

# Mt. AIRY V.H.F. RADIO CLUB, INC.



## CHEESE BITS



**W3CCX**  
CLUB MEMORIAL CALL

Happy  
Thanks-  
giving

ARRL  
Affiliated  
Club



Volume XLIV

November 2002

Number 11

### PREZ SEZ

We made it thru HAMARAMA without a hitch, well almost, the weather could have been better. Thanks to ED WA3DRC, we had all the bases covered. And as usual the membership showed up and made it all go smoothly. Thanks must also go out to the gang from WARC that helped with the P.A. system. Even with lighter attendance we were positive, and should be able to get thru the year with normal activities.

It was good to see everyone that came out to the OCT. meeting, Paul W2PED gave an excellent talk on the K1WHS multi-op station. It is nice to see how other folks set up their stations. The November meeting is going to be a must attend event for two reasons, only one I will talk about now, and that will be Russ, K2TXB, will be talking to us about his EME efforts. As for the second reason to attend watch your mail box for special mailing. Most of all be at the November meeting!!!!!!!!!! That's all for now **73 , Brian N3EXA**



Packrats were treated to a great slide show and narrative on the K1WHS "VHF Superstation" from ME, thanks to Paul, W2PED and comments from other participants, including Sandra and Steve from DEMI and Warren, WB2ONA, one of the rovers. Pictured here are shots of the antennas systems, a major overhaul and reconstruction that took at least a dozen weekends this summer, and the efforts of a team of that many also, not to mention all the logistics, hardware, antenna and feedline acquisition. The microwave tower being assembled on the left now sports the loopers for 903, 1296, 2304 and 3456. A sidearm supports the dishes for 5, 10 and 24G with a separate rotor and most of their microwave transverters and amps. The 6m tower is on right with a stack of 4 yagis, switchable and individually rotatable. Bottom left are the long 1296 loopers and bottom right shows one of the two operating trailers, this one is for 222 and up, the other being reserved for 6&2. A 30 KW diesel generator supplies power in the ME woods. Look for part 2 next month.



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**PACKRAT 222 MHz REPEATER - W3CCX/R**

222.98/224.58 MHz, Churchville, PA

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**COMMITTEE CHAIRMEN**

January Contest	AA2UK	
June Contest:	N3IT	610-847-5490
HAMARAMA:	WA3DRC	
VHF Conference:	KB3XG	610-584-2489
Awards Chairman	WA3GFZ	215-884-3116

**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	N3IT
8:30 PM	222.125 MHz	W2SJ/N3EXA
8:30 PM	224.58R MHz	W3GXB
9:00 PM	432.110 MHz	W3RJW FN20le
9:30 PM	1296.100 MHz	WA3NUF FN20le
10:00 PM	903.100 MHz	AA3GN FN20ig

**THURSDAY NIGHT NETS (1st & 4th of the month)**

9:30 PM 2304.100 MHz W3KJ, & go to 3.4G & up after FN20hg

**The Officers and Board of Directors  
and Packrat members  
extend their sympathies to:**

**Walt Zumbach, WA3AQA on the recent loss of his wife, Jean Zumbach**

**Bob Fischer, W2SJ on the recent loss of his father, Robert Fischer, Sr.**

## Editor's Column

Ken Tankel of Dalet Digital Media spoke at the September meeting on the hardware and software used in the cutting edge technology for the management of radio and TV programming. This was a fascinating topic on the organization and storage of digital media and its control systems. I'm sure that all attendees were as fascinated with this topic as I was, and appreciated the effort made by this speaker to allow us a peek at the most modern age of broadcasting. Thanks to our new VP and program manager, WA3GFZ, for inviting him

The concerns about the digital age of communications have been highlighted in several email postings, and one of the central questions was, "How are we defining a contact?" And the answer appears to be, "It depends." So what does it depend on? It appears to be what's at stake, and there are many options of what that can be. At times, it takes no more than a declaration, "I contacted Europe" would be good enough for me to tell my folks when I was a novice on 40m and after hearing my call being sent by the DX station, even after I lost them in the noise, and never got a QSL card. But to have my name atop the DXCC list, each and every QSO would need to be validated with a QSL card with a valid signal report exchange (even though everyone is always 5X9) and each card scrutinized for credibility.

When it comes to the VHF side of the communications spectrum, those elusive WAS, DXCC and the VUCC recognitions seem to be a bit harder to come by, since propagation is seriously different, operating density is far less, and the equipment availability is less apt to be readily commercially available. It has been made clear by those who have devoted several decades of their ham careers to achievement and recognition, that the introduction of digital mode QSOs is challenging the record of those who have used CW and voice modes in their pursuit of specific accomplishments. This has especially true as digital modes such as JT44 and WSJT have been introduced for meteor scatter and EME. More to come as I hear from the broad opinion spectrum. Actually, I'd like to run a point-counterpoint page, if there are two guest editorial writers who would like to step up to the task on this issue. Please contact me directly at rick1ds@hotmail.com

The HAMARAMA event was a mixed bag this year. Attendance, weather and merchandise quality were somewhat below expectations, but stressors like complaints, trash removal and staffing were reduced. I for one sold all the radio related gear I came with, except for an AEA CP-1 and a Packrat Packet box with their related Commodore computers. I also left with one purchase, a scope for laser aiming for \$10. It would have been nice to see a bigger crowd with more vendors of VHF-UHF-microwave gear and parts; something we'll continue to press for in the future. Leon enjoyed being part of the ticket-sellers, and answering questions about the rover van. Having parked it in the middle of the event, it certainly got lots of attention, and questions about every aspect, from power and charging to rig quality and antenna mounting. I hope it stimulated more activity. I look forward to a full house at the November meeting for important club business.

I was in RI for Field Day at Beavertail Point with the Providence Radio Ass'n-W1OP and took a pic in "the bunker"  
73, Rick, K1DS, ed.



## It Takes a Village

Hilary published "*It takes a Village.*" There is no doubt about it, having an active and resilient radio club does. The unique position as editor of this newsletter keeps me at the hub of a virtual city full of active and participatory members that continue to deliver week after week and year after year, and decade after decade. As a relative newcomer to the Packrats (5 years since I moved and joined) I have been continually impressed at the efforts that continue to keep the activity at such a high level. Not only have the contributions to this publication been fulfilling, but the annual calendar of events have had continuous outstanding leadership to keep the spirit and success of the club.

The recent HAMARAMA was another display of the dedication to task that the members of the club have had, with many notches on the belts of those who served for years doing the arranging, the "lick and stick," the overnight watch, the early ticket sales, remembering all those accessories, like tables, tickets, raffle drum, cones, talk-in port-o-lets, parking detail, signage, cleanup, PA, club table and so on. Each part a thankless task, but due to the spirit of those who see these self-appointed tasks (or cajoled into tasks) as necessary for the long-term health of the club and amateur radio.

As we look across our annual calendar, and take a broad look at what we do as a group and as individuals, it would fill volumes to keep track of all those little behind-the-scenes things that make the club what we are today. Monday night nets on 8 or more bands, each one run by a net control in orderly fashion, with alternates. Folks who prepare and make the net announcements. Officers and board members who make those Thursday night meetings across the tri-state area, and hosts who have the group in their home with great refreshments. Members who come early to set up club meetings, provide programs or schedule speakers. Folks to take on officer positions to keep the club business and records flowing and financial status solvent. Nominating committee and audit committee members. Beacon builders and beacon maintainers. Activity chairpersons for awards, contests, expeditions, keeping track of club gear, storing the June contest gear, renting and driving the trucks, cooking the meals, hosting the picnic, providing the shelters. Loading, setting up, taking down, providing gear, operating the club station, roving, unloading. Acquiring the annual "Cryin' Towel" Award, participating with a "Cryin' Towel" story...being a judge for the "Cryin' Towel" or Homebrew Night. Hosting the White Elephant sale with the set-up and refreshments, doing the auctioneering, coming to sell your stuff and bid on others'. Operating the microwave activity weekends, the contests, the sprints. Adding your score to the group effort. Loaning or giving a new band station to a newcomer. Helping others get needed parts to complete their station; doing technical testing of the gear. Setting up the Mid-Atlantic States VHF Conference, booking hotels, getting speakers, hosting the event, selling tickets, getting sellers and sponsors, publishing a proceedings. Making something to show for homebrew night, bringing in something for the Mario Raffle, participating in the drawing. Keeping the membership roster current, managing the website and keeping it updated. Maintaining the reflector and its security. Maintaining the repeater and hosting it. Keeping the subscriber list for Cheesebits accurate, printing the mailing labels monthly, drafting an article for publication in Cheesebits, publishing the email and the hard copy versions, getting it back and forth to the printer, stapling, folding, stamping, labeling and mailing. Dreaming up new communications capabilities and making them happen; sending your ideas in to other publications for wide publicity. Being active on the air. Ordering Packrat badges, jackets, hats, shirts and QSL cards. Providing rides gear help and communication for those who are unable to do these by themselves. Keeping the archives, reaching out to those in times of need. Writing logging and communications programs and distributing copies...it takes a real radio club. Packrats take a bow. How did you contribute this year?

## Movin' Your Cheese (Buy and Sell)

**5760:** SSB xvtr, Siemens TWTA RW289 / RWN 320 / BT 300, T/R relay, all control circuitry, SSB electronic switch box for single in/out IF, power control (up to 10 watts can be used to drive the xvtr, requires 700 mw or less), and "status" LEDs. 55 watts out. Full documentation. All mounted ready to go. \$550.00

**10G:** SSB xvtr, Thompson TWTA w/ power supply, T/R relay, all control circuitry, SSB electronic switch box for single in/out IF, power control (up to 10 watts can be used to drive the xvtr, requires 700 mw or less), and "status" LEDs. Full documentation. 18 watts out. All mounted ready to go. \$475.00 I just finished complete checkout on both systems: receive and tx performance. Receiver chain in both are just as hot as when original, power out on both are as stated. Let me know by direct e-mail if there is anyone interested in either or both. [owormser@c3iusa.com](mailto:owormser@c3iusa.com)

4 F9FT 23 el antennas for 903. 4 F9FT 23 el antennas for 1296 all complete with power dividers, phasing and N conn. I have a box of extra elements also \$300.00 firm **Herb, WA2FGK** 570-472-2230 [wa2fgk@epix.net](mailto:wa2fgk@epix.net)

## Reflections

I can still remember my first VHF contest back in 1995. I had just been invited into the Packrats. I remember having a 2 meter beam on the roof of my single story house and listening to the likes of K2GAL, K2SMN, W1RJA, W1HAD and K2TXB working stations 400 miles plus and not hearing anything other than noise when they turned the qso back to the distant stations. Shortly before the contest I erected my first tower a 90 foot self supporting monster. I was on 5 bands and I couldn't wait for the results to be published in QST. It seemed like it took forever to see the results. I placed third in my division and my desire to see my call move up through the ranks to the top three in the US was fueled by wanting to see my call in QST. From my perspective seeing your call in print is far more rewarding than some web page, no matter how good the web page design and layout are. It is my personal opinion that there are other future VHF contest operators out there that will never experience what I felt seeing the listings, analyzing other stations scores and then watching myself improve and knowing your peers are taking notice. The web just doesn't have the same feel to me as seeing your call in print in QST. However this will not deter me from continuing to strive to improve my station and operating techniques. You see I have all ready been motivated but what about the other new up and coming VHF contest operators that are out there? 73 and Take Care. **Bill AA2UK**

## World Above 50 MHz

As many of you already know, Emil Pocock W3EP has stepped down as conductor of the World Above 50 MHz in QST after more than 10 years of dedicated service and I am now the new conductor of that column. I would hope that the users of these reflectors will continue to provide me with the same excellent reports that you have provided Emil. You can send information to me at [w3zz@arrl.org](mailto:w3zz@arrl.org) I will be gone for about the next 10 days to have some surgery. I will report back when I am functional again. In the meantime I would urge any and all of you to send me reports of interesting propagation or other items of interest. October has already had some unusual things happen and I will depend on you to tell me about what else is going on.

**73 Gene W3ZZ**

Shown at right is Gene describing some of the activity at K8GP for the June Contest during MUD 2001 hosted by the Packrats as N2LIV and K6LEW look on.



## Loop Yagi Booms

I recently asked a question on the reflector about use of square tubing for loop yagi booms, especially since it seemed a bit easier to keep the holes aligned for attaching elements. Many respondents pointed to the fact that the round tubing is more available, stronger, easier to telescope, and probably less reactive to the elements themselves. I appreciated responses from all including K1WHS, W3RJW, N3EVV, WA3DRC and N3NGE. Below is an extended note from K1LPS with a few of his "pearls of wisdom" on boom drilling, for any antenna. (Rick/ed)

O.K. on the "loopers". I've been using "loopers" since they were "invented"... starting with 1296 and the early British and W1JR designs. You don't need anything fancy for drilling booms and keeping things straight. Yes... some form of drill press... even if it's one of those "klugey" fixtures that hold a hand drill. But... any small, inexpensive drill press is adequate for drilling booms. I made a "V" block for my drill press bed. It consists of a 2X6 piece of lumber... in which I cut a "V" groove slot with a wood bench saw. In the interests of long term usage... I lined that groove with a piece of heavy duty metal angle stock. I clamp this assembly to my drill press bed... carefully centering the trough with the drill fitted into the chuck.

As for keeping all holes in the same plane... especially important if you're drilling the larger 5/16" holes for shoulder washer type element mounting... I drill the first (Or last) hole in the end of the boom... and install an element. (Or... any temporary straight piece of rod in that position.) In the drilling area... I hang some lightweight cord, with a weight, from the rafters... as a plumb guide. In my garage, where this work is usually done... I just sight that first element along the vertical wall studs.

There is another way to assure alignment... that uses a different technique. Obtain a long piece of steel angle stock. Clamp your round tubing in the "V" of the stock with stainless hose clamps. Now... your piece is fixed to a flat surface that you can move along the surface of your drill bed... thus keeping the same alignment. I mark my drilling spots with a small tip permanent black marking pen. I don't even prick punch the marks. I just use a clean, sharp drill... and carefully go down the boom... drilling as I go. You could prick punch the marks, especially for drilling the larger (5/16") holes for direct drilling. It would be helpful to snap a chalk line to center the line for punching. I have never found this step to be necessary. It definitely is not necessary for drilling the smaller holes used for mounting loops. Directive Systems sells the element kits for "loopers", if you already have boom material... and are prepared to do the labor intensive part of the work... and save money to boot.

I have built dozens of antennas using my "V" block fixture, and they always come out straight and professional looking. As for stacking frames: I have used a number of configurations for 432 and up antennas. As you mentioned... Directive Systems use a short length of 3/4" X 3/4" square tube, affixed to the bottom of the "loopers" to form a flat surface that can be bolted to a small flat plate, which in turn... can be clamped to your mast. In order to assure alignment in stacks... I have a variation on that method. I have the small flat plates heliarced to the ends of a piece of thick-wall aluminum pipe, 1-1/4" to 1-1/2", cut square on the ends. Knowing better than to trust the welder to get the alignment correct... I drill a hole in the plates... and use a piece of hardware threaded rod stock to hold them on very tightly, end to end, after I'm satisfied that the alignment is correct. I deliver the piece to the welder that way... and in ten minutes... he can run a bead of weld to affix the plates to the pipe ends. Then, I remove the threaded rod... to use with the next project. These end plates and pipe make for a \*very\* sturdy cross boom for mounting two loopers. My crossplate adapter to mount the assembly to the mast is a very thick, 1/4" universal mounting plate by Andrew... with industrial duty "U" bolts. Or... make your own to suit. I've used other cross-

boom mounting arrangements... out of heavy duty angle stock, etc... and none were anywhere near as strong and reliable as the welded end plate method... and it is not too "bulky and awkward" in appearance, and alignment stays put. I use this system both at home on one of the towers... and in my portable/field truck system. I stack two 432 antennas on the mast... and then 903 on one end, and 1296 on the other end... of the cross-boom assembly. You can mix and match... add another cross boom... for four different bands... or stack four of the same band. (Making sure the length of the cross booms match your horizontal stacking distance.)

I lived in RI back in the late 50's when I got my first ham ticket. I enjoyed it down there very much, living on Narragansett Bay at the foot of the Jamestown bridge. Unfortunately... good VHF ham locations are hard to come by these days down there... not to mention "pricey". But... it would be nice to be "down in the thick of things". Contacts are considerably more difficult to come by from up here in the "boondocks". But... I have access to many good VHF mountaintops, including Mt. Washington. Mt. Washington is 43 miles LOS out my picture window... but 80 miles by road... to the top. I run that location 3-4 times a year. Atlantic Highlands in NJ is the best I've done on 10 GHz from there... but have heard K2UYH, AA2UK, etc... but yet a two-way. More power next year will extend my range, hopefully. Enuff already. Feel free to re-print any of my stuff in Cheesebits if you find it of interest... and good luck with your projects.

73 de Larry (K1LPS/Vermont) FN34wl, and "wherever"...

## November Activity Schedule

**Nov 2, Sat-Microwave Activity 432 & up 6A-1P coordination on 144.260 if needed**

**Nov 4, Mon-Microwave Activity 432 & up 7P-11P coordination on 144.260 if needed**

**Nov 4, 11, 18, 25, Mon eve nets start at 7:30PM local on 6m, up a band each half hour, see p2 for freq and net control**

**Nov 14, Thu-Board of Directors Meeting at QTH of K1DS-206 Kimberton Drive, Blue Bell, PA 8P**

**Nov 18-19 Mon-Tue Leonids Meteors see P5 for detail**

**Nov 21, Thu-Packrat Meeting-Please plan to be at this important membership business meeting -8P Southampton Free Library  
947 Street Road  
Southampton, PA  
Special additional Program:  
K2TXB, Russ on EME Activity**

**Joel Knoblock W3RFC**

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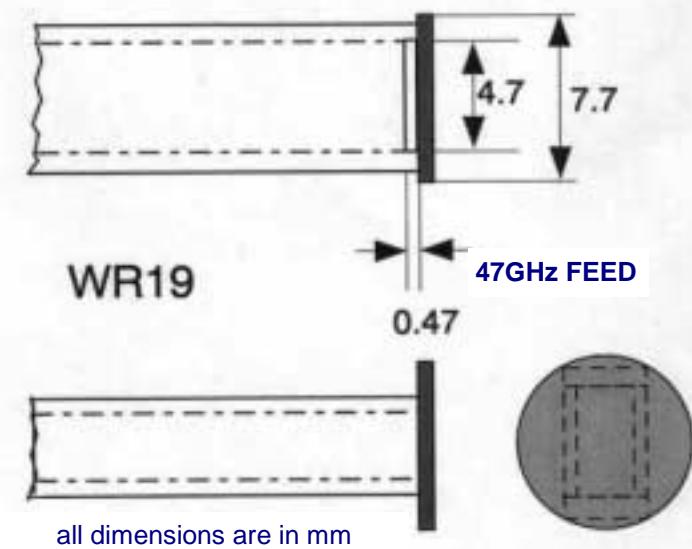
**Hours: Monday-Friday 9:30am-5:30pm Eastern**

## Feedhorn Info

(Ev, W2EV posted this on a VHF reflector and the site appeared to have info of use to all. The WB5LUA dual feed horn is an established item for many. Tnx to Ev for pointing us to his site, and to DL6NCI who appears to have put it up. Ed)  
I have run across a website that caught my imagination:  
<http://www.bnhof.de/~dl6nci/47g.htm>

## WB5LUA DUAL 5760 & 10368 MHz FEEDHORN

1.

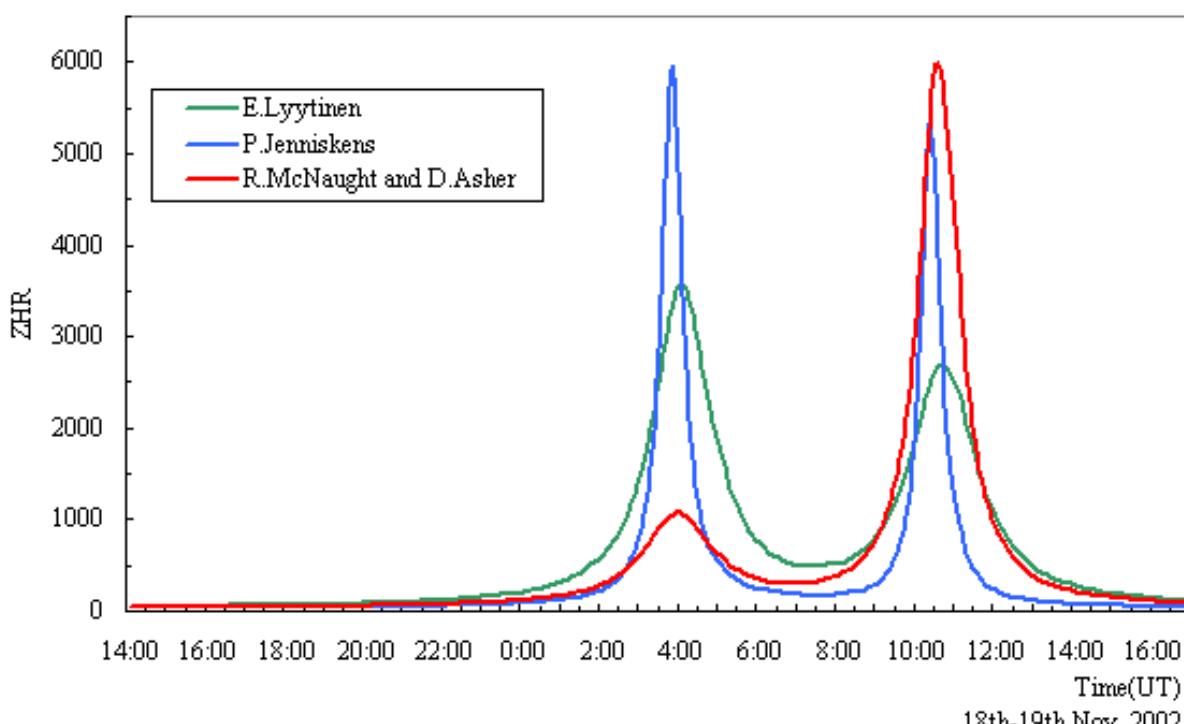


10368 MHz probe is made from the center conductor of an SMA connector or .141 semirigid cable. 1.8mm of the teflon dielectric extends into waveguide. Length of pin above dielectric is 7.6mm. M3 tuning screw is diametrically opposite probe and is adjustable. 5760 MHz probe is 15.2 - 17.8mm in length and can be made from tubing 1.8 - 2.5mm in diameter. Tuning of both frequencies can be accomplished by tuning either probe length. Isolation:

10368 MHz signal @ 5760 MHz port = -19dB  
5760 MHz signal @ 10368 MHz port = -45dB  
Return loss >23dB at both ports



<http://homepage2.nifty.com/~baron/leo02forecast1.htm> 2002 Leonids Predictions



## September VHF QSO Party Notes

No blazing guns this time, but an above average number of police stops, which has been true since 9-11! Conditions were below average until 4pm Sunday, and were rainy from Saturday evening to the end. The first 4 sites were a total bust. I did not get permission to use the Atlantic Highlands park area until after the 'test, so I skipped those planned sites which I had used before, and went to FN20vt based on N2MH's recommendation. They are working on that park, and I couldn't get very close to the overlook there. The opening between the trees is about 60 degrees, and the rest of the directions are partially or fully blocked by a higher hill and trees. It directly overlooks NYC skyline, and many people and some police stopped by to inquire why I had all my stuff pointed at NYC! Great to work N2MO in FM39 on 3 bands--what a cool operation from an all water grid! Stayed 90 minutes, had only 50 QSOs, none above 3456. Had hoped to pick up the FN33/34 and FN42-44 grids from here, not a chance! Then to FN30bx... wanted to go to a site I had checked out in FN30bw with a better view west, but the police wouldn't let me park where I had planned. I had a two car escort during my entire time on the Palisades parkway, despite being perfectly legal (and they told me this!). The state line overlook is also limited to perhaps a 100 degree view, but I did have some success in my 90 minutes there, working K1TEO on 10G for a new grid for him on that band. 56 Q's, a few good multipliers, but nothing exotic or DX. Clouds already looking ominous! On to Bear Mtn. FN21hx, with letter of permission in hand. At the top, there was a nice sign: ham radio! with an arrow. The arrow led to a rough dirt road heading down hill, and we stopped and walked to the end--where there was a very friendly multiop in progress. They graciously allowed us to park about 100M away on an excellent overlook looking west and south, and we set up and went to work, staying low on 2M and avoiding 6M to allow them to keep playing. This slowed our ability to coordinate, but several stations called us on the 222.35 FM horizontal "calling frequency" and we were able to run them on all bands, easily. The rain started and 903/1296/2304 were affected negatively, and to some extent 3456. We saw some enhancement at 6 and 10G, but were not really able to exploit it until much later. Conditions overall were not very good. After 80 Qs in FN21, we moved down the hill to the edge of FN31, worked a few locals, and went to sleep, because we were locked into the park for the night. At about 0530 the park ranger woke us up (SURPRISE!) and let us out, and we headed west about 4 hours, 200 Qs, and 50 mults behind schedule. It rained on and off as we headed west on I84/80 to our stop in FN11 at a little site rovers have used for years. It is normally average, but after we arrived we found that 6 and 10G were significantly enhanced. We worked K1RZ with S5A signals on 6G and S4A on 10G from a site we had never worked him before above 2G. We ended up with 80Qs in 95 minutes, many microwaves, including an S9 plus 40dB Q with K8GP (6G, also 10G from FM08) over a path that had been iffy in the past. Five stations called in on 222.35 FM simplex horizontal to start runs--cool! Was raining HARD by the time we got to FN01, and we did a minimum setup (no generator, no 24G) and started fast. Again 80Qs in 85 minutes including some bone crushing microwaves over rather long, enhanced paths. Fun! Then to Blue Knob, FN00rg, where the contest really started for us. We arrived in Dense fog, visibility of inches, and figured we wouldn't hear anyone on microwaves. WRONG! We had numerous randoms on 2Gs and even a knockout random on 6G with N3EMF (boy were we both shocked) over a decently long path. Tried 24G with W4RX (FM19) after running the other bands, and after a serious half hour try, no dice. Stayed 3.1 hours, 150Qs, almost all microwave, including FM08/09/00/10/19 on all bands except 24G, and also missed 3G from several grids and 2G on some runs due to the heavy rain. 903/1296 were also affected negatively, but we usually got thru. The park police stopped by, but they know me by

now, no problem. For once, people realized that just because we missed at 1296 or 2304, we might still make 10G--and we often did..the enhancement was amazing on some paths-in particular, K1RZ with 200 mw and a 2' dish from FM19jh to FN00rg was 58A and N3EMF in FM19hx was S9 plus 20 on random, 6G! A highlight was working several stations at once on 2304 in various directions without repointing...boy the score adds up fast when you have a pileup on 2304! On to a quick meal on the run and a stop at FN10ab at a high but not really excellent site. FN10bc Broad Mtn was being used by KC3WD who was doing a fantastic job (and gave me the FN10 mult on many bands), so I went to a more compromised site. But the conditions were still enhanced in some directions, and we did OK from here--100 Qs in 90 minutes, mostly microwave runs with W4RX, K3DNE, K1RZ, N3EMF, KC3WD/r, K2UOP/8, WA3ZKR and K8GP that included 24G!... then on to FM19aw, a truly excellent site where I worked all of the above and more; 120 Qs in 80 minutes. Headed for FM09ww and finished the last 25 minutes with 50 Qs including W3IY/r (finally, but we missed microwaves the whole test...sorry!) and several other rovers that seemed to be doing very well, especially WD and KD4DSX/r. Final, uncleaned score only 750 Qs, 1600 QSO points, and 170 mults (nothing west or north this time, pointed there a lot!) for about 250K or so. I could imaging this route producing many more Qs and multipliers in better conditions and with better site planning on my part! Highlights...microwave pileups and rain enhancement. Microwave activity is still UP UP UP in my home area--thanks to guys like Bill W3IY, Terry K8ISK, Jeff WA3ZKR, Owen K6LEW and others who get gear and people ON the AIR! Also, rover activity is up up up--I'm thrilled about that! Didn't work as many rovers as in June, but still worked many...My wife, Linda, no callsign, met me at Bear Mtn. and drove the longer legs on Sunday--a great help--my best scores have been when she is the partner! Lowlights...trip to NE was a bust, didn't hear many Pack-rats, or Rochester guys, nothing to North or West (probably conditions in all cases), some equipment problems. I'm moving to a new QTH in FM19jj next week, so will be off the air for the 10G cumul. second weekend, and maybe off the air totally for awhile! 73 and thanks for the Qs...way to go rovers!

brian nd3f@aol.com

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Despite relatively poor conditions, this was an interesting contest. The approaching tropical storm seemed to put a damper on any coastal ducting, and actually seemed to give me some negative lift. I can usually work FM29 with good signals thru 3.4G from FM15 & 25, but this time signals were pretty weak. Even later in the contest when we got up to 3650ft ASL, the signals to the NE were much lower than normal. Strange as this sounds, we still worked AA2UK on 3cm from the mountain (FM08us) with very strong signals...stronger than normal. I think this was some sort of short wavelength enhancement, possibly caused by the drizzle/rain, high-humidity. New England was untouchable above 432 for the most part, which is way below average from the mtn. I found activity to be good from most of my stops, except for the oh-dark-thirty hours, where the sane are in bed. (There are still a few die-hards out there, thankfully). Here's my QSO breakdown:

Band	QSOs	QSO pts.	Mults.
50	116	116	13
144	224	224	26
222	126	252	17
432	136	272	15
903	62	186	6
1296	73	219	7
2304	38	152	3
3456	24	96	3
5760	18	72	2
10368	23	92	3

TOTALS 840 1681 95 + 12 = 107      Claimed score = 179,867

In FM15, it was great to work W4RX with BIG signals thru 10GHz. The long paths and scattered rain created aurora-like sounds on 5.7/10GHz. We seemed to have a good path in this direction for most of the weekend. We managed a total of 69 QSOs from here, which was good, considering the poor tropo condx. FM25 was also fun, but no big signals, other than W4RX on the upper 2 bands. We usually work lots of stuff on the drive from FM15 on the Rt64 bridges spanning the river and the sound, but things were very quiet while driving. The highlight here was hooking up with W4FSO in FM14 on 2m & 222 MHz. I always seem to miss FM14, even when I am close by. Total QSOs from here was 59. I found a great FM26 site looking NW-N, but when we landed there we were attacked by large swarms of hostile mosquitoes who found the battle jitney and it's occupant a tasty target. Propagation seemed especially poor from here, despite a good view over the water. Onward to the previously reliable FM26 site in FM26bi. Only 50 QSOs total from this grid, and no QSOs above 3.4GHz. When your hot, your hot...and the bands were not.

Operating from the bay bridge tunnel in FM16,17,27 is always exciting, but we have been spoiled by coastal tropo in the past, and there wasn't any this time out . The over-water take-off angles are always great for microwaves, and we hooked up with N3EMF & W4RX thru 10G from here with good signals. We missed K8GP on 5.7/10G, except for one QSO on 5.7. Very strange, as we always work them reliably from here on all bands. Never heard W2SZ from here, except once mobile on 6m. I don't think they look down this way very often. It's usually easy to work FM29 from the bridge on 10G, but not this contest. The weather was threatening, but only brief-light drizzle. We just couldn't seem to reach out to New England from here like we usually do...only a single FN31(and we looked hard!). There was definitely something fishy about coastal propagation going on...like inverse bending, or something.

After the long drive to FM28, we caught a few Z's, and pressed onward. The saltwater marsh, which had been so productive in June was again subject to the poor condx, but activity was on the rise at 0700 local. Unfortunately, the skeeters were really busy here, and we got eaten a bit more. They seem to swarm when the vehicle disturbed the dirt road, and they then would settle, after a few pints. FM29 signals were much weaker than expected on 1296, so the coast seemed still blocked out. We were getting closer to some activity, and were finally able to work K1RZ and N3EMF thru 10G from here. Total QSOs in FM28 was 100.

Well, a good way to save time whilst roving is to hit a grid corner, so being behind schedule, we headed for the 18/19/28/29 corner. Found a new corn field, where nobody was around to kick us out, and fired up from FM29. We did get a curious passer by to stop to see if we were communicating with aliens, and we told him yes. (you are out there, right?). This QTH began to see into the FN20 area pretty well, and activity picked up nicely. It was only a few hundred feet to FM19, and 18, so we rolled there, and had fun creating mini-pileups with the FM19 guys (K1RZ, K3DNE, W3IP, AI3Z et al). Rain began falling, so we had to erect the infamous 33 gallon heavy-duty trash bag radome for the dish assy. It worked nicely, and we worked some nice 3cm stuff with W3IP, K1RZ, W4RX, & N3EMF. We even lucked into K1WHS on 2m from here! Attempts on other bands were futile.

Signals were loud from the Chesapeake Bay Bridge, but the rain and traffic did not allow us to S&P much. K3HCE was 130dB/ S9 from here on 2m. This is a good place for a partner to do the operating, as driving in high winds, rain, and traffic is about all I can handle...maybe next time. The traffic on the Capital Beltway lived up to its reputation, and we sat on 495 for 30min or so, as an unfortunate pair of 4-wheelers got swept into a wrecker. It was getting late, so we high-tailed it out to Front Royal on Rt66. Had fun working W4RX & K8GP on bands thru 3.4G while driving. The mobile flutter on 3.4G is pretty cool.

We dropped into FM09 for a few brief QSOs with WV8E & K8GP before heading up to the mountains. The clouds and fog

were pretty serious, as we had visibility of about 8.7ft up the road. Saw a black bear run off into the woods here, (between clouds) which is fairly rare. At the top, it was clear and windy. It was much harder wrestling up the 20ft telescoping mast in the dark and the wind. After setup, the signals were really pouring in. As usual, we failed to work out to the west, as the receiver kept jumping out of the rack with all the FM18,19, FN20, FM29 signals. (I think it's more important to work all stations heard, than to get picky and go for the DX). When I did point out west, we would work guys off the back, and have to turn around again to try the upper bands. Signals were still fairly puny from FM29 & FN20 on 1296 & up. We managed to connect with K5MA in Cape Cod on the lower 4, which was nice, but signals above 2m were still small. 10GHz really played well from here, and we again reaped great benefits from the W3IP beacon in FM19lg. It's so nice to tune in a loud beacon, and set your azimuth from it. There were no pointing problems at all, after this calibration. AA2UK was finally worked on 10G from here, after several failed attempts from the low-lands. 10G signals seemed much better than the 1296 sigs again...weird. Seems like rain always enhances 10GHz signals...even without rain-scatter per se. Total QSOs from FM08-Hogback was 163 in about 2 hrs time...neato torpedo!

The down side was having the tired-rover/bad-judgment to think I could set up my 24/47G tripod in the 35 mph winds. We thought we could hide behind the van, and as we plugged in DC power it crashed, destroying the 47G reflector, and trashing the 24G waveguide switch and xtr SMA connectors. It wouldn't have been so bad if we had been allowed to make a QSO 1st! W4RX & K8GP would have been workable from here, and possibly ND3F. Many thanks to all who persevered and gave us some QSOs. We tried hard to be fair, and work everyone, but it's hard to remember all the guys who get stacked up waiting for us on the bands...especially after driving and operating thru 1047 miles of roverland. It was grande! Lots of nice QSOs, despite the poor propagation condx. Tnx to all! Hpe CU down the trail. Lessons learned...

1. Even lousy propagation won't stop you from lots of QSOs.
2. 903-2304 Can have a rough time propagating in rainy weather.
3. 5.7 & 10 GHz can really smoke in the rain!
4. It's hard to work rare grids when you're on a mountain with good activity.
5. Always bring a copy of your permission letter for a site (I needed it!).
6. Don't try to set up microwave dishes in the wind.
7. Sometimes you need more than one calling frequency...(and it's still hard to find everyone ; )
8. Always listen carefully for the weak ones.

Thanks & 73, **Bill W3IY/R**

WA3EHD needs a list of members who have never received a Pack Rat name badge since joining the club so he can look into securing them from a vendor at a favorable price. Please contact Jim promptly at (215) 659-4359 or at jantonacci@worldnet.att.net to let Jim know your need. Several members have also expressed an interest in securing a Pack Rats jacket like the ones we ordered a few years ago. Contact Jim to let him know of your interest in this item also. We should be able to get some samples for display at an upcoming meeting.

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# 10 GHz Contest Rules, Another Viewpoint

From: Dick, K2RIW 08/29/02 via the web & reflectors

INTRODUCTION -- I've read the comments of W2EV, K1DS, W3HMS, K2TXB, N3APZ, AL7EB, KA1UAG, K2AXX, AA2UK, WA3IAC, KB1GRS, WA3PTV, W4DEX, K0CQ, N3JRQ, WA1VVH, KA1AE, WA2VIO/0, W0GHZ, KD4APP, and W6GHV (in that order) concerning the 10 GHz & Up Contest, and I feel quite sure that many of us have become much too LEGAL on the issues of this particular contest. With good intentions in mind, it is quite possible that we have lost sight of the original purpose of this particular (and rare) concept in contesting -- I'll explain.

- (1) THE USUAL VHF/UHF CONTESTS -- The more usual VHF/UHF contests have a rather massive number of participants. These contests are held in the U.S. in January, June, August and September (and some Sprint and EME weekends). They have very specific rules that have "evolved" over the years after many meetings, discussions, and gentleman's agreements. These rules exist for very good reasons. The major intent of these rules is to create a level playing field, that defines what is (and is not) legal, so that each of the MANY participants is treated fairly, and the declared "winner(s)" will receive rewards and certificates that are deserved and meaningful. The winner(s) should be an individual(s) who demonstrates superior operating skill, commensurate with good technical skills and organizing skills. In this manner, few of the rewards and certificates that are issued will be challenged later, and there should be very few situations of "hard feelings," and resentments. Thus, the contest participants should feel encouraged and technically challenged to make improvements in their equipment and operator skills, so as to achieve a better score in the next contest.
- (2) THE 10 GHz & UP CONTEST -- But, the 10 GHz and Up Contest is very unique in a number of characteristics. I believe the creator(s) of the rules for this particular contest had something very different in mind because of at least three characteristics: First, the contest creators had to recognize that the very rare (and most valuable) kind of bird that dwells on 10 GHz (and above) requires a very special kind of nurturing. There is approximately one Ham operator per 500 in the general population, and there is approximately one "Dyed in the Wool" Microwave Operator per 500 Hams. Thus, there are only about 1,000 "Hard Core" Microwave Operators in the U.S. You could say they are "One in a Million" (times 4). You could say that these "rare birds" are the most valuable kind, because history has shown, repeatedly, that our communication future always resides in the higher frequencies. That next higher band has always been considered nearly useless, until some pioneering spirit went there and demonstrated how useful it is. Second, a 10 GHz operator uses rare types of equipment that are only understood by one person per quarter million in the general population. Among college educated engineers, it is somewhat discouraging to find that only one per 100 engineers has a good working knowledge of Microwave Techniques and Microwave Antennas. Third, very few Hams and engineers have a good working knowledge about the specifics of Microwave Propagation. You could say (with only mild exaggeration) that Microwave operators are doing a kind of pure search into Mother Nature's world of Physics and Propagation.
- (3) THE CONTEST INTENT -- With these three points in mind, let's now consider what I believe is the intent of the "10 GHz and Up Cumulative Contest." It is to encourage those Rare Birds to investigate and study the techniques of Microwave: (1) Generation, (2) Reception, (3) Focusing, and (4) Propagation. The techniques of Generation, Reception, and Focusing are usually considered esoteric, but static, situations. But, it must be recognized that Propagation is much more esoteric, and far from static (it's quite dynamic), and it has a considerably more complicated temporal characteristic. The gathering of the data about the quantitative, and temporal nature of Microwave Propagation can only be collected in a meaningful way if enough data is gathered over a considerable period of time from a number of locations. This partially explains the most unique characteristic of the 10 GHz and Up Contest, the fact that you are ENCOURAGED to contact some of the SAME stations -- many times over -- as long as at least one of the stations moves at least 10 miles (16 km) between QSO's.
- (4) REPEATED SKEDS -- And, many GOOD 10 GHz operators have been smart enough to schedule an attempted QSO over a difficult path every hour (or so), until the QSO is made. They didn't fall into the trap of assuming that a missed attempt means that path isn't possible with that particular set of equipment. They're simply patient enough to wait until Mother Nature opens that particular path for them. They then succeed in finding out NOT IF the path is possible, but HOW OFTEN it is possible with THAT equipment. ADAPTIVITY -- Now, here is one of the most important points. To be most objective, you have to be freely adaptive -- sometimes you have to "go with the flow." For instance, after receiving the encouragement of successfully communicating over a difficult Microwave path of say 450 km, a pair of operators may very well choose to attempt to extend the range, at that time. This may involve moving to new locations that were not anticipated, thus considerable, and new, coordination and liaison communication may be required. In such a situation the LEGAL considerations of the use of a Cell Phone, Packet, APRS, the Internet, etc, becomes much more out of the range of the concepts of this particular type of Contest.
- (5) BREAKTHROUGH PROPAGATION -- Here is another example. If my favorite Microwave operator experiments and finds out that there is a 10 GHz path that extends from Mount Wachusett in MA to Fort Lauderdale FL, and that path is open for 5% of the time during the month of September, I'm going to be so happy to find out about this new "truth" about Mother Nature's propagation that I'm not going to be concerned with the Legalities of what method of liaison communication he used to coordinate those QSO's. THE RULES, AS I READ THEM -- QST July, 2002, page 96 contains the most recent publication of the rules for the "ARRL 10 GHz and UP Cumulative Contest." Here is how I read specific paragraphs of these rules: PP 5.1: "Scheduling contacts is both PERMISSIBLE and ENCOURAGED." PP 5.2: "Stations are encouraged to operate from more than a single location. ..." PP 7.1: "Schedules MAY be set up by use of the HF calling frequency of 3818 kHz on the evenings of Tuesday, Wednesday and Thursday before the contest weekends starting at 7 pm local. Also, 144.230, and 146.55 MHz CAN be monitored during the contest to arrange schedules with other stations. Paired stations should move off these frequencies once contact has been made. ..." As I see it, we are encouraged to do almost any kind of liaison communicating, for coordinating the 10 GHz QSO's, by any means or mode. PP 7.1 merely makes some suggestion as to A POSSIBLE way to do this. It didn't say that this MUST be the way it is accomplished. I believe that the intent of PP 7.1 is to avoid the situation where 10 GHz operators make a nuisance of themselves to the usual HF operators. A Microwave operator calling for 10 GHz QSO's on 3818 kHz for many hours during the 10 GHz contest could become very unpopular. PP 5.2 is telling us to operate from many locations. The fact that we are moving around, frequently, with probable changes in the original itinerary, implies that real time liaison communication will be re-

quired to inform the rest of the operators where you are going, and when you will be operational. This kind of situation adaptability requires that you should be able to use any communication means (such as a cell phone) that is effective in informing the other operators.

- (6) PROPER LIAISON -- There is one implication about the liaison communication. That is, use it to pass any required information to properly line up the antennas, and to get on the right frequency, at the right time, with the right person transmitting, in order to initiate the 10 GHz contact. But, during the 10 GHz QSO, it must contain the usual information that constitutes a contact -- call letters, one piece of information (grid or location), and confirmation of both.
- (7) QUESTIONED LIAISON -- There is a possible gray zone here. Is it legal to say over the liaison circuit, "please send me the grid square again?" There are legalistic operators who will say no. I feel this is within the intent of the contest. From my point of view, the asking for the repeat of the grid square is really a second attempt at lining up a 10 GHz contact. It simply is happening with a very small time delay between the two attempts. I guess it would be more legal if you said over the liaison circuit, "please do the whole 10 GHz QSO again."
- (8) NOT GREAT TRAFFIC OPERATORS -- However, I feel that the intent of the contest is to confirm that the 10 GHz path between sites and pieces of equipment was good enough to ENABLE the required information to be passed. The legality of asking for a repeat of calls or grids is merely correcting for a slightly more leisurely operator protocol, or operator error, that wasn't successful on the first attempt. We aren't trying to prove that 10 GHz operators have all the skills of a high speed traffic operator. We're trying to encourage 10 GHz operators to construct and learn how to use the equipment. Then the contest encourages them to prove that they know how to probe Mother Nature's SHF characteristics, in a real

world communication situation, in this new frequency frontier. These are some of my opinions. I encourage alternate opinions.

**73 Dick, K2RIW.** Grid: FN30HT84DC27.

web: <http://consult-li.com/listings/RKnadle.htm>

### 432 Sprint Bits

I thought activity was a little low however I managed to work 45 stations in 18 grids. Best DX VE3TFU EN92, W4DEX EM95, I did work a few of the western NY guys and one station in Ohio.

**73 Bill AA2UK FM29pn**

I worked about an hour and a half total time, but did tune around listening for CQs during commercial breaks in 'Enterprise' ;). I picked up 4 QSOs, and tried to get Ed but he couldn't hear me at all. I had a blast, even though my SWR kept flying up and down (not to mention the QSB!). What really surprised me is how well my 5 watts worked into the multi-hundred watt stations and their high beams. Great work to everyone who participated, and thanks for listening for the weak ones! **Mike, kb3gjt**

### 6M Repeater

There is a new 6M repeater on in our area. Located in Skippack Pa. Montgomery county. 51.94 out -500kc in ( 51.44 ) w/ 88.5 pl. Good luck and feel free to use it! **Pete AA3RE**

### Contest Info Site

Jan-Eric Rehn - SM3CER does an excellent job of presenting contest schedules and contest rules. Guys, check out this awesome website ! **Dave, W3KM**

<http://www.sk3bg.se/contest/cal2003.htm>

<http://www.sk3bg.se/contest/rulinda.htm>

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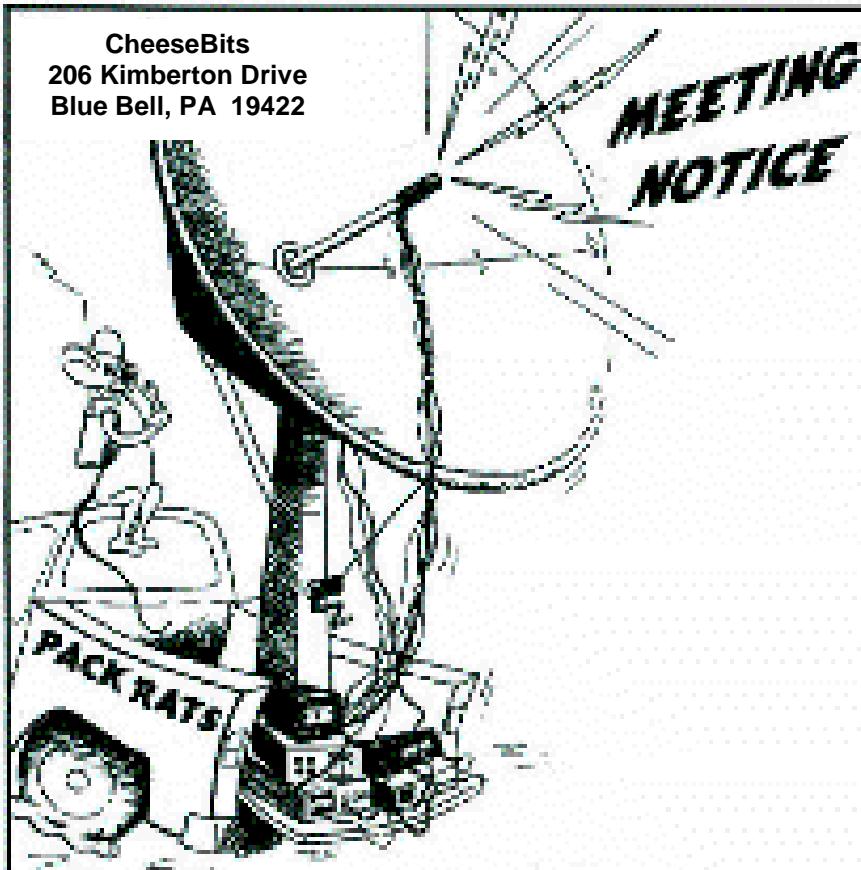
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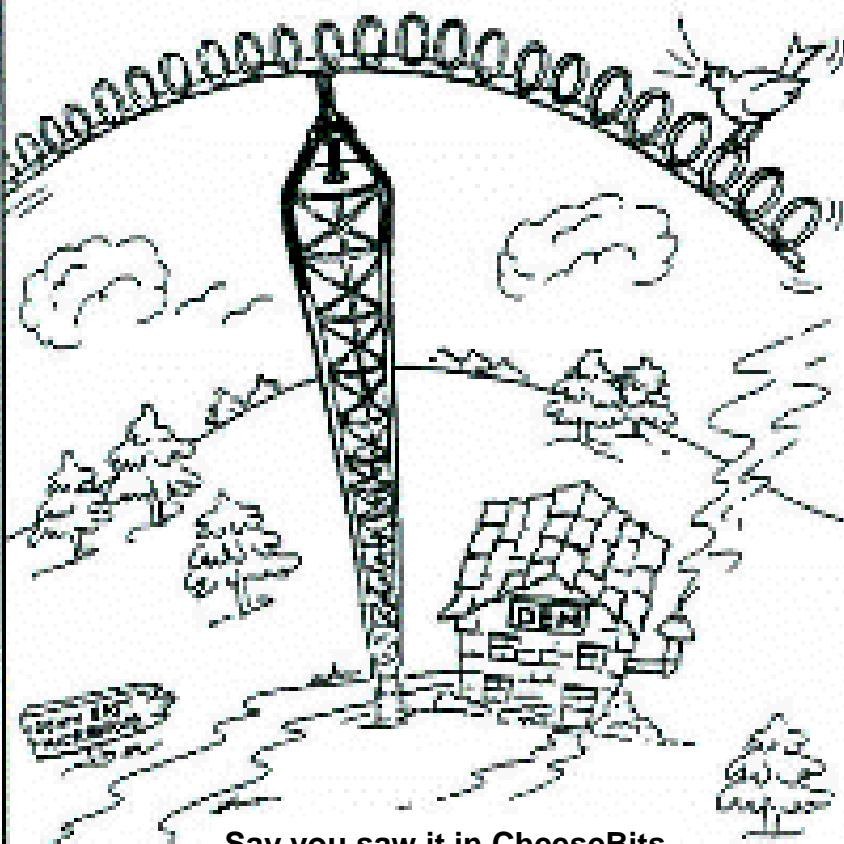
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Nov 2, Sat-Microwave Activity 432 & up 6A-1P coordination on 144.260 if needed  
Nov 4, Mon-Microwave Activity 432 & up 7P-11P coordination on 144.260 if needed  
Nov 4, 11, 18, 25, Mon eve nets start at 7:30PM local on 6m, up a band each half hour, see p2 for freq and net control  
Nov 14, Thu-Board of Directors Meeting at QTH of K1DS-206 Kimberton Drive, Blue Bell, PA 8P  
Nov 18-19 Mon-Tue Leonids Meteors see P5 for detail  
**Nov 21, Thu-Packrat Meeting-  
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