See you on the NEW bands! **73, WA1ZMS**

I also found this URL and pdf file helpful:

<http://www.fcc.gov/oet/spectrum/table/fcctable.pdf>

Of particular interest to me was 78,192 where I'm working on getting equipment on the air. **73, Mike, N1JEZ**

## VHF Contesting Survey Results

I put the results of the contest rules survey (a .pdf file) taken at the Eastern VHF/UHF Conference on my site at <http://www.wa1mba.org>

When we get the time, it will also be posted at the NEWS site.  
Tom WA1MBA

## Elecraft N-Gen

At the last meeting I talked about two Elecraft small kits, the XG-1 and the N-Gen. The N-Gen is a wideband noise generator and I was asked the question of how it works out to 1 GHz. I put the N-Gen on the Agilent spectrum analyzer today while I had time on it. It is flattish out to 500 MHz and the tapers off by 10 dB at 1 GHz and then falls more rapidly. It is spec-an noise floor at 5 GHz but is only down about 30dB at 2.3 Ghz. The output is definitely useful at to 3.4 GHz but is 45 dB down from 500 MHz but well above the noise floor of any reasonable transverter. I won't give levels because it varies by several (3-4 dB) and your mileage may vary. It is not a calibrated instrument but should be useful for testing if your equipment is alive and it only costs \$29 and took me 15 minutes to build. **Bob N4HY**

## VHFLOG is Now Free Software.

The 32-bit install and updates are available on my web page. <http://www.qsl.net/w3km>

New features include:

1. DVK over-ride at any time using <Esc> <Space> or <Enter> to cancel.
2. Supports RIGblaster mic and footswitch cancel (via COM1).
3. Software switch reverses DTR and RTS COM connections.
4. All bands have an encoded output to LPT1 for the decoder.
5. Optional CW keying to LPT1-17. **73, Dave, W3KM**

## Movin' Your Cheese (Buy-Sell)

This space is usually full with gear wanted or for sale. These personal ads are free for personal ham-related gear. Submissions may be made by email up to about the 24th of the month for publication the following week. Send items via email to: [Rick1ds@hotmail.com](mailto:Rick1ds@hotmail.com)

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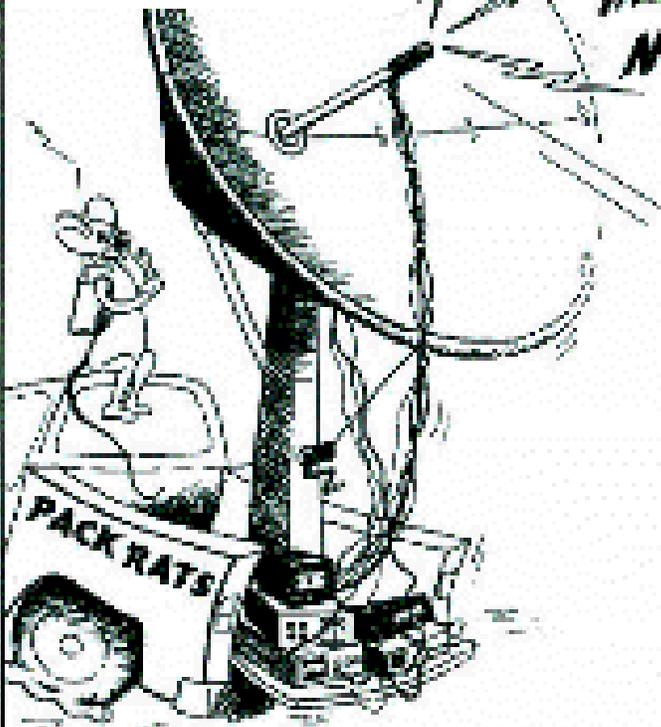
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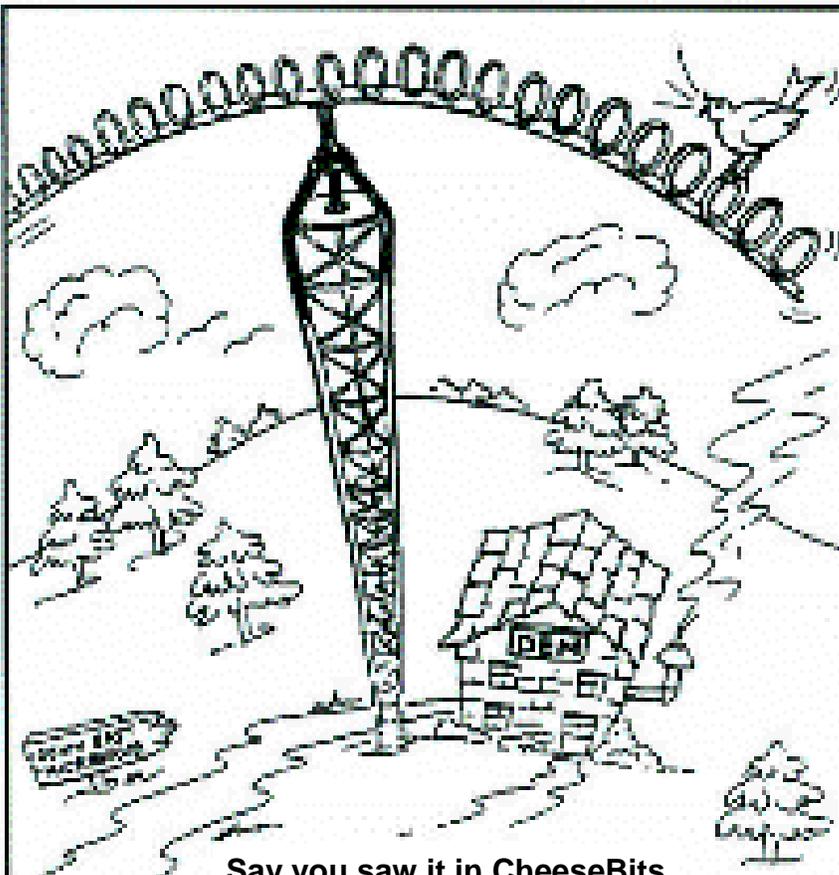
**MEETING  
NOTICE**



- Packrat Awards & ARRL Night
- Activities Calendar
- Matrix Relays
- JUNE CONTEST
- Microwave Weekend May 1-2
- PLL Indicator
- Rover Trailer Hitch
- Sprints
- Software Defined Radio at the May 20th meeting

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